RESULTS

OF THE

MAGNETICAL AND METEOROLOGICAL

OBSERVATIONS

MADE AT

THE ROYAL OBSERVATORY, GREENWICH,

1862.

(EXTRACTED FROM THE GREENWICH OBSERVATIONS, 1862.)

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GREENWICH MAGNETICAL AND METEOROLOGICAL OBSERVATIONS,

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Introduction.

§ 1. *Buildings of the Magnetic Observatory.*

In consequence of a representation by the Astronomer Royal, and a memorial by the Board of Visitors of the Royal Observatory, addressed to the Lords Commissioners of the Admiralty, an additional space of ground on the south-east side of the former boundary of the Observatory grounds was inclosed from Greenwich Park for the site of a Magnetic Observatory, in the summer of 1837, and the Magnetic Observatory was erected in the spring of 1838. Its nearest angle in its present form is about 174 feet from the nearest point of the S.E. dome, and about 30 feet from the office of Clerk of Works. It is based on concrete and built of wood, united for the most part by pegs of bamboo; no iron was admitted in its construction, or in subsequent alterations. Its form, as originally built, was that of a cross with four equal arms, very nearly in the direction of the cardinal magnetic points as they were in 1838; the length within the walls, from the extremity of one arm of the cross to the extremity of the opposite arm, was 40 feet, the breadth of each arm is 12 feet. In the spring of 1863, the northern arm was extended 8 feet. The height of the walls inside is 10 feet, and the ceiling of the room is about 2 feet higher. The northern arm of the cross is separated from the central square by a partition, so as to form an ante-room. The meridional magnet (placed in its position in 1838) is mounted in the southern arm; and the theodolite by which it is viewed, and by which circumpolar stars for determination of the astronomical meridian are also observed (for which observation an opening is made in the roof, with proper shutters) is in the southern arm, near the southern boundary of the central square. The bifilar magnet, for variations of horizontal magnetic force (erected at the end of 1840) is mounted near the northern wall of the eastern arm. The horizontal photographic cylinder, which receives the traces of the movements of the declination-magnet and the horizontal-force-magnet, is near the south-eastern re-entering angle of the building. The balance-magnetometer for variations of vertical magnetic force (erected in 1841) is mounted near the northern wall of the western arm. About 8 feet east of it, and close to that wall, is the self-registering barometer (erected in 1848); and the vertical photographic cylinder which receives the traces of both is east (magnetic) of the balance magnetometer and south of the barometer. The stands of the telescopes which are directed to the small reflectors of the horizontal-force and vertical-force magnetometers are near the theodolite, so that a person seated on a stool can conveniently command all three instruments. The mean-time-clock is in the southern arm, near the south-west re-entering angle; the standard barometer is near it, in the western arm; the sidereal-time-clock is near the self-registering barometer; the fire-grate (constructed of copper, as far as possible) is near the middle of the west side of the ante-room. Some of these fixtures may contain trifling quantities of iron; and, as the ante-room is used as a computing room, it is impossible to avoid the introduction of iron, in small quantities. On the outside near the north-east corner of the ante-room, a pole 79 feet in height is fixed, for the support of the conducting wires to the electrometers; the electrometers, &c., are planted in the window-seat at the north end of the ante-room. The apparatus for naphthalizing the gas used in the photographic registration was formerly fixed in a corner of the ante-room, but is now (1864) mounted in a small detached zinc-built room, erected in 1863, near the west side of the ante-room.

A small wooden building, in the direction S.S.E. (magnetic) from the Magnetic Observatory, 64 feet from its nearest angle, and very near the southern boundary of the grounds, was used till 1863 for the observation of Magnetic Dip and Deflexion. In 1863 this building was removed, and a range of seven rooms, usually called the Magnetic Offices, was erected near the southern fence of the grounds. Since the summer of 1863, observations of Dip and Deflexion have been made in the western-most of these rooms.

For better understanding of these descriptions, the reader is referred to the Descriptions of Buildings and Grounds with accompanying Maps, attached to the Volumes of Astronomical Observations for the years 1845 and 1862.

At the present time (1864) a room has been excavated below the whole of the Magnetic Observatory, except the ante-room, and is nearly prepared for the reception of instruments. It is expected that the daily variations of temperature will be greatly diminished.

§ 2. *Declination-Magnet and Apparatus for observing it.*

The theodolite with which the meridional magnet is observed is by Simms: the radius of its horizontal circle is 8·3 inches: it is divided into 5′, and reads to 5″ by three verniers, carried by the revolving frame of the theodolite. The fixed frame stands upon three foot-screws, which rest in brass channels let into a stone pier, that is firmly fixed in the ground and unconnected with the floor. The revolving frame carries the Y's (with vertical adjustment at one end) for a telescope with transit-axis: the length of the axis is $10\frac{1}{2}$ inches: the length of the telescope 21 inches: the aperture of the object glass 2 inches. The Y's are not carried immediately by the T head which crosses the vertical axis of the revolving frame, but by pieces supported by the ends of that T head, and projecting horizontally from it: the use of this construction is to allow the telescope to be pointed sufficiently high to see δ Ursæ Minoris above the pole. The eye-piece of the telescope carries only one fixed horizontal wire, and one vertical wire moved by a micrometer-screw. The opening in the roof of the building permits the observation of circumpolar stars, as high as δ Ursæ Minoris above the pole, and as low as β Cephei below the pole.

For supporting the magnet, a braced wooden tripod-stand is provided, resting on the ground and unconnected with the floor. Upon the cross-bars of the stand rests a double rectangular box (one box completely inclosed within another), both boxes being covered with gilt paper, on their exterior and interior sides. On the southern side of the principal upright piece of the stand is a moveable upright bar, turning in the vertical E. and W. plane, upon a pin in its centre (which is fixed in the principal upright), and carrying at its top the pulleys for suspension of the magnet; this construction is adopted as convenient for giving an E. and W. movement to the point of suspension, by giving a motion to the lower end of the bar. The top of the upright piece carries a brass frame with two pulleys, whose axes are E. and W.: one of these pulleys projects beyond the north side of the principal upright, and from it depends the suspension skein: the other pulley projects on the south side: the suspension skein being brought from the magnet up to the north pulley is carried over it and over the south pulley, and is then attached to a leathern strap, which passes downwards to a small windlass, carried by the lower part of the moveable upright. The height of the two pulleys above the floor is about 11 ft. 9 in., and the height of the magnet is about 3 ft. 0 in.; so that the length of the free suspending skein is about 8 ft. 9 in.

The magnet was made by Meyerstein, of Göttingen: it is a bar 2 feet long, $1\frac{1}{2}$ inch broad, and about $\frac{1}{4}$ inch thick: it is of hard steel throughout. The magnet carrier was also made by Meyerstein, but it has since been altered under my direction by Simms. The magnet is not now inserted endways in its support, but sideways, a double square hook being provided for sustaining it; and the upper part of the magnet-carrier is simply hooked into the skein.

The suspending skein is of silk fibre, in the state in which it is first prepared by silk manufacturers for further operations; namely, when seven or more fibres from the cocoon are united by juxtaposition only (without twist) to form a single thread. The skein is strong enough to support perhaps six times the weight of the magnet, &c. I judged this strength to be necessary, having found that a weaker skein broke ultimately even with a smaller weight.

Upon the magnet there slide two brass frames, firmly fixed in their places by means of pinching-screws. One of these contains, between two plane glasses, a cross of delicate cobwebs; the other holds a lens of 13 inches focal length and nearly 2 inches aperture. This combination, therefore, serves as a collimator without a tube: the cross of cobwebs is seen very well with the theodolite-telescope, when the suspension-bar of the magnet is so adjusted as to place the object-glass of the collimator in front of the object-glass of the theodolite, their axes coinciding. The wires are illuminated by a lamp and lens in the night, and by a reflector in the day.

In order to diminish the extent of vibrations of the magnet, a copper bar, about one inch square, is bent into a long oval form, intended to contain within itself the magnet (the plane of the oval curve being vertical). A lateral bend is made in the upper half of the oval, to avoid interference with the suspension-piece of the magnet. The effect of this copper bar is very striking. It appears, from rough experiments, that every second vibration of the magnet (that is, when a direct and reverse swing have been finished) is reduced in the proportion of 5 : 2 nearly.

On mounting the photographic apparatus in June, 1847, the old torsion-circle and suspension-stirrup were removed, and a new suspension-stirrup was mounted, firmly united with an upright rod 7·9 inches in length, the top of which is connected by an adjustible circular horizontal movement (firmly clamped while in use) to an upright frame $5\frac{1}{2}$ inches high, to which are attached the necessary clips for carrying a concave mirror, 5 inches in diameter, with its face vertical, and its lower edge 4 inches above the exterior wooden box. At the top of this frame is a torsion-circle with a hook, which is simply hooked into the end of the silk skein. The skein is necessarily shortened several inches, and the weight of the suspending apparatus is considerably increased. The support of the magnet by this new apparatus does not in any degree interfere with the facilities of observing with the telescope in the ancient method.

OBSERVATIONS RELATING TO THE PERMANENT ADJUSTMENTS OF THE DECLINATION-MAGNET AND ITS THEODOLITE.

1. Determination of the inequality of the pivots of the theodolite-telescope.

1846. December 22. The theodolite was clamped, so that the transit axis was at right angles to the astronomical meridian. The illuminated end of the axis of the telescope was first placed to the East: the level was applied, and its scale was read; the level was then reversed, and its scale was again read; it was then again reversed, and again read, and so on successively six times. The illuminated end of the telescope was then placed to the West, and the level was applied and read as before. This process was repeated four times, and the result was that, when the level indicates the axis to be horizontal, the axis at the illuminated end is really too low by $1''\cdot5$ nearly. This has been confirmed by less careful observations made at different times since 1846.

2. Value of one revolution of the micrometer-screw of the theodolite-telescope.

1846, December 23. The magnet was made to rest on blocks of wood, and the collimator was used as a fixed mark at an infinite distance. The micrometer was placed in different positions, and the telescope of the theodolite was then turned till the micrometer wire bisected the cross. The result of ten comparisons of theodolite-readings with large values and small values of the micrometer-reading was that one revolution $= 1'. 34''$. This has been confirmed by observations made in several subsequent years.

3. Determination of the micrometer-reading for the line of collimation of the theodolite-telescope.

1862, January. The vertical axis of the theodolite had been adjusted to verticality, and the transit axis was made horizontal. The declination-magnet was made to rest on blocks, and the cross-wires carried by it were used as a collimator for determining the line of collimation of the telescope of the theodolite. The telescope was reversed after each observation. The mean of 20 double observations was $100^{r}\cdot351$.

4. Determination of the effect of the mean-time-clock on the declination-magnet.

The observations by which this has been determined are detailed in the volumes for 1840, 1841, 1844, and 1845. It appears that it is necessary to add $9''\cdot41$ to every reading of the theodolite.

5. Determination of the compound effects of the vertical-force-magnet and the horizontal-force-magnet on the declination-magnet.

The details applying to the effect of the horizontal-force-magnet and first vertical-force-magnet will be found in the volumes for 1840, 1841, 1844, and 1845. It appeared that it was necessary to subtract $55''\cdot22$ from all readings of the theodolite. In 1848 a new vertical-force-magnet was introduced, and the subtractive quantity was now found to be $42''\cdot2$.

6. Determination of the error of collimation for the plane glass in front of the boxes of the declination-magnet.

1862, January. The magnet was made to rest entirely on blocks. The micrometer-head of the telescope was to the East. The plane glass has the word "top" engraved on it, and this word is always kept upwards. The cross-wire carried by the collimator of the magnet was observed with the marked side of the glass alternately inside and outside the box. The result of 20 double observations was that, in the ordinary position of the glass, $10''\cdot 4$ is to be subtracted from all readings.

7. Determination of the error of collimation of the magnet-collimator, with reference to the magnetic axis of the magnet.

1862, January. A small magnet (usually employed in Deflexion experiments) was suspended in the dip house: a reflector was attached to its center, and a telescope with a wire in its focus was directed to the reflector. A scale of numbers was fixed just below the object-glass of the telescope. An observer continued to observe the reflected image of the scale, while the observations of the magnet-collimator were proceeding; but as it was afterwards found that they exhibited no change in the direction of terrestrial magnetism which would influence the result of the observations of the magnet-collimator, they were omitted in the calculations. The observations were made by placing the Declination-Magnet in its stirrup, with its collimator alternately W. and E. of it, and observing the collimator-wire by the theodolite-telescope; the moveable upright bar being so moved that the collimator in each observation was in the line of the theodolite-telescope. Six pairs of observations were taken. The mean half excess of reading with collimator W. (its usual position) above that with collimator E. was $-4'.\ 43''\cdot 4$. This was combined with the results of several preceding years, and $-4'.\ 49''\cdot 1$ was adopted for use.

8. Miscellaneous causes of error.

In the volume for 1841, observations are exhibited shewing that the oval copper bar, or damper, had but little or no effect. Repeated observations, of less formal character, in succeeding years, have confirmed this result. The same bar has encircled the magnet throughout the year 1862.

In the volume for 1841, observations are exhibited shewing that the effect of the grate in the ante-room is insensible.

In the volume for 1842, observations are exhibited shewing that the iron attached to the electrometer pole has little or no effect on the magnet.

9 Calculation of the constant used in the reduction of the observations of the declination-magnet, the micrometer-head of the theodolite-telescope being East.

		° ′ ″
Micrometer equivalent for reading for line of collimation, $100^{r} \cdot 351$	−	2. 37. 20·0
Correction for the plane glass in front of the box, in its usual position......	−	10·4
Correction due to the compound effect of the horizontal force magnet and the vertical force magnet	−	42·2
	−	2. 38. 12·6
Correction for the effect of the mean time clock	+	9·4
	−	2. 38. 3·2
The collimator West of the magnet. Correction for Error of collimation ...	+	4. 49·1
Constant used in the reduction of the observations	−	2. 33. 14·1

10. Determination of the time of vibration of the declination-magnet under the action of terrestrial magnetism.

It is known, from constant observation, that the time of a single vibration is as nearly as possible 30^{s}; but no observations are recorded which merit distinct reference.

11. Fraction expressing the proportion of the torsion-force to the earth's magnetic force.

In the Introduction to the Magnetical Observations 1847, the process is given in great detail by which the torsion-force of the skein then supporting the magnet was found to be $\frac{1}{100}$ of the earth's magnetic force: as determined by the proportion of the disturbance in the position of the magnet, produced by turning the torsion-circle through a measured angle, to that measured angle. For the skein (which broke in 1848) a similar skein was substituted; and observations made in nearly every year to 1864, gave sensibly the same result.

DETERMINATION OF THE READINGS OF THE HORIZONTAL CIRCLE OF THE THEODOLITE CORRESPONDING TO THE ASTRONOMICAL MERIDIAN.

The error of the level is determined by application of the spirit-level at the time of observation: due regard being paid, in the reduction, to the inequality of pivots already found. One division of the level is considered $= 1''\cdot0526$. The azimuth-reading is then corrected by this quantity;

Correction = Elevation of W. end of axis × tan star's altitude.

The readings of the azimuth circle increase as the instrument is turned from N. to E., S., and W.; from which it follows that the correction must have the same sign as the elevation of the W. end.

The correction for the azimuth of the star observed has been computed independently in every observation, by a peculiar method, of which the principle is fully explained in the volumes for 1840, 1841, 1843, 1844, 1845. The formula and table used are the following:—

Let $A_{\prime\prime}$ = seconds of arc in star's azimuth,
C_s = seconds of time in star's hour-angle,
$a_{\prime\prime}$ = seconds of arc in star's N.P.D. for the day of observation,
Then $\log. A_{\prime\prime} = \log. C_s + \log. E + \log. (a_{\prime\prime} + F) + \log. \cos \varphi$.

The values of log. E, F, and log. cos φ, are given in the following table:—

TABULATED VALUES of LOG. COS ϕ, for DIFFERENT VALUES of C_s, and of the QUANTITIES LOG. E and F, for the STARS POLARIS and δ URSÆ MINORIS.

Hour Angle.	Log. Cos ϕ for			
	Polaris.	δ Ursæ Minoris.	Polaris S.P.	δ Ursæ Min. S.P.
m 1	9·99999	9·99999	9·99999	9·99999
2	999	999	999	999
3	999	999	999	999
4	998	998	998	998
5	996	996	997	997
6	994	994	996	996
7	992	992	994	995
8	990	989	992	993
9	988	986	990	991
10	985	983	988	989
11	981	979	985	987
12	978	975	982	984
13	974	971	979	981
14	970	966	975	978
15	966	961	972	975
16	961	955	968	971
17	956	950	964	968
18	951	944	959	964
19	945	937	955	960
20	939	930	950	956
21	932	923	945	951
22	926	915	939	946
23	919	908	933	941
24	912	900	928	936
25	904	891	922	930
26	896	882	915	925
27	888	873	909	919
28	880	863	902	912
29	871	853	894	906
30	9·99862	9·99843	9·99887	9·99900
Log. E	6·09721	6·13638	−6·03899	−6·00617
F	−186″·79	−944″·71	+181″·57	+886″·86

Observations for determining the readings for the astronomical meridian, were made on the following days in 1862:—January 16, February 18, March 12, April 23, 29, May 2, 16, June 18, July 12, 26, August 7, 28, September 10, October 22, December

1, 2, and 10. As a check on the continued steadiness of the theodolite, observations of a fixed mark (a small hole in a plate of metal above the Observatory Library, illuminated by a reflector of sky-light in the day and by a lamp at night,) have been frequently taken in the periods intervening between the observations of stars.

The following is a description of the method of making and reducing the eye-observations of the declination-magnet :—

A fine horizontal wire (as stated above) is fixed in the field of view of the theodolite-telescope, and another fine vertical wire is fixed to a wire-plate, moved right and left by a micrometer screw. On looking into the telescope, the cross of the magnetometer is seen; and during the vibration of the magnet, this cross is seen to pass alternately right and left. The observation is made by turning the micrometer till its wire bisects the image of the magnet-cross at the pre-arranged times, and reading the micrometer. The verniers of the horizontal circle are read.

The mean-time clock is kept very nearly to Greenwich mean time (its error being ascertained each day), and the clock-time for each determination is arranged beforehand.

If the magnet is in a state of disturbance, the first observation is made by the observer applying his eye to the telescope about one minute before the pre-arranged time; he bisects the magnet-cross by the micrometer wire at 45^s, and again at 15^s before that time, also at 15^s and 45^s after that time. The intervals of these four observations are therefore the same as the time of vibration of the magnet, and the mean of all the times is the same as the Greenwich pre-arranged mean time

The mean of each pair of adjacent readings of the micrometer is taken (giving three means), and the mean of these three is adopted as the result. In practice, this is done by adding the first and fourth readings to the double of the second and third, and dividing the sum by 6.

The number of instances in which the magnet was observed in a state of vibration during the year 1862 is very small. Indeed, since the introduction (1842, June 16) of the double box covered with gilt-paper, for inclosing the magnet, instead of the flat drum with glass top furnished by Mr. Meyerstein, it is found that the magnet is seldom in a state of vibration; and it passes from one position of rest to another, sometimes through a large arc, without vibration. When the magnet is found to be thus free from vibration, two bisections only of the cross are made, one about 15^s before the time recorded, the other about 15^s after that time (30^s being nearly the time of a single vibration).

The adopted result is converted into arc, supposing $1^r = 1'.34''$, and the quantity thus deduced is added to the mean of the vernier-readings, from which is subtracted the constant given in article 9 of the permanent adjustments; the difference between this number and the adopted reading for the Astronomical South Meridian is taken; and thus is deduced the magnetic declination, which is used in determining the zero for the photographic register.

§ 3. *Photographic self-registering Apparatus for Continuous Record of Magnetic Declination.*

The general principle adopted for all the photographic instruments is the same. The photographic paper is wrapped round a glass cylinder, and the axis of the cylinder is made parallel to the direction of the movement which is to be registered. The cylinder is turned by clock-work, with uniform velocity. The spot of light (for the magnets and barometer) or the boundary of the line of light (for the thermometers) moves, with the movements which are to be registered, in the direction of the axis of the cylinder, while the cylinder itself is turned round. Consequently, when the paper is unwrapped from its cylindrical form, there is traced upon it (though not visible till the proper chemical agents have been applied) a curve, of which the abscissa measured in the direction of a line surrounding the cylinder is proportional to the time, while the ordinate measured in the direction parallel to the axis of the cylinder is proportional to the movement which is the subject of measure.

In the instruments for registering the motions of the magnets and barometer, a line of abscissæ is actually traced on the paper, by a lamp giving a spot of light in an invariable position, the effect of which on the revolving paper is to trace a line surrounding the cylinder. For the thermometers this is not necessary, as the thermometer-scales are made to carry and to transfer to the photographic paper sufficient indications of the actnal reading of the thermometers.

Every part of the cylinder-apparatus except those on which the spots of light fall is covered with a double case of blackened zinc, having a slit for each moveable spot of light and a hole for the invariable spot; and every part of the path of the photographic light is protected by blackened zinc tubes from the admixture of extraneous light.

In all the instruments, the following method is used for attaching, to the sheet of photographic paper, indications of the time when certain parts of the photographic trace were actually made, and for giving the means of laying down a time-scale applicable to every part of the trace. By means of a small moveable plate, arranged expressly for this purpose, the light which makes the trace can at any moment be completely cut off. An assistant, therefore, occasionally cuts off the light (registering in the proper book the clock-time of doing so), and after a few minutes withdraws the plate (again registering the time). The effect of this is to make a visible interruption in the trace, corresponding to registered times. By drawing lines from these points of interruption parallel to the axis of the cylinder, to meet the photographic line of abscissæ, or an adopted line of abscissæ parallel to it, points are defined upon the line of abscissæ corresponding to registered times. The whole length of the photographic sheet (except where one end, in the cylindrical arrangement, laps over the other) corresponds to the known time of revolution of the cylinder. A scale being prepared beforehand, whose value for the time of revolution corresponds to the circumference of the cylinder, and the scale-reading for the registered time of interruption of light being applied to the foot of the ordinate corresponding to that interruption, the divisions of hours and minutes may be transferred at once from the scale to the line of abscissæ. In practice it is found that the length of the paper is not always the same, and it is necessary, therefore, to use a scale (a separate one for each separate instrument) which will admit of small expansion and contraction, preserving the proportion of its different parts unaltered. A scale of vulcanized caoutchouc, mounted on a small frame in which one end of the scale is fixed while the other is drawn by a screw, is found to answer extremely well.

One of the revolving cylinders is used for the photographic record of the Declination Magnet and the Horizontal Force Magnet. In the actual positions of these two magnets it was found that the line, drawn from the suspending skein of the declination-magnet to the center of the two suspending lines of the bifilar or horizontal-force-magnet, passed through the internal projection of the south-eastern re-entering angle of the building, but by so small a quantity that I judged it best to plant the apparatus for registry of the two instruments close to that re-entering angle. The first thing to be described is the arrangement of glass cylinders. One glass cylinder with a hemispherical extremity (in all respects similar to those used as shades or protectors of small clocks, works of art, &c.), $11\frac{1}{2}$ inches long in its cylindrical part, and $14\frac{1}{2}$ in circumference, is covered internally with a black pigment, and is stopped at the open end by insertion in a metallic cap, in the center of which is a short spindle and winch-arm. Round this cylinder the photographic paper is wrapped, and the moisture on the photographic paper agglutinates its overlapping ends with sufficient firmness. The cylinder and mounted paper are then covered by another glass cylinder with hemispherical end, whose open end is fixed, by friction, on the rim of the metallic cap to which the inner cylinder is attached, a collar of tape being inserted between. In this state the cylinders are placed in their working-mounting; the short spindle in the cap, and the large cylinder near its hemispherical end, rest upon friction-rollers, the axis of the cylinder being horizontal. The winch-arm is lodged in a fork at the end of the hour-hand of a timepiece, which is made for the purpose, not exceeding in size an ordinary box-chronometer, but with very strong wheels and powerful spring, and with duplex escapement. In order to avoid the ordinary shake of the hour-hand of a clock, due to the play of the motion-wheels under the dial, the hour-hand is placed upon the central axis, and the second wheel, which is usually placed in the center and carries the minute hand, is placed on one side. The cylinder was originally made to turn in twelve hours; but, as this construction sometimes required a change of the photographic sheet every twelve hours, the wheels of the time-piece were changed, to make the cylinder turn in twenty-four hours.

The light, by which the trace of the declination-magnet is made, originates in a lamp, (formerly of camphine, but, since 1849, of coal-gas charged with the vapour of coal-naphtha) placed slightly out of the direction of a straight line drawn from the suspension-skein of the magnet to the center of the photographic sheet. Before the flame of the lamp is placed a small aperture, about $0^{\text{in}}\cdot3$ high and $0^{\text{in}}\cdot01$ broad, independent of the lamp, and supported by a part of the same frame which carries the magnet. The light from the aperture falls upon a concave mirror of speculum-metal, 5 inches in diameter, and about 26 inches from the aperture. This concave mirror is above the top of the box; it is carried by a part of the magnet-carrier, which, although it has a small movement of adjustment relative to the magnet-carrier, is in practice very firmly clamped to it, so that the mirror receives all the angular movements of the magnet. By the concave mirror, the light diverging from the aperture is made to converge to a place nearly on the surface of the cylinder of photographic paper, whose distance from the mirror is about 11·8 feet. The form of the aperture, however, and the astigmatism caused by the inclined reflexion from the mirror, produce this effect, that the image is somewhat elongated in the vertical direction, and is at the same time slightly curved. To diminish the length there is placed near the cylinder a plano-convex cylindrical lens of glass, with its axis horizontal, and the image is thus reduced to a neat spot of light.

The spot of light from the concave mirror of the declination-magnet is received on the south side of the cylinder, near its west end.

Near the east end of the cylinder is placed a gas-lamp, shining by reflexion through a small fixed aperture above the cylinder, from which the light falls upon a small cylindrical lens, by which a very delicate and well-defined photographic trace is marked upon the paper, in a fixed position, intermediate between the photographic curves of the declination and horizontal force magnets. This is the photographic base-line, or line of abscissæ, to which allusion has been made above.

For the declination-magnet, the values, in minutes and seconds of arc, of movements of the photographic spot in the direction of the ordinate, are thus deduced from a geometrical calculation founded on the measures of different parts of the apparatus. The distance of the cylinder from the concave mirror is about 11·8 feet, and a movement of 1° of the mirror produces a movement of 2° in the reflected ray; and the normal to the axis of the cylinder is inclined about 7° to the reflected ray. From this it is found that 1° of movement of the mirror is represented by 4·99 inch upon the photographic paper. A small scale of pasteboard is prepared, whose graduations correspond in value to minutes and seconds so calculated. The zero of the ordinate-scale is found in the following manner. The time-scale having been laid down as is already described, and actual observations of the position of the magnet having been made with the eye and the telescope, (as has been fully described above), at certain registered times, there is no difficulty (by means of these registered times) in defining the points of the photographic trace which correspond to the observed positions.

The pasteboard scale being applied as an ordinate to one of these points, and being slid up and down till the scale-reading which represents the reading actually taken by the eye-observation falls on that point, the reading of the scale where it crosses the line of abscissæ is immediately found. The various readings given by different observations, so long as there is no instrumental change, will scarcely differ, and may be combined in groups, and thus an adopted reading for the line of abscissæ may be obtained. From this, with the assistance of the same pasteboard scale, there will be laid down without difficulty a new line, parallel to that line of abscissæ, whose ordinate would represent some whole number of degrees, or other convenient quantity.

§ 4. *Horizontal-Force-Magnet and Apparatus for observing it.*

The horizontal-force-magnet, furnished by Meyerstein of Göttingen, is, like the declination-magnet, 2 feet long, $1\frac{1}{2}$ inch broad, and about $\frac{1}{4}$ inch thick. For its support, a wooden tripod-stand is planted in the eastern arm of the Magnetic Observatory, resting immediately on the ground, and not touching the floor. This tripod supports an upright plank, to the top of which a brass frame is attached, carrying two brass pulleys (with their axes in the same east and west line) in front of the plank, and two (in a similar position) at the back of the plank; these constitute the upper suspension-piece. A small windlass is attached to the back of the plank at a convenient height. The magnet-carrier consists of two parts; the upper part is a vertical plate, having a pair of small pulleys attached to it, (whose axes are perpendicular to the plate), and connected below with the torsion-circle; the lower part is the magnet-stirrup, turning by stiff friction in the torsion-circle, and bearing a pointer above for reading its graduations, and bearing also a small plane mirror below, to which a fixed telescope is directed for observing by reflexion the graduations of a fixed scale (to be mentioned shortly). Under the two small pulleys of the vertical plate passes a skein of silk; its two branches rise up and pass over the front pulleys of the suspension-piece, then over its back-pulleys, and then descend and pass under a single large pulley, whose axis is attached to a string that passes down to the windlass. Supported by the two branches of the skein, the magnet swings freely, but the direction that it takes will depend on the angular position of its stirrup with respect to the vertical plate; it is intended that the index should be brought to such a position on the torsion-circle that the two suspending branches should not hang in one plane, but should be so twisted that their torsion-force will maintain the magnet in a direction very nearly E. and W. magnetic (its marked end being W.), in which state an increase of the earth's magnetic force draws the marked end towards the N., till the torsion resistance is sufficiently increased to resist it, or a diminution allows the torsion-force to draw it towards the S. The magnet, with its plane mirror, hangs within a double rectangular box (one box completely inclosed within another) covered with gilt paper, similar to that used for the declination-magnet; in its S. side there is one hole, covered with glass, through which the rays of light from the scale enter to fall on the plane mirror, and another hole, similarly covered, through which the rays reflected by the mirror pass to the fixed telescope. The vertical rod, (below the pointer for indications of torsion-circle), which carries the magnet-stirrup, passes through a hole in the top of the box. The height of the brass pulleys of the suspension-piece above the floor is $11^{ft.}\ 5^{in.}$; that of the pulleys of the magnet-carrier is $3^{ft.}\ 8^{in.}$; and that of the center of the plane mirror is about $2^{ft.}\ 11^{in}$. The distance between the branches of the silk skein, where they pass over the upper pulleys, is $1^{in}{\cdot}48$; at the lower part the distance between them is $0^{in}{\cdot}92$.

An oval copper bar embraces the magnet (exactly similar to that for the declination-magnet), for the purpose of diminishing its vibrations.

The scale, which is observed by means of the plane mirror, is fixed to the South wall of the East arm of the magnetic observatory. The numbers of the scale increase from East to West, so that, when the magnet is inserted in the magnet-cell with its marked end towards the West, increasing readings of the scale (as seen with a fixed telescope directed to the mirror which the magnet carries) denote an increasing horizontal force. A normal from the magnet-mirror to the scale meets it at the division 40 nearly.

The telescope is fixed to a wooden tripod stand, whose feet pass through the floor without touching it, and are firmly connected with piles driven into the ground. Its position is such that an observer, sitting in a chair at a convenient place for observing the declination-magnet with the theodolite, can, by turning his head, look into the telescope which is directed to the mirror of this instrument. The angle between the normal to the scale (which usually coincides nearly with the normal to the axis of the magnet) and the axis of the telescope, is about 54°, and the plane of the mirror is therefore inclined to the axis of the magnet about 27°.

On 1847 August 21, the magnet-carrier for the photographic apparatus was mounted. It differs from that just described only in this respect, that the vertical plate with the two small pulleys is sufficiently raised to permit the descending rod to carry, between the torsion-circle and the top of the box, a concave mirror 4 inches in diameter. The form of this suspension is so exactly similar to that for the declination-magnet (the sole differences being that the mirror is 4 inches in diameter, and that the suspending skein passes under two pulleys, as above described), that it is unnecessary here to give any further description of it.

OBSERVATIONS RELATING TO THE PERMANENT ADJUSTMENTS OF THE HORIZONTAL-FORCE-MAGNET.

1. Determination of the times of vibration and of the different readings of the scale for different readings of the torsion-circle, and the reading of the torsion-circle and the time of vibration when the magnet is transverse to the magnetic meridian.

To render the process intelligible, it may be convenient to premise the following explanation.

Suppose that the magnet is suspended in its stirrup which is firmly connected with the small plane mirror, with its marked end in a magnetic westerly direction (not exactly W., but in any westerly direction between N. and S.), and suppose that, by means of the telescope directed towards that mirror, the scale is read, or (which is the same thing) the position of the plane mirror and of the stirrup, and therefore that of the axis of the magnet, are defined. Now let the magnet be taken out of the stirrup and replaced with its marked end easterly. The terrestrial magnetic power will now act, as regards torsion, in the direction opposite to that in which it acted before, and therefore the magnet will not take the same position as before. But by turning the torsion-circle, which changes the amount and direction of the torsion-power produced by the oblique tension of the suspending cords, the magnet may be made to take the same position as before (which will be proved by the reading of the scale, as viewed in the plane mirror, being the same as before). The reading of the torsion-circle will be different from what it was before. The effect of this operation then is, to give us the difference of torsion-circle-readings for the same position of the magnet-axis with the marked end opposite ways, but it gives no information as to whether the magnet-axis is transverse to the meridian, inasmuch as the same operation can be performed whether the magnet-axis is transverse or not.

But there is another observation which will inform us whether the magnet-axis is or is not transverse. Let the time of vibration be taken in each position of the magnet. Resolve the terrestrial magnetic force acting on the poles of the magnet into two parts, one transverse to the magnet, the other longitudinal. In the two positions of the magnet (marked end westerly and marked end easterly, with axis in the same position), the magnitude of the transversal force is the same, and the changes which the torsion undergoes in a vibration of given extent are the same, and the time of vibration if there were no other force would be the same. But there is another force, namely the longitudinal force; and when the marked end is northerly, this tends from the center of the magnet's length, and when it is southerly it tends towards the center of the magnet's length; and in a vibration of given extent this produces force, in one case increasing that from the torsion and in the other case diminishing it. The times of vibration therefore will be different. There is only one exception to this, which is, when the magnet-axis is transverse to the magnetic meridian, in which case the longitudinal force vanishes.

The criterion then of the position truly transverse to the meridian (which position is necessary in order that the indications of our instrument may apply truly to changes of the magnitude of terrestrial magnetic force without regard to changes of direction) is this. Find the readings of the torsion-circle which, with magnet in reversed positions, will give the same readings of the scale as viewed by reflexion in the plane mirror, and will also give the same time of vibration for the magnet. With these readings of the torsion-circle the magnet is transverse to the meridian; and the difference of the readings of the torsion-circle is the difference between the position, when terrestrial magnetism acting on the magnet twists it one way, and the position when the same force twists it the opposite way, and is therefore double the angle due to the torsion-force of the suspending lines when they neutralize the force of terrestrial magnetism.

The following table exhibits the elements of one of the determinations made in 1862:—

1862. Day.	The Marked end of the Magnet. West. Torsion-Circle Reading.	West. Scale Reading.	West. Difference of Scale Readings for 1° of Torsion.	West. Mean of the Times of Vibration.	East. Torsion-Circle Reading.	East. Scale Reading.	East. Difference of Scale Readings for 1° of Torsion.	East. Mean of the Times of Vibration.
	°	div.	div.	s	°	div.	div.	s
January 6					227	13·43	8·83	21·12
	139	23·11	9·91	21·94	228	22·26	9·04	21·22
	140	33·02	9·47	21·70	229	31·30	8·69	21·34
	141	42·49	8·31	21·74	230	39·99	8·18	21·50
	142	50·80	10·29	21·38	231	48·17	9·36	21·62
	143	61·09	7·72	21·73	232	57·53	10·00	21·82
	144	68·81	8·92	21·65	233	67·53	10·13	21·94
	145	77·73	8·99	21·60	234	77·66	9·03	22·08
	146	86·72		21·61	235	86·69		22·28

Regarding the number 21·38 in the fifth column as probably affected with some error, it appears that, when the scale-reading was 50·80, the times of vibration were sensibly equal in the two positions of the magnet, and the torsion-circle-readings were respectively 142° and 231°. 17′, differing 89°. 17′. Half this difference, or 44°. 38′. 30″, is the angle of torsion when the magnet is transverse to the meridian.

The mean of several determinations gave 44°. 37′. 30″. The reading adopted for the torsion-circle, marked end of magnet West, was 142°. 30′ to April 29, and 142°. 0′ from April 30 to the end of the year.

3. Determination of the compound effect of the vertical-force-magnet and the declination-magnet on the horizontal-force-magnet, when suspended with its marked end towards the West.

The details of the experiments, made while the old vertical-force-magnet was in use, will be found in the volumes for 1841, 1842, 1843, 1844, 1845. The effect was to increase the readings by $0^{div}{\cdot}487$. On mounting a new vertical-force-magnet in 1848, similar experiments were made, and the resulting number was $0^{div}{\cdot}45$. These quantities are totally unimportant, in their influence on the registers of changes of horizontal force.

4. Computation of the angle corresponding to one division of the scale, and of the variation of the horizontal force (in terms of the whole horizontal force) which moves the magnet through a space corresponding to one division of the scale.

It was found by accurate measurements, at the end of the year 1840, that the distance from $40^{\text{div.}}$ on the scale to the center of the face of the plane mirror is $8^{\text{ft.}}\ 5^{\text{in.}}\cdot 1$, and that the length of $30^{\text{div}}\cdot 9$ of the scale is exactly 12 inches; consequently, the angle at the mirror subtended by one division of the scale is $13'.\ 12''\cdot 32$, or, for one division of the scale, the magnet is turned through an arc of $6'.\ 36''\cdot 16$.

The adopted angle of torsion as mentioned above is $44°.\ 37'.\ 30''$; consequently the variation of horizontal force (in terms of the whole horizontal force) for a disturbance through one division of the scale, computed by the formula, "Cotan. angle of torsion $\times$ value of one division in terms of radius," is 0·001946. This number has been used throughout the year 1862.

5. Determination of the correction for the effect of temperature on the horizontal force magnet.

In the Introduction to the volume of Magnetical and Meteorological Observations for 1847 will be found a detailed account of observations made in the years 1846 and 1847 for determination of this element. The principle adopted was that of observing the deflection which the magnet (to be tried) produces on another magnet; the magnet (to be tried) being carried by the same frame which carries the telescope that is directed to the plane mirror attached to the other magnet, and which also carries the scale that is viewed by reflection in that plane mirror. The rotation of the frame was measured by a graduated circle about 23 inches in diameter. The magnet (to be tried) was always on the eastern side of the other magnet. It was enclosed in a copper trough, which was filled with water at different temperatures. One end of the magnet (to be tried) was directed towards the other magnet. The values found for correction of the results as to horizontal force found with the magnet at temperature $t°$, in order to reduce them to what they would have been if the temperature of the magnet had been 32°, expressed as multiples of the whole horizontal force, were,*

When the marked end of the magnet (to be tried) was West,

$$0\cdot 00007137\ (t-32°) + 0\cdot 000000898\ (t-32°)^2$$

When the marked end of the magnet (to be tried) was East,

$$0\cdot 00009050\ (t-32°) + 0\cdot 000000626\ (t-32°)^2$$

The mean, or

$$0\cdot 00008093\ (t-32°) + 0\cdot 000000762\ (t-32°)^2$$

has been embodied in tables which have been used in the computation of the "Reduction of Magnetic Observations 1848–1857," attached to the Volume of Observations

* By inadvertence in printing the Introduction 1847, the letter *t* has been used in two different senses.

1859, and in the computation for "Days of Great Magnetic Disturbance 1841–1857" attached to the present volume.

This may be a convenient place for stating that observations made in the present year (1864), in which the magnet has been heated by hot air instead of hot water, give a much larger value to the principal coefficient.

The method of observing with the horizontal-force-magnet is the following :—

A fine vertical wire is fixed in the field of view of the telescope, which is directed to the plane mirror carried by the magnet. On looking into the telescope, the graduations of the fixed scale are seen; and during the oscillations of the magnet, the divisions of the scale are seen to pass alternately right and left across the wire. The clock-time, for which the position of the magnet is to be determined, is the same as that for the observation of declination. The first observation is made by the observer applying his eye to the telescope 40^s before that time, and, if the magnet is in a state of vibration, he observes the next four extreme points of vibration of the scale, and the mean of these is adopted in the same manner as for the declination-observations; but if it is at rest, then at 10^s before the pre-arranged time, he notes the division of the scale bisected by the wire; and 20^s afterwards he notes whether the same division continues bisected, and if it does, that reading is adopted as the result.

The number of instances when the magnet was observed in a state of vibration during the year 1862 is very small.

Within the double box is suspended a thermometer, which is read at every hour of observation. On one day also of every week, the readings of the thermometer are taken at 18^h, 21^h, 22^h, 23^h, 0^h, 1^h, 2^h, 3^h, 6^h, 9^h, and 12^h.

§ 5. *Photographic self-registering Apparatus for Continuous Record of Magnetic Horizontal Force.*

Much of the description of the photographic apparatus attached to the declination-magnet applies also to that which is attached to the horizontal-force-magnet. A concave mirror of speculum-metal, 4 inches in diameter, is carried by the magnet-carrier. The light of a lamp of naphthalized gas shines through a small aperture $0^{in}\cdot3$ high, and $0^{in}\cdot01$ broad (which is supported by the magnet-stand), at the distance of about 22 inches from the concave mirror, and is made to converge to a point on the north surface, and near the east end of the same revolving cylinder which receives the light from the concave mirror of the declination-magnet. A cylindrical lens parallel to the axis of the cylinder receives the somewhat elongated image of the source of light, and converts it into a well-defined spot. The motions of this spot parallel to the axis represent the angular movements of the magnet which are produced, by an increase of terrestrial magnetic force overcoming more completely the torsion-force of the bifilar suspension, or by a diminution of terrestrial force yielding to the torsion-force.

As the spot of light from the horizontal-force-mirror falls on the side of the cylinder opposite to that on which the light from the declination-mirror falls, the same time-scale will not apply to both; it is necessary to prepare a time-scale independently for each.

The following is the calculation by which the scale of horizontal force on the photographic sheet is determined. The distance between the surface of the concave mirror and the surface of the cylinder is 127·65 inches; consequently, one degree of angular motion of the magnet, producing two degrees of angular motion of the reflected ray, moves the spot of light through 4·4892 inches. Now the variation of horizontal force (in terms of the whole horizontal force) corresponding to one degree of angular motion of the magnet $= \sin 1^\circ \times \text{cotan } 44^\circ.\ 37'.\ 30'' = 0{\cdot}017682$ nearly. From these numbers it is immediately found that a movement of the spot of light through 0·25388 inch corresponds to a variation of horizontal force expressed by 0·001. With this fundamental number the pasteboard scale for measure of horizontal force has been prepared.

§ 6. *Vertical-Force-Magnet, and Apparatus for observing it.*

The vertical-force-magnet, like the other two magnets, is 2 feet long, 1½ inch broad, and about ¼ inch thick. The magnet in use to 1848 was made by Robinson; that in use from 1848 to the present time (1864) was by an unknown maker. Its supporting frame rests upon a block, connected with a tripod-stand which passes through the floor and rests immediately on the ground in the western arm of the Magnetic Observatory. Its position is as nearly as possible symmetrical with that of the horizontal-force-magnet in the eastern arm. Upon the block is fixed the supporting frame, consisting of two pillars (connected at their bases) on whose tops are the agate planes upon which vibrate the knife-edges (to be mentioned immediately). The carrier of the magnet is a brass frame, to which are attached by clamps and pinching-screws two steel knife-edges, each about ½ inch long. In the frame first erected, the length of axis of vibration, from end to end of the knife-edges, was 2½ inches; in the frame adapted to the photographic apparatus, and in use from 1848 to 1863, the length from end to end of the knife-edges is 7 inches. The axis of the magnet is as nearly as possible transverse to the meridian, its marked end being E. The axis of vibration is as nearly as possible N. and S. To the southern end of the brass frame, and projecting further south than the end of the knife-edge, is fixed a small plane mirror, whose plane makes with the axis of the magnet an angle of 54° nearly. The fixed telescope (to be mentioned) is directed to this mirror, and by reflexion at the surface of the mirror it views a vertical scale (to be mentioned shortly). The height of this mirror above the floor is about $2^{\text{ft.}}\ 11^{\text{in}}$. Before the introduction of the photographic methods, the magnet was placed in a perforation of the brass frame midway between its knife-edges. But since the photographic method was introduced, the magnet has been placed excentrically; the distance of its southern face from the nearest end of the southern knife-edge being only ½ inch, and a space of 4½ inches in the northern part of the brass frame being left disposable. In this disposable space there is attached to the brass frame by three clips a concave mirror of speculum-metal, 4 inches in diameter, with its face at right angles to the length of the magnet, used in the photographic system (shortly to be described). Near the north end of the brass frame are fixed in it two screw-stalks, upon which are adjustible screw-weights; one stalk is horizontal, and the movement of its weight affects the position of equilibrium of the magnet (which depends on the equilibrium between the moments of the vertical force of terrestrial magnetism on the one hand and of the magnet's center of gravity on the other hand); the other stalk is vertical, and the movement of its weight affects the delicacy of the balance, and varies the magnitude of its change of position produced by a change in the vertical force of terrestrial magnetism.

The whole is inclosed in a double rectangular box covered with gilt paper, similar to those used for the declination-magnet and the horizontal-force-magnet. This box is based upon the block of wood above mentioned; and in it, in a space separated from the rest by a thin partition, the magnet can vibrate freely in the vertical plane. In the south side of the box is a hole covered by glass, through which pass the rays of light from the scale to the plane mirror, and through which they are reflected from the plane mirror to the telescope. And at the east end is a large hole covered by glass, through which passes the light from the lamp to the concave mirror, and through which it is reflected to the photographic cylinder (to be described hereafter).

The telescope is fixed to a wooden tripod stand, whose feet pass through the floor without touching it, and are firmly connected with piles driven into the ground. Its position is symmetrical with that of the telescope by which the horizontal-force-magnet is observed; so that a person seated in a position proper for observing the declination-magnet can, by an easy motion of the head right and left, observe the vertical-force and horizontal-force-magnets.

The scale is vertical: it is fixed to the stand which carries the telescope, and is at a very small distance from the object-glass of the telescope. The wire in the field of view of the telescope is horizontal. The telescope being directed towards the mirror, the observer sees in it the divisions of the scale passing upwards and downwards over the fixed wire as the magnet vibrates. The numbers of the scale increase from top to bottom; so that, when the magnet is placed with its marked end towards the East, increasing readings (as seen with the fixed telescope) denote an increasing vertical force.

OBSERVATIONS RELATING TO THE PERMANENT ADJUSTMENTS OF THE VERTICAL-FORCE-MAGNET.

1. Determination of the compound effect of the declination-magnet, the horizontal-force-magnet, and the iron affixed to the electrometer pole, on the vertical-force-magnet.

The experiments applying to the magnets are given in the volumes for 1840–1841 to 1845: and those applying to the electrometer pole in the volume for 1842. It appears that no sensible disturbance is produced.

2. Determination of the time of vibration of the vertical-force-magnet in the vertical plane.

In the year 1862, vibrations of the vertical-force-magnet were observed on 73 different days, and with readings of various divisions of the scale. The times of vibration were so accordant as to leave no reason for dividing the results into separate groups. The mean of all was $15^{s}\cdot 38$.

3. Determination of the time of vibration of the vertical-force-magnet in the horizontal plane.

1859, April 19. The magnet with all its apparatus was suspended from a tripod in the Library, its broad side being in a plane parallel to the horizon; therefore, its moment of inertia was the same as when it is in observation. A telescope, with a wire in its focus, was directed to the reflector carried by the magnet. A scale of numbers was placed on the floor of the Library, at right angles to the long axis of the magnet, or parallel to the mirror. The magnet was observed only at times when it was swinging through a small arc.

From 700 vibrations, the mean time of one vibration $= 24^{s}\cdot 258$.

4. Computation of the angle through which the magnet moves for a change of one division of the scale; and calculation of the disturbing force producing a movement through one division, in terms of the whole vertical force.

The distance from the scale to the mirror is 151·2 inches, and each division of the scale $= \frac{12}{30\cdot 9}$ inches. Hence the angle which one division subtends, as seen from the mirror, is $8'. 49''\cdot 79$; and therefore the angular movement of the normal to the mirror, corresponding to a change of one division of the scale, is half this quantity, or $4'. 24''\cdot 90$.

But the angular movement of the normal to the mirror is not the same as the angular movement of the magnet; but is less, in the proportion of unity to the cosine of the angle which the normal to the mirror makes with the magnet, or in the proportion of unity to the sine of the angle which the plane of the mirror makes with the magnet. This angle has been found to be 54°: therefore, dividing the result just obtained by sine 54°, we have, for the angular motion of the magnet corresponding to a change of one division of the scale, $5'. 27''\cdot 43$.

From this, the value, in terms of the whole vertical force, of the disturbing force producing a change of one division, is to be computed by the formula, " Value of

Division in terms of radius $\times$ cotan. dip $\times \frac{T'^2}{T^2}$," where T′ is the time of vibration in the horizontal plane, and T the time of vibration in the vertical plane.

The dip has been assumed to be 68° 10′ throughout the year.

Throughout the year 1847, T′ was assumed $= 24^s{\cdot}258$, $T = 15^s{\cdot}38$; consequently, the change of vertical force (in terms of the whole vertical force) corresponding to a change of one division of the scale, was 0·0015821; and this number has been used in the reduction of the observations.

5. Investigation of the temperature-correction of the vertical-force-magnet.

In the Introduction to the Magnetical and Meteorological Observations for 1847 are given the details of observations for the effect of temperature on the vertical-force-magnet, made in the same way as those for the horizontal-force-magnet described above. The results for the thermometrical correction at temperature $t°$ of Fahrenheit, in terms of the whole vertical force, are—

With marked end of magnet West—

$$0{\cdot}00012652 \times (t-32) + 0{\cdot}000001619 \times (t-32)^2;$$

and with marked end East—

$$0{\cdot}00018979 \times (t-32) + 0{\cdot}000000726 \times (t-32)^2;$$

the mean being—

$$0{\cdot}00015816 \times (t-32) + 0{\cdot}000001172 \times (t-32)^2.$$

A table of the last quantity has been formed, and has been used in the "Reduction of the Observations from 1848 to 1857," attached to the Observations for 1859, and in the "Reductions on days of Great Magnetic Disturbance," attached to the present volume.

It is proper to state that observations made in the present year (1864), on the change of magnetic power produced when the magnet is heated by hot air, give a much larger value to the principal coefficient of the formula.

The method of observing with the vertical-force-magnet is the following:—

A fine horizontal wire is fixed in the field of view of the telescope, which is directed to the small plane mirror carried by the magnet. On looking into the telescope, the graduations of the fixed vertical scale are seen; and, during the oscillations of the magnet, the divisions of the scale are seen to pass alternately upwards and downwards across the wire. The clock-time, for which the position of the magnet is to be determined, is the same as that for the other two magnets. The observer applies his eye to the telescope about two vibrations before the arranged time, and if the magnet is in motion he observes its places at four extreme vibrations; and the mean of these is taken as for the horizontal-force-magnet. But if the magnet is at rest, then at one-half time of vibration before the arranged time, and at an equal interval after the arranged time, the division of the scale is noted; if there is a slight difference, the mean is taken.

The number of instances in 1862 in which the magnet was found in a state of vibration is very small.

Within the double box is suspended a thermometer, which is read at every hour of observation, and also, on one day of every week, at the hours 18^h, 21^h, 22^h, 23^h, 0^h, 1^h, 2^h, 3^h, 6^h, 9^h, and 12^h, in the same manner as that of the horizontal-force-instrument.

§ 7. *Photographic self-registering Apparatus for Continuous Record of Magnetic Vertical Force.*

The concave mirror which is carried by the vertical-force-magnet has been described in the last article. At the distance of about 22 inches from that mirror, and external to the box, is the horizontal aperture, about $0^{in}\cdot 3$ in length and $0^{in}\cdot 01$ in breadth, carried by the same block which carries the supports of the agate plates. The lamp which shines through this aperture was originally carried by the same block; but the numerous disturbances shown in the photographic trace at the times of changing the lamp suggested the propriety of supporting it upon a different foundation; and since 1849, February, it has been carried by another wooden pier, of such a form as to admit of the lamp being placed very nearly in contact with the aperture-plate. The light reflected from the mirror passes through a cylindrical lens with its axis vertical, very near to the cylinder carrying the photographic paper, and finally forms a well-defined spot of light on the cylinder of paper, at the distance of 8·3 feet from the mirror. As the movements of the magnet are vertical, the axis of the cylinder is vertical. The cylinder is about 15½ inches in circumference, or somewhat larger than that used for the declination and horizontal-force magnets. The forms of the exterior and interior cylinders, and the method of mounting the paper, are in all respects the same as for the declination and horizontal-force magnets; but the cylinder is supported by being merely planted upon a circular horizontal plate (its position being defined by fitting a central hole in the metallic cap of the cylinder upon a central pin in the plate), which is turned by watchwork once in twenty-four hours. The trace of the vertical-force-magnet is on the west side of the cylinder.

On the east side, the cylinder receives the trace produced by the barometer (to be described hereafter). A pencil of light from the lamp which is used for the barometer shines through a fixed aperture with a small cylindrical lens, for tracing a photographic base-line upon the cylinder of paper, similar to that for the cylinder of the declination and horizontal-force magnets.

The scale for the ordinates of the photographic curve of the vertical force is thus computed. Remarking that the radius which determines the range of the motion of the spot of light is double the distance 8·3 feet, and is therefore = 199·2 inches, the formula used in the last section, when applied to $\frac{\text{disturbing force}}{\text{whole vertical force}} = 0{\cdot}01$, becomes $0{\cdot}01 = \frac{\text{value of division}}{199{\cdot}2} \times \text{cotan } 68^\circ.\ 10' \times \left(\frac{24{\cdot}258}{15{\cdot}38}\right)^2$, or value of division $= 199{\cdot}2 \times \tan 68^\circ.\ 10' \times \left(\frac{15{\cdot}38}{24{\cdot}258}\right)^2 \times 0{\cdot}01 = 2$ inches very nearly. With this value for 0·01, the pasteboard scales have been prepared.

§ 8. *Dipping Needles, and Method of observing the Magnetic Dip.*

The instrument with which all the observations of the Dip were made from 1843 to 1861, October 9, was constructed by Robinson, and it is one of the last instruments completed by that artist before his death.

The inner diameter of the vertical circle is 9·59 inches, and the circle is divided to ten minutes; so that every two divisions are $0^{\text{in}}{\cdot}014$ apart at their inner extremities. The divisions appear to be sensibly perfect.

The diameter of the horizontal circle, measured between the points where the extremity of the index meets the graduations, is 5·43 inches. The graduation is to half degrees, and the vernier subdivides to single minutes. There is only one reading.

The vertical circle is graduated upwards and downwards to 90° from the two extremities of the horizontal diameter. The horizontal circle is graduated from 0° to 180°, and then from 0° to 180° again in the same direction; so that had the circle been divided from 0° to 360° (a more natural and convenient method), the readings 180° to 360° would have occupied the part of the circle now occupied by the second set of divisions.

The instrument was furnished by Robinson with two needles marked at one end A 1 and A 2 respectively.

The length of A 1 is 9·56 inches.
The length of A 2 is 9·55 inches.

The lengths of the needles, therefore, are respectively only $0^{\text{in}}{\cdot}03$ and $0^{\text{in}}{\cdot}04$ less than the inner diameter of the circle.

The needles usually swing quite round the circle without touching, proving that the circle is nearly perfect, and that the upper surfaces of the agate planes on which the cylindrical terminations of the axle rest, are so placed as to be below the centre of the vertical circle by a distance equal to half the thickness of the axle at its bearing points.

The surfaces of the agate planes are $1^{\text{in}}{\cdot}09$ apart; the whole length of each of the axles of the needles is $1^{\text{in}}{\cdot}20$, of which a length $0^{\text{in}}{\cdot}88$ is nearly $0^{\text{in}}{\cdot}1$ in diameter; a portion, $0^{\text{in}}{\cdot}02$ in length on each side, is of less thickness, and this part of each rests in the Y's when the needle is raised from the agate planes; the remainder, $0^{\text{in}}{\cdot}14$ on each side, is the cylindrical termination of the axles, and its diameter is about $0^{\text{in}}{\cdot}02$:

both needles are of the same dimensions in these respects, and no certain difference exists in the diameters of their axles.

The instrument was subsequently furnished by Barrow and Dent with other needles of the same dimensions.

The coincidents of planes of the two agates, and the general accuracy of their surfaces, have been occasionally examined by placing on them, sometimes the plane glass of an artificial horizon, and sometimes a small level in different positions; and no reason has been found for doubting the perfect accuracy of the workmanship.

The observations were made in a house built for the purpose entirely of wood, with copper and brass fastenings, at a distance of 64 feet S.S.E. from the nearest part of the Magnetic Observatory. This house was taken down in 1863.

The observations of the Dip were made as follows:—

The horizontal circle is levelled, so that the bubble keeps the same position in all positions of the vertical circle. For ascertaining the reading of the horizontal circle when the vertical circle is nearly in the plane of the magnetic meridian, an instrument is occasionally inserted, consisting of a small steel point above, a brass steadying weight below, and two brass arms by means of which this instrument rests upon the Y's; upon the steel point a free horizontal magnet is mounted with an inverted agate cup in the usual manner; and the whole apparatus is turned till the plane of the vertical circle passes through the free needle. This method has several times been combined with that of corresponding inclinations in two positions of the vertical circle nearly perpendicular to the magnetic meridian: and also with that of turning the instrument on its axis until the dipping needle has assumed a vertical position, and inferring the reading for meridional position of the vertical circle by applying 90° to the reading corresponding to this position: the differences have been always found of small amount.

The needle is then placed on the Y supports, and lowered gradually on to the agate planes, with its marked side on the same side with the divided circle, both being towards the east, and the divisions of the vertical circle at the two ends of the needle are read. The instrument is then turned 180° in azimuth, and the observation is repeated, the marked side of the needle and the graduated face of the instrument being towards the west. The needle is then reversed on its axle so that its face is to the east, the face of the instrument being still towards the west, and similar observations are made. The instrument is then turned 180° in azimuth, so that its graduated face is towards the east, and the marked side of the needle towards the west, and the observations are repeated. To eliminate the effect of the want of coincidence of the center of gravity of the needle with the axis of rotation, the poles of the needle are then reversed by means of about 20 double strokes of two 9-inch bar magnets on each side of the centre of the needle; it is assumed that it is completely saturated by this means; and then step by step the observation is made as before.

In each position of the needle the axle is raised off the agate planes, lowered, and the readings taken again; and this is repeated two, three, or four times, according to the degree of uncertainty, and the mean of all is adopted.

The resulting dip is that corresponding to the mean of the eight observed results.

With the view of ascertaining whether partial results obtained on one day could be combined with other partial results obtained on other days, and also whether a needle left at rest would show the diurnal changes, the needle A 1 was left for some time in 1843 on the agate planes, and observations were made at short intervals, which appear in the volume for 1843. From those observations it appeared that partial observations on one day cannot be safely combined with other partial observations taken on another day, nor can the diurnal change be shown by reading the needle repeatedly on the same day without touching it.

For the immediate results of the observation of Dips with this instrument, I must refer to the printed *Observations* from 1843 to 1861. The results were not so harmonious as the traditions of less experienced observers might lead us to expect. Generally it was found that, with the needles (so far as is known) in the highest state of perfection, the accordance between observations in immediate succession, separated only by a careful raising and lowering of the needle, differed considerably, sometimes as much as 30′, although the freedom of vibration proved that there was no impediment to motion. On repeatedly performing this operation, different results were obtained; and any predisposition in the mind of the observer, to prefer a reading harmonizing with the readings of other days, might easily be gratified by the selection of one of those readings. The utmost care was taken to banish such predisposition; and it is believed that every printed reading is perfectly unbiassed. In classifying these, it appeared to be well established that some needles, in which the most careful scrutiny can discover no fault, give a dip (as found from the mean of all taken in one year) steadily differing from those of other needles.

With the view of removing all causes of possible error of observation which we can fully understand and control, I furnished Mr. Simms with plans for a new instrument, which, for distinction, is subsequently called Airy's instrument. The following description will probably suffice to convey an idea of its peculiarities:—

The form of the needles, the form of their axes, the form of the agate bearings, and the general arrangement of the relieving apparatus, are precisely the same as those in Robinson's and other needles. But the form of the observing apparatus is greatly modified, in order to secure the following objects:—

I. To obtain a microscopic view of the points of the needles, as in the instruments introduced by Dr. Lloyd and Major-General Sabine.

II. To possess at the same time the means of observing the needles while in a state of vibration.

III. To have the means of observing needles of different lengths.

IV. To give an illumination to the field of view of each microscope, directed from the side opposite to the observer's eye, so that the light may enter past the point of the needle into the object glass of the microscope, forming a black image of the needle-point in a bright field of view.

V. To give facility for observing by day or night.

With these views, the following form is given to the apparatus :—

The needle, and the bodies of the microscopes, are inclosed in a square box. The base of the box, two vertical sides, and the top, are made of gun-metal (carefully selected to insure its freedom from iron); but the sides parallel to the plane of vibration of the needle are of glass. Of the two glass sides, that which is next the observer is firmly fixed; it is hereafter called " the graduated glass-plate." The other glass side can be withdrawn, to open the box, for inserting the needle, &c.

An axis, whose length is perpendicular to the plane of vibration of the needles, and is as nearly as possible in the line of the axis of the needle, supported on two bearings (of which one is cemented in a hole in the graduated glass-plate, the other being upon a horizontal bar near to the agate support of the needle-axis), carries a transverse arm, about 11 inches long, or rather two arms, projecting about $5\frac{1}{2}$ inches on each side of the axis. Each of these projecting arms has a long opening, or slot, about 1 inch wide, extending from the neighbourhood of the center-work nearly to the end of the arm. Through this opening the tube of a microscope passes, in a direction parallel to the axis of the needle, and is firmly fixed by a shoulder-bearing on one side of the arm, and a circular nut, working in a thread cut upon the microscope-tube, on the other side of the arm. The microscope can thus be fixed at any distance from the central axis, within the limits of the length of the projecting arm. In 1863, the slot for a single moveable microscope on each side was changed for three fixed microscopes on each side, adapted in position to the lengths of the needles to be mentioned shortly.

The microscope-tube thus carried is not the entire microscope, but so much as contains the object-glass and the field-glass. Upon the plane side of the field-glass (which is turned towards the object-glass), a series of parallel lines is engraved by etching with fluoric acid. The object-glass is so adjusted that the image of the needle-point is formed upon the plane side of the field-glass; and thus the parallel lines can be used for observing the needle in a state of vibration; and, one of them being adopted as standard, the lines can be used for reference to the graduated circle (to be mentioned). All this requires that there be an eye-glass also for the microscope.

The axis of which we have spoken is continued through the graduated glass-plate, and there it carries another transverse arm parallel to the former, and generally similar to it. In each part of this slides a short eye-piece, carrying the eye-glass. In 1863, the slotted arm and moveable eye-socket were changed for an arm with three sockets. Thus, reckoning from the observer's eye there are the following parts:—

(1.) The eye-glass.

(2.) The graduated glass-plate (its graduations, however, not intervening in this part of the glass, the graduated circle being so large as to include all the microscopes).

(3.) The field-glass, on the further surface of which the parallel lines are engraved.

(4.) The object-glass.

(5.) The needle.

(6.) The removeable glass side of the box.

(7.) The illuminating reflector, to be described hereafter.

The optical part of the apparatus being thus described, we may proceed to speak to the graduated circle.

The graduations of the circle (whose diameter is about $9\frac{3}{4}$ inches) are etched on the inner surface of the graduated glass-plate. These divisions (as well as the parallel lines on the field glasses of the microscopes) are beautifully neat and regular, and are, I think, superior to any that I have seen on metal. The same piece of metal which carries the transverse arms supporting the microscope-bodies carries also two arms with verniers for reading their graduations. These verniers (being adapted to transmitted light) are thin plates of metal, with notches instead of lines. The reading of the verniers is very easy. The portion of the axis which is external to the graduated glass-plate (towards the observer), and which has there, as already stated, two arms for carrying the microscope eye-glasses, has also two arms for carrying the lenses by which the verniers and glass-plate graduations are viewed. These four arms are the radii of a circle, which can be fixed in position by a clamp, attached to the gun-metal casing of the graduated glass-plate, and furnished with the usual slow-motion screw.

The entire system of the two arms carrying the microscope-bodies, the two arms carrying the microscope eye-glasses, the two arms carrying the verniers, and the two arms carrying the reading-glasses for the verniers, is turned rapidly by means of a button on the external side of the graduated glass-plate, or is moved slowly by means of the slow-motion screw just mentioned.

It now remains only to describe the illuminating apparatus. On the outside of the removeable glass plate, there are supports for the axis of a metallic circle turning in a plane parallel to the plane of needle-vibration. This circle has four slotted radii, and in these slots or openings there slide small frames carrying prismatic glass reflectors, each of which can turn on an axis, in the plane of the circle, but transverse to the radius. Two of these reflectors are for the purpose of sending light through the verniers, and therefore are fixed in radial distance; the other two are for sending light past the ends of the needle through the microscopes, and therefore require adjustment on change of needle and corresponding change of position of microscopes. These have now been changed for fixed reflectors, corresponding to the fixed microscopes. The circle can be turned by a small winch near the observer's hand. At present, the winch is removed, as its axis was found to be slightly magnetic. At each observation, it is necessary to turn the circle which carries the reflectors; but this is the work of an instant.

The light which illuminates the whole is a gas-burner, in the line of the axis of rotation. Its rays fall upon the glass prisms, and each of these is adjusted, by turning on its axis, to throw the reflected light in the required direction.

The whole of the apparatus, as thus described, is planted upon a horizontal plate admitting of rotation in azimuth: the plate is graduated in azimuth, and verniers are fixed to the gun-metal tripod stand. The gas-pipe is led down the central vertical axis, and there communicates by a rotatory joint with the fixed gas-pipes.

The needles which are used with this instrument are—

B_1, a plain needle......................	each 9 inches long.
B_2, a plain needle......................	
B_3, a loaded needle with adjustible load ...	
C_1, a plain needle......................	each 6 inches long.
C_2, a plain needle......................	
C_3, a loaded needle with adjustible load ...	
D_1, a plain needle......................	each 3 inches long.
D_2, a plain needle......................	
D_3, a loaded needle with adjustible load ...	

It is believed that the results of the observations with this instrument are somewhat, but not very greatly, more consistent than those with the old instrument. The advantage gained appears to arise from the greater certainty of readings of graduations, and from the greater facility of repeating observations whose means are adopted for use.

As the unsteadiness of result in successive observations still remains, suggesting the idea that the magnetic axis wanders in the breadth of the needle, three needles have been constructed (B_4, C_4, D_4, 9, 6, and 3 inches long), whose plane passes through the axis of the needle. It is believed that the results with this form of needle are more consistent than those with the customary form.

§ 9. *Observations for the Absolute Measure of the Horizontal Force of Terrestrial Magnetism.*

The apparatus with which these observations were made from 1845 to 1862, February, is the same which was used in the investigation of corrections of horizontal-force-magnet and vertical-force-magnet for temperature. A wooden frame, with four horizontal arms which travel with an azimuthal revolution by rollers upon a wooden framed ring, carries at its center an erection to which the magnet (the subject of deflexion) is suspended by a few fibres of silk; and carries, at the extremity of one of the horizontal arms, a telescope, and also a graduated scale, which is viewed with the telescope by reflection in a small mirror attached to the frame which clasps the suspended magnet. The deflecting magnet is placed sometimes upon one arm, sometimes upon another; but upon whichever it is placed, it, as well as the telescope and graduated scale, are turned round by the observer in observation so far that, upon looking into the telescope, the same division of the scale is seen in the center of the field as when the deflecting magnet is removed and the wooden frame is in its ordinary position. When this condition is obtained, the relative positions of the deflected magnet and the wooden frame are the same as before, and the deflecting magnet, if placed at first in a direction accurately transverse to the magnetic meridian, is now in a direction accurately transverse to that of the deflected magnet. The measure of the magnetic effort to deflect the magnet is the sine of the angle through which the frame has been turned.

For the measure of this angle, a graduated circle, 23 inches in diameter, is attached to the fixed pedestal, and its divisions are viewed by two micrometer-microscopes connected with the revolving frame.

The deflections were in all cases observed with the magnet placed successively on opposite arms of the wooden frame. The intention of this arrangement was to eliminate all errors arising from a possibly erroneous position of the point of suspension. The whole distance from the place of the center of the deflecting magnet in one position to the center of the same magnet when placed in the opposite position has been measured with great care. The two distances between the centers of the magnets used in all these observations are 1 foot and 1 foot 6 inches.

It is unnecessary here to enter upon the theoretical considerations which show that, when the measure of the deflecting effort is expressed by a series

$$\frac{a}{(\text{distance})^3} + \frac{b}{(\text{distance})^5} + \&c.$$

in descending powers of the distance between the centers of the magnets, the coefficient a is that upon which the measure of terrestrial magnetism will depend. It is proper, however, to mention that, in practice, there is always some uncertainty in the determination of b, and therefore I have thought it best to determine b separately from every series, to adopt the mean of all these values of b as one value applicable in every case, and then, substituting this as a known value in the two equations given by each pair of deflections, to add together the two equations, and thus to form one advantageous equation for determining the value of a.

The observations on which the further calculations are based are those in which the deflecting magnet was East or West of the deflected magnet, with axis directed towards the side of the deflected magnet (called in the tables the "Lateral Position.") Those made with the deflecting magnet North or South of the deflected magnet, with its side towards the end of the deflected magnet, (called in the tables "Axial Position,") are intended only as a check on the others. If the law of attractive and repulsive magnetic forces varying inversely as the square of the distance be correct, and if the observations be accurate, then the value obtained for a' (which corresponds to a as deduced from the other measures) ought to be exactly one-half of that obtained for a. The near agreement of the numbers with this proportion shows that the observations are entirely trustworthy.

The next point is to ascertain the time of vibration of the deflecting magnet when itself subjected to the action of terrestrial magnetism. For this purpose, the deflecting magnet is mounted in the same carrying-piece, and its vibrations are observed by means of the telescope and scale, the times being noted by a solar chronometer whose rate is small. The arc of vibration never exceeds 0°. 30′, so that no correction is necessary for the extent of arc.

Experiments made in 1848, January 10, for the purpose of determining the proportion of the torsion-force of the thread to the terrestrial directive force, gave the following values:

$$\frac{1}{3157}, \frac{1}{2093}, \text{ and } \frac{1}{2903},$$

and the results previously obtained from unrecorded observations were less than the preceding. On account of the smallness and the discordance of these values, no correction for torsion is applied.

It is important, either that the temperature be the same in the observations, or that the corrections for temperature be accurately known. Investigations of the deflexion made at different temperatures from 32° to 99° gave the following results:—

At 32°	the natural sine of deflection	was	0·13452
50	,,	,,	0·13437
79	,,	,,	0·13420
99	,,	,,	0·13403

It is evident that the temperature-correction for this magnet is very small, and its magnitude is so uncertain, that I have judged it best to omit it both in these deflection-observations, and in the vibration-observations unaccompanied with deflections which usually follow them.

The Magnet marked $\frac{D}{XX}$ (the same which was used from September 1845), has been employed to produce the deflexion of another magnet, marked $\frac{H}{23}$ (of nearly the same dimensions): and the vibrations then observed are those of $\frac{D}{XX}$.

The weight of $\frac{D}{XX}$ is 507·302 grains, or 32·873 grammes.

The length of $\frac{D}{XX}$ is 0·3025 foot, or 92·198 millimètres.

The diameter of $\frac{D}{XX}$ is 0·025 foot, or 7·620 millimètres.

Its moment of inertia, therefore, (using the English grain and foot as the units of weight and measure,) is 3·88826.

The weight of the embracing frame and mirror is 108·242 grains, or 7·014 grammes; and, on examining the distribution of this weight, it was thought probable that its moment of inertia would be nearly the same as if it were uniformly distributed over the mirror, whose horizontal length is 0·0658 foot; its moment of inertia is therefore 0·03905.

The weight of the suspending stalk with a pulley is 39·377 grains, or 2·552 grammes, and its moment of inertia (estimated as probably the same as if it had been condensed on the pulley whose diameter is 0·0233 foot), is 0·00135.

The following is the explanation of the notation used:—

m = the magnetic moment of the deflecting magnet $\frac{\mathrm{D}}{\mathrm{XX}}$.
X = the absolute measure of horizontal magnetic force.
K = the moment of inertia of $\frac{\mathrm{D}}{\mathrm{XX}}$ with its stirrup and pulley as suspended for vibration = 3·92866, using the English foot and grain as the unit of length and weight.
π = the circumference of circle to diameter 1.
T = the time of vibration in seconds of mean solar time.

Then when the natural sine of the observed deflexion (the Deflecting Magnet being in the Lateral Position) is expressed by the formula

$$\frac{a}{(\text{distance})^3} + \frac{b}{(\text{distance})^5}$$

we have for the formulæ of computation

$$\frac{m}{X} = \tfrac{1}{2}\,a$$
$$mX = \frac{\pi^2 K}{T^2}$$

from which m and X are found.

The computation of the values of m and X has, to the year 1857, been made in reference to English measure only, using the foot and the grain as the units of length and weight; but, for comparison with foreign observations of the Absolute Intensity of Magnetism, it is desirable that X should be expressed also in reference to French measure, in terms of the millimètre and milligramme. If an English foot be supposed equal to α times the millimètre, and a grain be equal to β times the milligramme, then it is plain that, for the reduction of $\frac{X}{m}$ and mX to French measure, these must be multiplied by α^3 and $\alpha^2\beta$ respectively. Hence, X^2 must be multiplied by $\frac{\beta}{\alpha}$, and X by $\sqrt{\frac{\beta}{\alpha}}$. Assuming that the mètre is equal to 39·37079 inches, and the gramme equal to 15·432349 grains, log. $\sqrt{\frac{\beta}{\alpha}}$ will be found to be $= 9·6637805$, and the factor for reducing the English values of X to French values will be 0·46108, or $\frac{1}{2·1689}$. The values of X in French measure thus derived from those in English measure are given in the proper table.

The natural sine of the observed deflexion, when the Deflecting Magnet is in the Axial Position, is treated in the same manner as the former, for expressing it by the formula

$$\frac{a^1}{(\text{distance})^3} + \frac{b^1}{(\text{distance})^5}$$

but no further use is made of these deflexions.

For the determination of the Absolute Measure of Horizontal Force on those days on which vibrations, unaccompanied by Deflexions, were observed, it is assumed that the quantity m (which is peculiar to the magnet) changes at a uniform rate from one observation of deflexion to the next; and the comparison of its interpolated value with the value of mX given by the vibration determines the value of X.

In the spring of 1861, a Unifilar Instrument, similar in all respects (as is understood) to those used in and issued by the Kew Observatory, was procured by the courteous application of Major-General Sabine, from the makers, Messrs. J. T. Gibson and Son; and after having been subjected to the usual examinations, at the Kew Observatory, for determination of its constants (for which I am indebted to the kindness of Balfour Stewart, Esq.), was mounted at the Royal Observatory. Observations with this instrument commenced on 1861, June 11, and were continued through the year; and, after some slight modifications of its verniers, it is still maintained in use (1864).

The deflected magnet (whose use is merely to ascertain the proportion which the power of the deflecting magnet at a given distance bears to the power of terrestrial magnetism) is 3 inches long, carrying a small plane mirror. The deflecting magnet is 4 inches long; it is a hollow cylinder, carrying in its internal tube a collimator, by means of which its time of vibration is observed in another apparatus. The frame which supports the suspension-piece of the deflected magnet carries also the telescope directed to the magnet-mirror; it rotates round the vertical axis of a horizontal graduated circle whose external diameter is 10 inches.

The method of making observations with this instrument differs in no respect from that used with the old instrument. The deflecting magnet is always used with its end towards the deflected magnet. In the reduction of the observations, the precepts contained in the Skeleton Form prepared by the Kew Observatory have received the strictest attention.

The following is the explanation of the method of reduction.

The distance of the centers of the deflected and deflecting magnet being r_0, it is supposed (from observations made at Kew, of which the details have not reached me) that the magnetism of the deflecting magnet is so altered by induction that the following multipliers ought to be used in computing the Absolute Force:—

At distance	1·0 foot,	factor is	1·00031
	1·1		1·00023
	1·2		1·00018
	1·3		1·00014
	1·4		1·00011
	1·5		1·00009

The correction of the magnetic power for temperature t_0 of Fahrenheit, reducing all to 35° of Fahrenheit, is

$$0·000131261\ (t_0 - 35) + 0·000000259\ (t_0 - 35)^2.$$

A_1 is $\frac{1}{2}(\text{distance})^3 \times$ sine deflection, corrected by the two last-mentioned quantities, for distance 1 foot; A_2 is the similar expression for distance 1·3 foot; A'_2 is $\frac{A_2}{(1·3)^2}$; P is $\frac{A_1 - A_2}{A_1 - A'_2}$. A mean value of P is adopted from various observations; then $\frac{m}{X} = A_1 \times \left(1 - \frac{P}{1}\right)$ for smaller distance, or $= A_2 \times \left(1 - \frac{P}{1·69}\right)$ for larger distance. The mean of these is usually adopted for the true value of $\frac{m}{X}$.

For computing the value of mX from observed vibrations, it is necessary to know K, the moment of inertia of the magnet as mounted. The value of log. $\pi^2 K$ furnished by Mr. Stewart is 1·66073 at temperature 30° and 1·66109 at temperature 90°. Then, putting T for the time of the magnet's vibration as corrected for induction, temperature, and torsion-force, the value of mX is $=$ log. $\frac{\pi^2 K}{T^2}$. From the combination of this value of mX with the former value of $\frac{m}{X}$, m and X are immediately found.

As observations were carried on with both instruments from 1861, June 11, to 1862, February 3, it has been judged desirable to exhibit here a comparison of the results. Although the observations were not taken on the same days, yet it is conceived that the difference of the means of the results may with safety be adopted as representing the true difference depending on the peculiarities of each instrument and the peculiarities of each mode of reduction. And, as the observations made with the Old Instrument were conducted precisely in the same way as for many years past, and those with the Kew Unifilar in the way which will probably be continued in future, it is presumed that this comparison will give the means of forming one continuous series commencing with the year 1848.

Taking then the means from the following Table, we have—

Mean of determinations by Old Instrument............	3·844
Mean of determinations by Kew Unifilar..............	3·811

The determinations with the Old Instrument ought therefore to be diminished by $\frac{1}{117}$ part, to make them comparable with those of the Kew Unifilar.

COMPARISON of RESULTS from the TWO DEFLEXION INSTRUMENTS.

Month and Day, 1861–62.		Value of X in English Measure.		Value of X in French Measure.	
		From Old Instrument.	From Kew Unifilar.	From Old Instrument.	From Kew Unifilar.
1861.					
June	11	...	3·807	...	1·756
	13	3·849	...	1·775	...
	14	...	3·810	...	1·757
July	17	3·859	...	1·779	...
	18	...	3·805	...	1·755
	20	...	3·809	...	1·756
	29	3·842	...	1·772	...
	31	3·833	...	1·767	...
August	1	...	3·806	...	1·755
	2	3·824	...	1·763	...
	3	...	3·803	...	1·754
September	10	3·868	...	1·784	...
October	8	3·854	...	1·777	...
	10	...	3·838	...	1·770
	15	...	3·808	...	1·756
	17	3·826	...	1·764	...
November	7	3·843	...	1·772	...
	11	...	3·806	...	1·755
December	2	...	3·811	...	1·757
	3	3·836	...	1·769	...
	24	3·836	...	1·769	...
1862.					
January	29	...	3·817	...	1·760
	30	3·838	...	1·770	...
	30	...	3·814	...	1·758
	31	3·846	...	1·773	...
February	1	...	3·810	...	1·757
	3	3·867	...	1·783	...

It does not appear that there is any material difference in the accuracy of the two instruments; but as the Kew Unifilar may be assumed to be generally similar in pattern to others of the same class extensively distributed, I have thought it desirable to adopt it, without positively expressing an opinion that a portion of the constant difference above noted may not be truly an error of the Kew Instrument.

§ 10. *Explanation of the Tables of Indications of the Magnetometers.*

The Indications are derived entirely from the measures of the ordinates of the Photographic Curves, except in a few instances in which the results are marked with an asterisk, in which case the results are those given by eye-observations, usually because the photographic process has failed.

Telescope-observations of the Magnetometers have usually been made four times every day, except on Sundays, on which days two or three observations only have been taken; but, though these observations are employed in forming the base lines on the photographic sheets, their immediate results are not necessarily given in the Tables.

For each photographic record, a new base-line, representing a convenient reading in round numbers of the element to which it applies, has been drawn on the sheet. Then the Assistant, who is charged with the translation of the curve-ordinates into numbers, remarks the salient points of the curve, or the points which if connected by straight lines would produce a polygon not sensibly differing from the photographic curve; to each of these he applies the pasteboard scale proper for the element under consideration; the base of the pasteboard scale determines the time on the time-scale, and the reading of the pasteboard scale for the point of the photographic curve gives the quantity which is to be added to the value for the new base-line. The ordinate-reading so formed is printed without alteration in the Tables. It is particularly to be remarked that the indications for horizontal force and vertical force are *not corrected for temperature.*

In measuring the ordinates of the Vertical Force Curves, the same difficulty that is mentioned in preceding volumes has still occasionally been felt. Apparently without cause, the curve is dislocated; one part being raised above or depressed below the contiguous part, in the direction of the ordinate, usually by small quantities. In all cases the displacement is accompanied by vibration, the original position being at the extremity of the arc of vibration, and the new position being at its center; showing that there has been no want of delicacy in the movement, and that the change is precisely the same as would be caused by the quiet application of a small weight upon one end of the magnet.

In translating the ordinates into numbers on these occasions, two ordinates have been taken for the same abscissa; these are connected, in the printed Indications, by a brace, and the difference of the numbers indicates the amount of the disturbance.

§ 11. *Standard Barometer.*

The Barometer is a standard, by Newman, mounted in 1840. It is fixed on the South wall of the west cross of the Magnetic Observatory. The graduated scale which measures the height of the mercury is made of brass, and to it is affixed a brass rod, passing down the inside of one of the upright supports, and terminating in a conical point of ivory; this point in observation is made just to touch the surface of the mercury in the cistern, and the contact is easily seen by the reflected and the actual point appearing *just* to meet each other. The rod and scale are made to slide up and down by means of a slow-motion screw. The scale is divided to $0^{\text{in}}\cdot05$.

The vernier subdivides the scale divisions to $0^{in}\cdot002$; it is moved by a slow-motion screw, and in observation is adjusted so that the ray of light passing under the back and front of the semi-cylindrical plate carried by the vernier, is a tangent to the highest part of the convex surface of the mercury in the tube.

The tube is $0^{in}\cdot565$ in diameter; the correction for the effect of capillary attraction is therefore only $+0^{in}\cdot002$. The cistern is of glass.

At the bottom of the instrument are three screws, turning in the fixed part of the support, and acting on the piece in which the lower pivot of the barometer-frame turns, for adjustment to verticality: this adjustment is examined weekly.

The readings of this barometer are considered to be coincident with those of the Royal Society's flint-glass standard barometer.

All observations of this barometer have been corrected for the difference of temperature of the mercury in the tube at the time of observation from 32°, by the application of the corrections contained in the table for barometers whose scales are engraved upon a rod of brass reaching from the level of the mercury to the vernier. (See the report of the Committee of Physics and Meteorology approved by the Royal Society.)

No correction is required for the difference of capacities of the tube and the cistern; for, as the mercury rises or falls in the cistern by the falling or rising of the mercury in the tube, so the termination of the scale is adjusted to the surface of the mercury in the cistern, and the distance between the surfaces of the mercury in the cistern and the tube is at once measured.

The height of the cistern above the mean level of the sea is 159 feet. This element is founded upon the determination of Mr. Lloyd, in the *Phil. Trans.*, 1831; the elevation of the cistern above the brass piece inserted in a stone in the transit-room (to which Mr. Lloyd refers) being $5^{ft}.2^{in}$.

The barometer has been read at 21^h, 0^h, 3^h, 9^h (astronomical), on every day, excepting on Sundays, and on Good Friday and Christmas Day, on which days fewer observations have been taken. Every reading has been reduced to the reading which would have been obtained at the temperature 32° of the mercury and scale, by application of the correction given in Table II. (pages 82 to 87) of the Report of the Committee of Physics of the Royal Society. The mean of the reduced readings has then been taken for each civil day, and finally converted into mean daily reading, by application of the correction inferred from Mr. Glaisher's paper in the *Philosophical Transactions*, 1848, Part I.

In the printed record of the barometrical and all other meteorological observations, the day is to be understood, generally, as defined in civil reckoning.

§ 12. *Photographic self-registering Apparatus for continuous Record of the Readings of the Barometer.*

In the description of the Photographic self-registering Apparatus for continuous Record of Magnetic Vertical Force, the vertical cylinder covered with photographic paper and revolving in 24 hours is described. North of the surface of this cylinder, at the distance of about 30 inches, is a large syphon barometer, the bore of the upper and lower extremities of its arms being about 1·1 inch. A glass float in the quicksilver of the lower extremity is partially supported by a counterpoise acting on a light lever (which turns on delicate pivots), so that the wire supporting the float is constantly stretched, leaving a definite part of the weight of the float to be supported by the quicksilver. This lever is lengthened to carry a vertical plate of opaque mica with a small aperture, whose distance from the fulcrum is eight times the distance of the point of attachment of the float wire, and whose movement, therefore, is four times the movement of the column of a cistern-barometer. Through this hole the light of a lamp, collected by a cylindrical lens, shines upon the photographic paper.

The scale of time is established by means of occasional interruptions of the light, and the scale of measure is established by comparison with occasional eye-observations, exactly as for the photographic registers of the magnetometers.

This barometer was brought into use in 1848, but its indications were not satisfactory till the mercury was boiled in the tube by Messrs. Negretti and Zambra on 1853, August 18, since which time they have appeared unexceptionable. Results of the indications are printed in the *Maxima and Minima of the Barometer*, near the end of the Meteorological Results.

§ 13. *Thermometers for ordinary Observation of the Temperature of the Air.*

The Dry-Bulb Thermometer, the Wet-Bulb Thermometer, the Maximum Self-Registering Thermometer, and the Minimum Self-Registering Thermometer, all for determination of the temperature of the air, are mounted on a revolving frame whose fixed vertical axis is planted in the ground. From the year 1846 to 1863 the post forming the vetical axis was about 23 feet south (magnetic) of the S.S.E. angle of the south arm of the Magnetic Observatory; in 1863 it was moved to a position about 35 feet south (astronomical) of the south angle. A frame revolves on this post, consisting of a horizontal board as base, of a vertical board projecting upwards from it connected with one edge of the horizontal board, and of two parallel inclined boards (separated about three inches) connected at the top with the vertical board, and at the bottom with the other edge of the horizontal board. The outer inclined board is covered with zinc. The air passes freely between all these boards.

The dry and wet-bulb thermometers are attached to the outside, and near the center of the vertical board; the maximum and minimum thermometers for air on one side, and those for evaporation on the other side, with their bulbs at almost the same level, and near to those of the dry and wet-bulb thermometers; their bulbs are about 4 feet above the ground and projecting from 2 inches to 3 inches below the horizontal board. Above the thermometers is a small projecting roof to protect them from rain. The frame is always turned with the inclined side towards the sun. It is presumed that the thermometers are thus sufficiently protected.

The graduations of all the thermometers used in the Royal Observatory rest fundamentally upon those of a Standard Thermometer, the property of Mr. Glaisher, which derives its authenticity from comparison with original thermometers constructed by the late Rev. R. Sheepshanks about the years 1840—1843, in the course of his preparations for the construction of the National Standard of Length. The whole of the radical determinations of Freezing Point, Boiling Point, and Subdivision of Volume of Tube, were made by Mr. Sheepshanks with the utmost care: it is believed that these were the first original thermometers that had been constructed in England for many years. Mr. Glaisher's thermometer has been used as the standard of reference for all the thermometers used in the Royal Observatory since 1840, and for the very numerous thermometers constructed by Messrs. Negretti and Zambra.

The Dry-Bulb Thermometer is by Newman. The corrections required for its readings, as found by comparison with the standard above-mentioned, are as follows:—

Below	32°	subtract 0°.5
Between	32 and 43°	0.6
	44 and 47	0.7
	48 and 56	0.9
	57 and 61	1.1
	62 and 74	1.3
	75 and 80	1.5
	81 and 86	1.8
	87 and 95	2.0
	96 and 100	2.2

The Wet-Bulb Thermometer is by Negretti and Zambra. Its bulb is of the same size as that of the Dry-Bulb Thermometer. A piece of muslin is wrapped round the bulb, and a skein of cotton is led from it into a cup of rain-water, by which it is maintained in a state of moisture. In frosty weather the muslin is moistened some time before each observation. The corrections which the readings of this thermometer are found to require are as follows:—

Below	32°	subtract 0°.4
Between	32 and 36°	0.3
	37 and 40	0.2
	41 and 55	0.1
	56 and 75	0.0
Above	75	add 0.1

The eye-readings of the dry-bulb and wet-bulb thermometers have usually been taken at the hours (astronomical reckoning) 21^h, 0^h, 3^h, 9^h, and corrected by application of the numbers given above; then their mean has been taken, and a correction applied, in order to obtain the true diurnal mean. This correction is derived from the numbers in Mr. Glaisher's paper in the Philosophical Transactions for 1848.

The dew-point has been inferred exclusively from the simultaneous observations of the dry-bulb and wet-bulb thermometers, by multiplying the difference between the readings of these thermometers by a factor peculiar to each temperature of the air, and subtracting the product from the reading of the dry-bulb thermometer. These factors have been found by Mr. Glaisher from the comparison of a great number of dew-point observations made with Daniell's hygrometer from 1840 to 1854, with the simultaneous observations of dry-bulb and wet-bulb thermometers. The following table exhibits the factors employed:—

TABLE of FACTORS, by which the DIFFERENCE of READINGS of the DRY-BULB and WET-BULB THERMOMETERS is to be MULTIPLIED in order to PRODUCE the DIFFERENCE between the READINGS of the DRY-BULB and DEW-POINT THERMOMETERS.

Reading of the Dry-bulb Thermometer.	Factor.	Reading of the Dry-bulb Thermometer.	Factor.	Reading of the Dry-bulb Thermometer.	Factor.	Reading of the Dry-bulb Thermometer.	Factor.	Reading of the Dry-bulb Thermometer.	Factor.	Reading of the Dry-bulb Thermometer.	Factor.
20°	8·5	32°	3·1	44°	2·3	56°	1·9	68°	1·6	80°	1·5
21	8·5	33	2·8	45	2·3	57	1·9	69	1·5	81	1·5
22	8·5	34	2·6	46	2·3	58	1·9	70	1·5	82	1·5
23	8·5	35	2·6	47	2·2	59	1·8	71	1·5	83	1·5
24	7·3	36	2·6	48	2·2	60	1·8	72	1·5	84	1·5
25	6·4	37	2·5	49	2·2	61	1·8	73	1·5	85	1·5
26	6·1	38	2·5	50	2·1	62	1·7	74	1·5	86	1·5
27	6·1	39	2·5	51	2·1	63	1·7	75	1·5	87	1·5
28	5·7	40	2·4	52	2·0	64	1·7	76	1·5	88	1·5
29	5·0	41	2·4	53	2·0	65	1·6	77	1·5	89	1·5
30	4·6	42	2·4	54	2·0	66	1·6	78	1·5	90	1·5
31	3·7	43	2·4	55	2·0	67	1·6	79	1·5		

The maximum self-registering thermometer is a mercurial thermometer, of the construction invented by Messrs. Negretti and Zambra. There is a small detached piece of glass in the tube, just above a bent part of the tube (near the bulb), through which the piece of glass cannot pass down. The column of mercury in rising lifts the glass up and passes freely; but in descending it is unable to pass the glass, and the lower mass of mercury descends, leaving a vacant space below the glass, and leaving a portion of the mercury above it. The piece of glass operates as an efficient valve. The graduation of this thermometer is sensibly correct. There is a similar thermometer for the maximum wet-bulb reading; its readings are too high by 0°·4.

The minimum self-registering thermometer is an alcohol thermometer, of the construction known as Rutherford's. A sliding glass index allows the alcohol in rising to pass above it, but is drawn down by the peculiar action of the upper surface of the fluid when it sinks. The readings of that which gives the minimum temperature of the air require an additive correction 0°·5; those of the minimum wet-bulb temperature require additions varying from 0°·2 to 0°·6.

The numbers in the printed columns of Mean Daily Value of Dry Thermometer are found by combining two numbers derived from different sources. One is the corrected mean of four observations taken in the day, as is described above. The other is the mean of the maximum and minimum corrected by a small quantity depending on the month, given in Mr. Glaisher's paper. The adopted mean temperature is the mean of those two numbers, weights being given proportional to the number of observations from which they are derived.

For the Mean Daily value of Dew Point, the dew-point is found from the observations at 21^h, 0^h, 3^h, 9^h, in the manner above described, and by use of the table of factors given above, and the mean of these dew-points is corrected by a number given in the paper in the Philosophical Transactions 1848.

§ 14. *Photographic self-registering Apparatus for continuous Record of the Readings of the Dry-Bulb and Wet-Bulb Thermometers.*

About 28 feet south (magnetic) of the south-east angle of the south arm of the Magnetic Observatory, and about 25 feet east of the thermometers for eye-observations, is a shed 10 feet square, standing upon posts 9 feet high, under which are placed the photographic thermometers, the dry-bulb thermometer towards the east, and the wet-bulb thermometer towards the west. The bulbs of the thermometers are eight inches in length, and 0·4 inch internal bore, and their centers are about 4 feet above the ground. The bulb of one of the thermometers is covered with muslin throughout its whole length, which is kept moist by means of capillary passage of water along cotton wicks leading to a vessel filled with water.

There are small adjustments admitting the raising or dropping of the thermometers, so that the register of their changing readings may be on a convenient part of the paper. The thermometer frames are covered by plates having longitudinal apertures, so narrow, that any light which may pass through them is completely, or almost completely, intercepted by the broad flat column of mercury in the thermometer-tube. Across these plates a fine wire is placed at every degree; and at the decades of the degrees, and also at 32°, 52°, and 72°, a coarser wire is placed. A gas lamp is placed about 9 inches from each thermometer (east of the dry bulb and west of the wet bulb), and its light, condensed by a cylindrical lens, whose axis is vertical, shines through the thermometer-tube above the surface of the mercury, and forms a well-defined line of light upon the photographic-paper, which is wrapped around the cylinder. As the cylinder revolves under this light, it receives a broad sheet of photographic trace, whose breadth (in the direction of the axis of the cylinder) varies with the varying height of the mercury in the thermometer-tube. The light in its passage is intercepted by the wires placed across the tube at every degree, and there are, therefore, left upon the paper corresponding lines in which there is no photogenic action.

The cylinder revolves in 48 hours; the daily photographic traces of the two thermometers are thus simultaneously registered on opposite sides of the cylinder without intermixing. The length of the cylinder is $13\frac{1}{2}$ inches, and its circumference is 19 inches.

§ 15. *Thermometers for Solar Radiation and Radiation to the Sky.*

The thermometer for Solar Radiation is placed in an open box about 10 feet south of the south-west angle of the south arm of the Magnetic Observatory. The box is about 13 inches high; the bulb of the thermometer is about 10 inches above the bottom of the box, fully exposed to the sun's rays.

The thermometer is a self-registering maximum mercurial thermometer of Negretti and Zambra's construction; its bulb is blackened, and enclosed in a glass sphere from which the air has been exhausted. Its graduations are correct, and the numbers inserted in the tables are those read from the instrument without alteration. The thermometer is read at 9^h a.m., noon, 3^h p.m., and occasionally at 9^h p.m.; the highest of these readings is adopted as the maximum for the day.

Near to this thermometer, within the same box, and at the same height, is placed a thermometer with blackened bulb, which is not inclosed in an exhausted sphere. An instrument of this form and in this position was exclusively used to the year 1859. Simultaneous readings of both instruments are now taken, with the view of rendering the series of observations which terminated in 1859 (made with exposed bulb) comparable with that which commenced in 1859, and is still continued (made with bulb inclosed in an exhausted sphere).

The thermometer for radiation to the sky is placed about 12 feet west of the Solar Radiation thermometer, with its bulb resting on short grass, and fully exposed to the sky. It is a self-registering minimum spirit thermometer of Rutherford's construction, made by Negretti and Zambra. Its graduation is correct, and the numbers inserted in the table are those read from the scale without alteration. It is read every day at 9^h a.m., and occasionally at 9^h p.m.

This thermometer was out of order on June 10, September 18, October 24, and October 29.

§ 16. *Thermometers sunk below the Surface of the Soil at different Depths.*

These thermometers were made by Messrs. Adie of Edinburgh, under the immediate superintendence of Professor (new Principal) J. D. Forbes. The graduation was made by Professor Forbes himself.

The thermometers are four in number. They are all placed in one hole in the ground, the diameter of which in its upper half is 1 foot, and in its lower half about 6 inches. Each thermometer is attached in its whole length to a slender piece of wood, which is planted in the hole with it. The place of the hole is 20 feet south of the extremity of the south arm of the Magnetic Observatory, and opposite the center of its south front.

The soil consisted of beds of sand; of flint-gravel with a large proportion of sand; and of flints with a small proportion of sand, cemented almost to the consistency of pudding-stone. Every part of the gravel and sand extracted from the hole was perfectly dry

The bulbs of the thermometers are cylindrical, 10 or 12 inches long and 2 or 3 inches in diameter. The bore of the principal part of the tubes, from the bulb to the graduated scale, is very small. In that part to which the scale is attached, the tube is larger.

The thermometer No. 1 was dropped into the hole to such a depth that the center of its bulb was 24 French feet (25·6 English feet) below the surface: then dry sand was poured in till the hole was filled to nearly half its height. Then No. 2 was dropped in till the center of its bulb was 12 French feet below the surface; No. 3 and No. 4 till the centers of their bulbs were respectively 6 and 3 French below the surface; and the hole was then completely filled with dry sand. The upper parts of the tubes, carrying the scales, were left projecting above the surface: No. 1 by 27·5 inches, No. 2 by 28·0 inches, No. 3 by 30·0 inches, and No. 4 by 32·0 inches. Of these lengths, the parts 8·5, 10·0, 11·0, and 14·5 inches, respectively are tube with narrow bore.

The projecting parts of the tubes are protected by a wooden case or box fixed to the ground; the sides of the box are perforated with numerous holes, and it has a double roof. In the North face of this box is a large plate of glass through which the thermometers are read. Within the box are two smaller thermometers, one (No. 5) whose bulb is sunk one inch in the ground, and one (No. 6) whose bulb is in the free air nearly in the center of the box.

The fluid of the four long thermometers is alcohol tinged with a red colour.

The values of 1° on the scales of Nos. 1, 2, 3, and 4, are respectively $2^{in.}$, $1^{in.}1$, $0^{in.}9$, and $0^{in.}55$; and the ranges of the scales, as first mounted, were, 43°·0 to 57°·7, 42°·0 to 56°·8, 39°·0 to 57°·5, and 34°·2 to 64°·5.

These ranges for Nos. 2, 3, and 4, were found to be insufficient in some years, particularly those of Nos. 3 and 4, or the thermometers sunk to the depth of 6 feet and 3 feet.

In 1857, June 22, Messrs. Negretti and Zambra removed from Nos. 3 and 4 a quantity of fluid corresponding to the extent of 5° on their scales, and the scales of these two thermometers were lowered by that linear extent, making the readings the same as before.

In subsequent years it was found that the amount of fluid removed was somewhat too great, for now at the lower end of the scale the 6-foot thermometer sometimes falls below the limit of its scale or $43\frac{1}{2}$°; and the 3-foot thermometer below 39°·7; in which cases the alcohol sinks into the capillary tube.

The readings at the early part of the series were at times defective at high temperatures, but always complete at low temperatures; now, they are always complete at high temperatures, and are at times defective at low temperatures. The two combined however, will enable us to complete all readings.

These thermometers are read once a day, at noon, and the readings appear in the printed volumes as read from their scales without correction.

§ 17. *Thermometers immersed in the Water of the Thames.*

The self-registering maximum and minimum thermometers for determining the highest and lowest temperatures of the water of the Thames are by Messrs. Negretti and Zambra, and are observed every day at 10 a. m.

A strong wooden trunk is firmly fixed to the side of the Dreadnought Hospital Ship, about 5 feet in length, and closed at the bottom; the bottom and the sides, to the height of 3 feet, are perforated with a great number of holes, so that the water can easily flow through; the thermometers are suspended within this trunk so as to be about 2 feet below the surface of the water, and 1 foot from the bottom of the trunk.

The regular observations are made under the superintendence of the Medical Officers of the Ship.

The thermometer for minimum temperature was out of order from January 29 to February 2, and from March 30 to April 2.

§ 18. *Osler's Anemometer.*

This anemometer is self-registering: it was made by Newman, but has received several changes since it was originally constructed. A large vane, which is turned by the wind, and from which a vertical spindle proceeds down nearly to the table in the north-western turret of the ancient part of the Observatory, gives motion by a pinion upon the spindle to a rackwork carrying a pencil. This pencil makes a mark upon a paper affixed to a board which is moved uniformly in a direction transverse to the direction of the rack-motion. The movement of the board is effected by means of a rack connected with the pinion of a clock. The paper has lines printed upon it corresponding to the positions which the pencil must take when the direction of the vane is N., E., S., or W.; and also has transversal lines corresponding to the positions of the pencil at every hour. The first adjustment for azimuth was obtained by observing from a certain point the time of passage of a star behind the vane-shaft, and computing from that observation the azimuth; then on a calm day drawing the vane by a cord to that position, and adjusting the rack, &c., so that the pencil-position on the sheet corresponded to that azimuth.

For the pressure of the wind, the shaft of the vane carries a plate one foot square, which is supported by horizontal rods sliding into grooves, and is urged in opposition to the wind by three springs, so arranged that only one comes into play when the wind is light, and the others necessarily act in conjunction with the first as the plate is driven further and further by the force of the wind. A cord from this plate passes over a pulley, and communicates with a copper wire passing through the center of the spindle, which at the bottom communicates with another cord passing under a pulley and held in tension by a slight spring; and by this a pencil is moved transversely to the direction in which the paper fixed to the board is carried by the clock. Lines are printed upon the paper corresponding to different values of the pressure; the intervals of these lines were adjusted by applying weights of 1 lb., 2 lbs., &c., to move the pressure-plate in the same manner as if the wind pressed it.

A fresh sheet of paper has been applied to this instrument every day at 22^h mean solar time.

§ 19. *Whewell's Anemometer.*

This anemometer is self-registering: it was made by Simms. A horizontal brass plate is connected with a vertical spindle, which passes down through the axis of a fixed vertical cylinder, and takes a vertical-bearing upon a horizontal plate at the bottom of the vertical cylinder, and a collar-bearing in a horizontal plate at the top of the cylinder. To one side of the brass plate is attached a vane, and by the action of the wind upon this vane the brass plate is turned. Upon the brass plate is mounted the frame, carrying the fly and the first and second toothed wheels: underneath that part of the brass plate which overpasses the top of the cylinder are attached the bars of a frame, that surrounds without touching the cylinder, and extends nearly as low as the bottom of the cylinder (where it is guided by small horizontal rollers, which it carries, and which run upon the surface of the cylinder): this frame is for the purpose of carrying the large vertical screw, fifteen inches in length. The fly has eight sails, resembling the sails of a windmill, but having their surfaces plain, and inclined to the direction of the wind at an angle of 45°: its axis is horizontal. Upon the axis is an endless screw, which works in a vertical wheel of one hundred teeth, and upon the axis of this wheel is an endless screw, which works in a horizontal wheel of one hundred teeth; and this horizontal wheel is connected with the top of the great vertical screw. Ten thousand revolutions of the fly therefore produce one revolution of the vertical screw. A concave screw (which admits of being opened at pleasure, for detaching it from the vertical screw) is clamped, so as to embrace the vertical screw, and is carried downwards by its circular motion. To this concave screw is attached a pencil, which in its descent touches the fixed vertical cylinder. The surface of the cylinder is divided by vertical lines into sixteen equal parts, corresponding to the sixteen parts of the circle of azimuth; and the letters indicating the principal points of the compass are painted on it at these lines. Near to the vertical screw, and parallel to it, is fixed a rod, which is one of the bars of the frame before described: a scale upon this rod is divided to tenths of inches, and an index slides upon it. This index turns freely upon the scale, and has a projecting point, which can be brought into contact with that part of the cylinder on which the pencil marks are registered. Bringing this point successively into contact with the extreme upper and lower marks made each day, the difference of the scale-readings would give the descent of the pencil for the day; but the practice has generally been to apply a pair of compasses to the cylinder, and then to ascertain the descent by means of the vertical scale.

The instrument is read off every day at 22^h. The pencil in descending marks a broad path in consequence of the oscillations of the vane; the darkest part of this path is observed, and that direction is recorded to which this dark part is nearest The descent in inches, corresponding to each direction of the wind, is taken by applying a pair of compasses to the cylinder, and then ascertaining the amount by means of the vertical scale; the sum of all the descents belonging to each successive change of the wind is checked each day by the total descent of the pencil, as shown by the space between the position of the index as previously left, and its position at the time of reading.

The instrument is fixed on a small wooden erection, of about ten feet in height, placed on the leads above the highest part of the Observatory, in which situation it is nearly free on all sides; an inconsiderable portion only being sheltered by the time ball, whose diameter is five feet, resting on the N.E. turret; the distance between the anemometer and the center of the ball is about twenty feet.

The zero of the instrument was determined by means of Osler's Anemometer. At the time a steady south wind was blowing; the instrument was set nearly in the right direction by hand; there was but little friction, and the pencil was on the line marked *S* on the cylinder: its zero was considered to be well determined.

The following are measures of the principal parts of the anemometer:—

The length of each sail from axis to end is	$2^{in}\cdot30$
The length of the flat part of each sail is............	$1^{in}\cdot92$
The inclination of each sail to the wind is	45°
45 revolutions of the vertical screw correspond to	2 inches
The number of teeth in the vertical wheel is..........	100
The number of teeth in the horizontal wheel is also....	100

Therefore, 10,000 revolutions of the fly cause the pencil to descend through the distance of one thread of the vertical screw, or through a space equal to $\frac{2}{45}$ inches = $0^{in}\cdot044$.

Assuming that the effective radius of the sail is..................	$\overset{in}{1}\cdot7$
Then the circumference described is $1^{in}\cdot7 \times 2\pi =$	10·68
Therefore the motion of the wind in one revolution is..............	10·68
,, in 10,000 revolutions	106800 inches

corresponding to $0^{in}\cdot044$ of the vertical screw, or to one revolution of the screw.

From this it follows, that the motion of the wind, corresponding to the descent of the pencil through one inch, is 200,250 feet, or 37·9 miles. The comparison of the results of Whewell's Anemometer with those of Robinson's Anemometer (to be mentioned immediately) gives reason for thinking that in the elements of this calculation there is some serious error.

§ 20. *Robinson's Anemometer.*

This anemometer is self-registering, and was made by Messrs. Negretti and Zambra on the principles described by Dr. Robinson in the Transactions of the Royal Irish Academy, vol. xxii. It is furnished with four hemispherical cups [each being 3·75 inches in diameter], attached to the extremities of two arms at right angles to each other, and revolving in a horizontal plane by the excess of pressure of the wind on their concave over that on their convex surfaces.

The distance between the centers of opposite cups is 13·45 inches, and their centers describe 42·24 inches in each revolution, indicating, according to the theory, a horizontal movement of the air of 126·72 inches for each revolution, and of one mile for 500 revolutions. The accuracy of this theory was verified by experiments made in 1860 (to be described immediately). The horizontal arms are connected with a vertical spindle, upon which is an endless screw, working in a toothed wheel connected with a train of wheels, furnished with indices capable of registering one mile and decimal multiples of a mile up to 1,000 miles. The instrument is read every day at 22^{h}.

In the year 1860, on July 3, 4, and 13, experiments were made in Greenwich Park to ascertain the correctness of the theory of Robinson's anemometer; the point to be verified being that the scale of the instrument, founded on the supposition that the horizontal motion of the air is about three times the space described by the centers of the cups, is correct.

A post about 5 feet high with a vertical spindle in the top was erected, and on this spindle turned a horizontal arm, carrying at the extremity of its longer portion Robinson's anemometer, and on its shorter portion a counterpoise. The distance from the vertical spindle of the post to the vertical axis of the anemometer was $17^{ft.}\ 8^{in.}7$. The reading of the dial was taken, and then the arm was made to revolve in the horizontal plane 50 or 100 times, an attendant counting the number of revolutions, and the reading of the dial was again taken. In this manner 1,000 revolutions were made in the direction N.E.S.W.N., and 1,000 revolutions in the direction N.W.S.E.N. In some of the experiments the air was sensibly quiet, and in others there was a little wind; the result was,

For a movement of the instrument through one mile,

Beam revolving N.E.S.W. (opposite to the direction of rotation of the Anemometer)...	1·15 was registered
Beam revolving N.W.S.E. (in the same direction as the Anemometer)	0·97 was registered

The results from rapid revolutions and from slow revolutions were sensibly the same.

This may be considered as confirming in a very high degree the accuracy of the theory.

As Whewell's and Robinson's Anemometers had both been in action during the years 1860 and 1861, abundant means existed for comparing their indications. The ratio of the apparent movements of the air (that by Whewell's being founded on a calculation given above, and that by Robinson's, supposing its register to be accurate) was found to depend very systematically upon the whole value of the registered movement. From a discussion of the comparison of the two records the following table was formed:—

FACTORS to be MULTIPLIED into the READINGS of WHEWELL'S ANEMOMETER EXPRESSED in MILES, at DIFFERENT VELOCITIES of the WIND, in order to DETERMINE the HORIZONTAL MOVEMENT of the AIR in MILES, as it would have been shown by the use of ROBINSON'S ANEMOMETER.

Daily Horizontal Movement in Miles, as shown by Whewell's Anemometer.	Factors to be multiplied into results by Whewell's Anemometer, to convert them into results by Robinson's Anemometer.
Less than 10	9·95
From 10 to 20	7·62
20 to 30	5·38
30 to 40	4·10
40 to 50	3·40
50 to 60	3·00
60 to 70	2·75
70 to 80	2·56
80 to 90	2·44
90 to 100	2·36
100 to 110	2·30
110 to 120	2·25
120 to 130	2·21
130 to 140	2·17
140 to 150	2·14
150 to 160	2·12
160 to 170	2·10
Above 170	2·09

§ 21. *Rain Gauges.*

The rain-gauge connected with Osler's anemometer is 50 feet 8 inches above the ground, and 205 feet 6 inches above the mean level of the sea. It exposes to the rain an area of 200 square inches (its horizontal dimensions being 10 by 20 inches).

The collected water passes through a tube into a vessel suspended in a frame by spiral springs, which lengthen as the water increases, until 0·24 of an inch is collected in the receiver; it then discharges itself by means of the following modification of the syphon. A copper tube, open at both ends, is fixed in the receiver, in a vertical position, with its end projecting below the bottom. Over the top of this tube a larger tube, closed at the top, is placed loosely. The smaller tube thus forms the longer leg, and the larger tube the shorter leg of a syphon. The water, having risen to the top of the smaller tube, gradually falls through it into the uppermost portion of a tumbling bucket, fixed in a globe under the receiver. When full, the bucket falls over, throwing the water into a small pipe at the lower part of the globe; the water completely fills the bore of the pipe; its descent causes an imperfect vacuum in the globe, sufficient to cause a draught in the longer leg of the syphon, and the whole contents run off. After leaving the globe, the water is received in a pipe attached to the building, which carries it away. The springs then shorten and raise the receiver. The ascent and descent of the water-vessel move a radius-bar which carries a pencil; and this pencil makes a trace upon the paper carried by the sliding-board of the self-registering anemometer.

The scale of the printed paper was adjusted by repeatedly filling the water-vessel until it emptied itself, then weighing the water, and thus ascertaining its bulk, and dividing this bulk by the area of the surface of the rain receiver.

A second gauge, with an area 77 square inches nearly, is placed close to the preceding, the receiving surface of both being on the same horizontal plane.

A third gauge is placed on the roof of the Octagon room, at 38 feet $4\frac{1}{2}$ inches above the ground, and 193 feet $2\frac{1}{2}$ inches above the mean level of the sea. It is a simple cylinder gauge, 8 inches in diameter and about $50\frac{1}{4}$ inches in area. The height of the cylinder is $13\frac{1}{2}$ inches; at the depth of 1 inch from the top within the cylinder is fixed a funnel (an inverted cone) of 6 inches perpendicular height; with the point of this funnel is connected a tube, $\frac{1}{5}$ of an inch in diameter, and $1\frac{1}{2}$ inch in length; $\frac{3}{4}$ of an inch of this tube is slightly curved, and the remaining $\frac{3}{4}$ of an inch is bent upwards, terminating in an aperture of $\frac{1}{8}$ of an inch. By this arrangement, the last few drops of water remain in the bent part of the tube, and the water is some days evaporating. The upper part of the funnel or bore of the cone is connected with a brass ring, which has been turned in a lathe, and this is connected with a circular piece 6 inches in depth, which passes outside the cylinder, and rests in a water joint, attached to the inner cylinder, and extending all round.

A fourth gauge is placed on the top of the Library; it is a funnel, whose diameter is 6 inches; its exposed area is $28\frac{1}{4}$ inches nearly. The water passes into a cylinder, from which it is poured into a circular vessel, the diameter of which is $3\frac{1}{4}$ inches; and therefore 3·4 inches of this corresponds to 1 inch of rain. The receiving surface of the gauge is 22 feet 4 inches above the ground, and 177 feet 2 inches above the mean level of the sea.

A fifth gauge is planted on the roof of the Photographic Thermometer stand, 10 feet above the ground, and 164 feet 10 inches above the mean level of the sea. Its construction is the same as that of the third gauge.

A sixth gauge is a self-registering rain-gauge on Crosley's construction, made by

Watkins and Hill. The surface exposed to the rain is 100 square inches. The collected water falls into a vibrating bucket, whose receiving concavity is entirely above the center of motion, and which is divided into two equal parts by a partition whose plane passes through the axis of motion. The pipe from the rain-receiver terminates immediately above the axis. Thus that part of the concavity which is highest is always in the position for receiving water from the pipe. When a certain quantity of water has fallen into it, it preponderates, and, falling, discharges its water into a cistern below; then the other part of the concavity receives the rain, and after a time preponderates. Thus the bucket is kept in a state of vibration. To its axis is attached an anchor with pallets, which acts upon a toothed wheel by a process exactly the reverse of that of a clock-escapement. This wheel communicates motion to a train of wheels, each of which carries a hand upon a dial-plate; and thus inches, tenths, and hundredths are registered. Sometimes, when the escapement has obviously failed, the water which has descended to the lower cistern has again been passed through the gauge, in order to enable an assistant to observe the indication of the dial-plates without fear of an imperfection in the machinery escaping notice. This gauge is placed on the ground, 21 feet South of the Magnetic Observatory, and 156 feet 6 inches above the mean level of the sea.

The seventh and eighth gauges are placed near together, about 16 feet south of the Magnetic Observatory, 5 inches above the ground, and 155 feet 3 inches above the mean level of the sea. They are similar in construction and area to No. 3. These cylinders are sunk about 8 inches in the ground.

All these gauges, except No. 7, are read at 22^h daily; in addition, Crosley's gauge and No. 8 are read daily at 9^h p.m., and No. 7 at the end of each month only, to check the summation of the daily readings of No. 8.

Gauges Nos. 1, 2, 3, 5, 8 were made by Messrs. Negretti and Zambra; No. 4 by Troughton; No. 6 by Watkins and Hill; and No. 7 is an old gauge.

§ 22. *The Actinometer.*

The Actinometer used in former years is described in the Introduction to the *Magnetical and Meteorological Observations*, 1847. It has not been used for several years, and will probably require some modifications before it is again used.

§ 23. *Electrical Apparatus.*

The electrical apparatus consists of two parts, namely, the Moveable Apparatus, which is connected with a pole nearly 80 feet high planted 7 feet North and 2 feet East of the north-east angle of the north arm of the Magnetic Observatory (before its extension in 1863); and the Fixed Apparatus, which is mounted in a projecting window in the ante-room of the Magnetic Observatory.

On the top of the pole is fixed a projecting cap, to which are fastened the ends of two iron rods, which terminate in a pit sunk in the ground, and are kept in tension by attached weights. These rods are to guide the moveable apparatus in its ascents and descents. Near the bottom of the pole is fixed a windlass; the rope upon which it acts passes over a pulley in the cap, and is used to raise the moveable apparatus, which when raised to the top is suspended on a hook.

The moveable apparatus consists of the following parts:—A plank in a nearly vertical position is attached to perforated iron bars, which slide upon the iron rods. On the upper part of this plank is a cubical box. The box incloses a stout pillar of glass, having a conical hollow in its lower part. In the bottom of the box there is a large hole, through which a cone of copper passes into the conical hollow of the glass pillar. In a space below the box a gas-lamp is placed, by the flame of which the copper cone and the lower part of the glass pillar are kept in a state of warmth. A copper wire is fastened round the glass pillar; its end is carried to a similar glass pillar, warmed in the same manner, near the north-western turret of the Octagon room; by this wire, whose length is about 400 feet, the atmospheric electricity is collected. To this wire, near the box, is attached another copper wire 0·1 inch in diameter, and about 73 feet long, at the end of which is a hook; a loaded brass lever connected with the fixed apparatus presses upon this hook, and thus keeps the wire in a state of tension, and at the same time establishes the electrical communication between the long horizontal wire and the fixed apparatus.

The fixed apparatus consists of these parts:—A glass bar, nearly 3 feet long, and thickest at its middle, is supported in a horizontal position, its ends being fixed in the sides of the projecting window. Near to each end is placed a small gas-lamp, whose chimney encircles the glass, and whose heat keeps the glass in a state of warmth proper for insulation. A brass collar surrounds the center of the glass bar; it carries one brass rod, projecting vertically upwards through a hole in the roof of the window-recess, to which rod are attached a small umbrella and the loaded lever above mentioned; and it carries another rod projecting vertically downwards, to which is attached a horizontal brass tube in an East and West direction. On the North and South sides of this tube there project four horizontal rods, through the ends of which there pass vertical rods, which can be fixed by screws at any elevation; these are placed in connexion with the electrometers, which rest on the window seat.

The electrometers during the year 1862 consisted of a Double Gold Leaf Electrometer of the ordinary construction; two Volta's Electrometers, denoted by Nos. 1 and 2; a Henley's Electrometer; a Ronalds' Spark Measurer; a Dry-pile Apparatus; and a Galvanometer.

Volta 1 and Volta 2 are of the same construction; each is furnished with a pair of straws 2 Paris inches in length; those of the latter being much heavier than those of the former: each instrument is furnished with a graduated ivory scale, whose radius is 2 Paris inches, and it is graduated into half Paris lines. In the original construction of these instruments it was intended that each division of No. 2 should correspond to five of No. 1: the actual relation between them has not yet been determined by observations at the Royal Observatory. The straws are suspended by hooks of fine copper wire to the suspension-piece, and they are at the distance of half a line from each other.

Henley's Electrometer is supported on the West end of the large horizontal tube by means of a vertical rod fixed in it. On each side of the upper part of this rod is affixed a semicircular plate of ivory, whose circumference is graduated; at the centers of these ivory plates two pieces of brass are fixed, which are drilled to receive fine steel pivots, carrying a brass axis, into which the index or pendulum is inserted; the pendulum terminates with a pith ball. The relation between the graduations of this instrument and those of the other electrometers has not been determined. This instrument has seldom been affected till Volta 2 has risen to above 100 divisions of its scale.

The spark-measurer is similar in its construction to that at the Observatory at Kew. It consists of a vertical sliding rod terminated by a brass ball, which ball can be brought into contact with one of the vertical rods before referred to, also terminating in a ball; and it can be moved from it or towards it by means of a lever, with a glass handle. During the operation of separating the balls, an index runs along a graduated scale, and exhibits the distance between the balls, and this distance measures the length of the spark.

The electrometers and the spark-measurer were originally constructed under the superintendence of Francis Ronalds, Esq., but have since received small alterations.

The dry-pile apparatus was made by Watkins and Hill; it is placed in connexion with the brass bar by a system of wires and brass rods. The indicator, which vibrates between the two poles, is a small piece of gold leaf. This instrument is very delicate, and it indicates at once the quality of the electricity. When the inclination of the gold leaf is such that it is directed towards the top of either pile, it remains there as long as the quantity of electricity continues the same or becomes greater: the position is sometimes expressed in the notes by the words "as far as possible." The angle which the gold leaf makes with the vertical at this time is about 40°.

The galvanometer was made by Gourjon of Paris, and consists of an astatic needle, composed of two large sewing needles, suspended by a split silk fibre, one of the needles of the pair vibrating within a ring formed by 2,400 coils of fine copper wire. The connexions of the two portions of wire forming these 2,400 coils are so arranged that it is possible to use a single system of 1,200 coils of single wire, or a system of 1,200 coils of double wire, or a system of 2,400 coils of single wire: in practice the last has always been used. A small ball communicating by a wire with one end of the coils is placed in contact at pleasure with the electric conductor, and a wire leading from the other end of the coil communicates with the earth. An adjustible circular card, graduated to degrees, is placed immediately below one of the needles; the numeration of its divisions proceeds in both directions from a zero. One of these directions is distinguished by the letter A, and the other by the letter B; and the nature of the indication represented by the deflexion of the needle towards A or towards B will be ascertained from the following experiment. A voltaic battery being formed by means of a silver coin and a copper coin, having a piece of blotting paper moistened with saliva between them: when the copper touches the small ball, and the wire which usually communicates with the earth is made to touch the silver, the needle turns towards A; when the silver touches the small ball, and the wire is made to touch the copper, the needle turns towards B.

§ 24. *Explanations of the Tables of Meteorological Observations.*

The mean daily value of the difference between dew-point temperature and air-temperature is the difference between the two numbers in the sixth and seventh columns. The Greatest and Least are the greatest and least among the differences corresponding to the times of observation in the civil day, or they are found from the absolute maxima and minima, as determined by comparing the observations of the self-registering wet-bulb thermometers with those of the self-registering dry-bulb thermometers.

The difference between the mean temperature for the day and the mean for the same day of the year on an average of forty-three years, is found by comparison with a table of results deduced by Mr. Glaisher from forty-three years' observations, made at the Royal Observatory, ending 1856.

Little explanation of the results deduced from Osler's Anemometer appears to be necessary. It may be understood generally that the greatest pressure occurred in gusts of short duration.

The amount of movement of air here exhibited as inferred from Whewell's Anemometer is to be understood as from 22^h to 22^h (10^h A.M. to 10^h A.M.), the numbers being placed opposite to the day preceding the civil day on which the instrument is read.

Robinson's Anemometer is read off every day at 22^h (10^h A.M.).

The register of rain is read at 9^h P.M. from the Cylinder Rain-gauge partly sunk in the ground, described above as the "eighth." If, however, there appears to be any doubt as to the correctness of the results, reference is made to a Rain-gauge of similar construction and placed near to it, called above the "seventh."

For understanding the divisions of time under the heads of Electricity and Weather, the following remarks are necessary:—The day is divided by columns into two parts (from midnight to noon, and from noon to midnight), and each of these parts is roughly subdivided into two or three parts by colons (:). Thus, when there is a single colon in the first column, it denotes that the remarks before it apply (roughly) to the interval from midnight to 6 A.M., and those following it to the interval from 6 A.M. to noon. When there are two colons in the first column, it is to be understood that the twelve hours are divided into three nearly equal parts of four hours each. And similarly for the second column.

The following is the explanation of the notation employed for record of electrical observations, it being premised that the quality of the Electricity is always to be supposed positive when no indication of quality is given:—

g cur.	denotes	*galvanic currents*
m	...	*moderate*
N	...	*negative*
P	...	*positive*
s	denotes	*strong*
sp	...	*sparks*
v	...	*variable*
w	...	*weak*

The duplication of the letter denotes an intensity of the modification described: thus, s s is very strong; v v, very variable.

The Clouds and Weather are described generally by Howard's Nomenclature; the figure denotes the proportion of sky covered by clouds, the whole sky being represented by 10. The notation is as follows:—

a	denotes	*aurora borealis*
ci	...	*cirrus*
ci-cu	...	*cirro-cumulus*
ci-s	...	*cirro-stratus*
cu	...	*cumulus*
cu-s	...	*cumulo-stratus*
d	...	*dew*
h-d	...	*heavy dew*
f	...	*fog*
th-f	...	*thick-fog*
fr	...	*frost*
gt-glm	..	*great gloom*
h-fr	...	*hoar frost*
h	...	*haze*
hl	...	*hail*
so-ha	...	*solar halo*
l	...	*lightning*
li-cl	...	*light clouds*
lu-co	...	*lunar corona*
lu-ha	...	*lunar halo*
m	...	*meteor*
ms	...	*meteors*
n	...	*nimbus*
r	...	*rain*
th-r	...	*thin rain*
oc-r	...	*occasional rain*
fr-r	...	*frozen rain*
h-r	...	*heavy rain*
shs-r	denotes	*showers of rain*
c-r	...	*continued rain*
c-h-r	...	*continued heavy rain*
m-r	...	*misty rain*
fr-m-r	...	*frequent misty rain*
sl-r	...	*slight rain*
h-shs	...	*heavy showers*
fr-shs	...	*frequent showers*
fr-h-shs	...	*frequent heavy showers*
li-shs	...	*light showers*
oc-shs	...	*occasional showers*
sq	...	*squall*
sqs	...	*squalls*
fr-sqs	...	*frequent squalls*
h-sqs	...	*heavy squalls*
fr-h-sqs	...	*frequent heavy squalls*
sc	...	*scud*
li-sc	...	*light scud*
sl	...	*sleet*
sn	...	*snow*
sl-sn	...	*slight snow*
s	...	*stratus*
t	...	*thunder*
t-s	...	*thunder storm*
v	...	*variable*
w	...	*wind*
st-w	...	*strong wind*

The foot-notes show the means and extremes of readings, and their departure in each month from average values, as found from the preceding Twenty-one Years' Observations; those relating to Humidity have been calculated from the Second Edition of Glaisher's Hygrometrical Tables.

§ 25. *Details of the Chemical Operations for the Photographic Records.*

Mr. Glaisher has drawn up the following account of the Chemical Processes employed in the Photographic Operations for the self-registration of the Magnetical and Meteorological Indications.

CHEMICAL PREPARATION AND TREATMENT OF THE PHOTOGRAPHIC PAPER FOR PRIMARIES.

The paper used is similar to that made by Whatman; it is made by his successor Hollingsworth; it is strong and of even texture, and is prepared expressly for Photographic purposes.

First Operation.—Preliminary Preparation of the Paper.

The chemical solutions used in this process are the following:—

(1.) Sixteen grains of Iodide of Potassium are dissolved in one ounce of distilled water.

(2.) Twenty-four grains of Bromide of Potassium are dissolved in one ounce of distilled water.

(3.) When the crystals are dissolved, the two solutions are mixed together, forming the iodising solution. The mixture will keep through any length of time. Immediately before use, it is filtered through filtering paper.

A quantity of the paper, sufficient for the consumption of several weeks, is treated in the following manner, sheet after sheet.

The sheet of paper is pinned by its four corners to a horizontal board. Upon the paper, a sufficient quantity (about 50 minims, or $\frac{5}{48}$ of an ounce troy) of the iodising solution is applied, by pouring it upon the paper in front of a glass rod, which is then moved to and fro till the whole surface is uniformly wetted by the solution. Or, the solution may be evenly distributed by means of a camel's hair brush.

The paper thus prepared is allowed to remain in a horizontal position for a few minutes, and is then hung up to dry in the air; when dry, it is placed in a drawer, and may be kept through any length of time.

Second Operation.—Rendering the Paper sensitive to the Action of Light.

A solution of Nitrate of Silver is prepared by dissolving 50 grains of crystallized Nitrate of Silver in one ounce of distilled water. In hot weather a few drops of Acetic Acid are added.

Then the following operation is performed in a room illuminated by yellow light.

The paper is pinned as before upon a board somewhat smaller than itself, and (by means of a glass rod, as before,) its surface is wetted with 50 minims of the nitrate of silver solution. It is allowed to remain a short time in a horizontal position, and, if any part of the paper still shines from the presence of a part of the solution unabsorbed into its texture, the superfluous fluid is taken off by the application of blotting paper.

The paper, still damp, is immediately placed upon the interior glass cylinder, and is covered by the exterior glass cylinder, and the united cylinders are mounted upon the revolving apparatus, to receive the spot of light formed by the mirror, which is carried by the magnet; or to receive the line of light passing through the thermometer tube.

Third Operation.—Development of the Photographic Trace.

When the paper is removed from the cylinder, it is placed as before upon a board, and a saturated solution of Gallic Acid, to which a few drops of Aceto-Nitrate of Silver are added, (in hot weather this solution is used at the temperature of the air, in cold weather it is heated to the temperature of 70° or 80°, or even higher if the weather is very cold,) is spread over the paper by means of a glass rod, and this action is continued until the trace is fully developed. When the trace is well developed, the paper is placed in a vessel with water, and repeatedly washed with several waters; a brush being passed lightly over both sides of the paper to remove any crystalline deposit.

Fourth Operation.—Fixing the Photographic Trace.

The Photograph is placed in a solution of Hyposulphite of Soda, made by dissolving four or five ounces of the Hyposulphite in a pint of water; it is plunged completely in the liquid, and allowed to remain from one to two hours, until the yellow tint of the Iodide of Silver is removed. After this the sheet is washed repeatedly with water, allowed to remain immersed in water for 24 hours, and afterwards placed within folds of linen cloths till nearly dry. Finally it is placed between sheets of blotting-paper.

CHEMICAL PREPARATIONS AND TREATMENT ON THE PHOTOGRAPHIC PAPER FOR SECONDARIES.

The paper used is made by Rive; it is a strong wove paper of tolerably even texture, thin, but able to bear a great deal of wear.

First Operation.—Preliminary Preparation of the Paper.

The chemical solution required for this purpose is as follows:—

Two grains of Chloride of Ammonia are dissolved in one ounce of distilled water.

A sufficient quantity of this solution is placed in a flat-bottomed porcelain dish, and sheets of paper, one by one, are plunged within it; care being taken that no air bubbles remain between the paper and the solution; this may be prevented by slight pressure over the sheet by means of a bent glass rod. When a few sheets are thus immersed, they are turned over, and are taken out and hung to dry. Any number of sheets may thus be prepared.

An equally good result is obtained, by spreading over one side by means of a glass rod, as in the preparation of the Primaries, a solution of Chloride of Ammonia made by dissolving five grains in one ounce of distilled water.

Second Operation.—Rendering the Paper sensitive to the Action of Light.

The solution required for this purpose is as follows:

To a filtered solution of Crystallized Nitrate of Silver, (made by dissolving 50 grains of Nitrate of Silver in one ounce of distilled water,) some strong solution of Ammonia is added; the whole becomes at first of a dark brown colour, but when a sufficient quantity of Ammonia is added the solution becomes perfectly clear; a few crystals of Nitrate of Silver are then added till the solution is a little dull, forming "Ammoniacal Nitrate of Silver;" it is then ready for use.

The following operation is performed in a room illuminated by yellow light:—

By means of a glass rod this solution is spread over the paper, whilst pinned on a board; the paper is dried before a fire, and is then in a fit state to be used for producing a Secondary.

Third Operation.—Formation of the Photographic Copy.

A sheet of the paper so prepared is placed in a printing frame with its prepared side upwards, upon a bed of blotting paper resting upon a sheet of plate-glass; the Primary is then placed on the paper with its own face downwards; and as it is necessary, for obtaining a correct copy of the Primary, that it should be in close contact with the prepared surface, a second sheet of plate-glass is placed over it, and the two are pressed together by clamps and screws. The whole is then exposed to the light (the Primary to be copied being above the paper on which the copy is to be made). The time required to produce a copy depends, in a great measure, upon the thickness of the paper on which the Primary is made, and on the actinic quality of the light; a period of five minutes in a bright sunshine, or one hour in clear daylight, is generally sufficient.

Fourth Operation.—Fixing the Photographic Secondary.

When an impression has been thus obtained, it is necessary that the undecomposed Salts of Silver remaining in the paper be removed.

For this purpose the Secondary is at once plunged into water and well washed on both sides, passing a camel's hair brush over every part of it; it is then plunged into a solution of Hyposulphite of Soda (made by dissolving two or three ounces of the Hyposulphite in a pint of water), and is left through a period varying from half an hour to an hour. It is then removed, and washed in plain water several times; and running water is allowed to pass over it for twenty-four hours.

The sheets are then placed within the folds of drying cloths, till nearly dry, and finally between sheets of blotting paper.

The process of obtaining a Tertiary from a Secondary is in every respect the same as that of obtaining a Secondary from a Primary.

§ 26. *Personal Establishment.*

The personal establishment during the year 1862 has consisted of James Glaisher, Esq., F.R.S., Superintendent of the Magnetical and Meteorological Department, and Mr. Thomas Downs, Assistant.

Four junior computers have usually been attached to the Department.

ROYAL OBSERVATORY, GREENWICH.

RESULTS

OF

MAGNETICAL OBSERVATIONS.

1862.

ROYAL OBSERVATORY, GREENWICH.

INDICATIONS

OF

MAGNETOMETERS.

1862.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Jan. 1		Jan. 1		Jan. 1		Jan. 1		
h m	° ′ ″	h m		h m		h m	°	°
	(†)		(†)	0. 0	·02458	0. 0	41·2	43·0
1. 5	21. 5. 55	0. 39	·1120	2. 17	·02480	1. 0	41·8	43·1
2. 14	8. 20	1. 8	·1116	5. 58	·02359	2. 0	42·5	43·7
2. 27	9. 30	2. 13	·1122	10. 38	·02237	3. 0	43·2	44·2
3. 30	5. 30	2. 51	·1118	11. 47	·02230	6. 0	44·5	45·2
4. 6	8. 5	3. 40	·1118	12. 13	·02201	9. 0	44·1	45·5
4. 15	7. 35	4. 53	·1124	21. 21	·02169	12. 0	43·6	45·0
4. 57	8. 0	4. 54	·1122	23. 59	·02240	18. 0	43·2	45·0
5. 20	21. 7. 10	5. 30	·1122			21. 0	42·8	45·0
6. 52	20. 59. 10	6. 23	·1111			22. 0	43·8	45·5
7. 33	21. 3. 15	6. 38	·1114			23. 0	44·5	45·8
8. 3	21. 0. 0	6. 51	·1109					
9. 35	20. 57. 15	6. 59	·1111					
10. 18	54. 30	7. 30	·1103					
11. 18	20. 58. 35	8. 8	·1114					
12. 11	21. 0. 15	8. 29	·1106					
12. 27	20. 55. 25	8. 49	·1102					
12. 32	56. 30	8. 51	·1105					
12. 52	51. 45	8. 58	·1102					
13. 5	53. 10	9. 13	·1117					
13. 10	52. 50	9. 26	·1113					
13. 52	57. 30	9. 41	·1118					
14. 4	20. 56. 20		***					
15. 11	21. 0. 0	10. 31	·1116					
15. 48	20. 58. 15	10. 43	·1113					
	***	10. 51	·1115					
21. 18	21. 2. 10	11. 3	·1109					
	(†)	11. 12	·1110					
		11. 19	·1104					
		11. 35	·1111					
		11. 52	·1108					
		12. 13	·1112					
		12. 29	·1122					
		12. 45	·1111					
		13. 3	·1115					
		13. 17	·1111					
		13. 38	·1116					
		14. 0	·1117					
		14. 8	·1113					
		14. 24	·1114					
		14. 38	·1117					
		15. 23	·1117					
		15. 37	·1119					
		16. 5	·1116					
		16. 30	·1119					
		16. 38	·1115					
		16. 55	·1119					
		19. 1	·1122					
		20. 12	·1127					
		20. 58	·1116					
		21. 21	·1119					
		21. 44	·1118					
		21. 54	·1120					
		22. 33	·1117					
		23. 44	·1113					
		23. 59	·1110					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Jan. 2		Jan. 2		Jan. 2		Jan. 2		
h m	° ′ ″	h m		h m		h m	°	°
3. 0	21. 2. 53*	0. 0	·1110	0. 0	·02240	0. 0	45·0	46·3
9. 0	20. 50. 29*	0. 10	·1112	1. 58	·02167	1. 0	45·3	46·5
21. 0	57. 40*	0. 28	·1106	2. 47	{ ·02120	3. 0	47·3	48·2
			(†)		{ ·02162	9. 0	47·7	48·3
		1. 0	·1103*	2. 58	·02163	21. 0	44·0	45·0
		3. 0	·1111*	3. 10	·02275			
		6. 57	·1109	3. 49	·02230			
		7. 8	·1111	3. 59	·02246			
		7. 22	·1110	4. 40	·02207			
		7. 38	·1113	4. 50	·02231			
		9. 0	·1108	5. 27	·02202			
		9. 31	·1102	5. 39	·02228			
		9. 55	·1125	6. 19	·02220			
		10. 5	·1114	6. 45	·02236			
		10. 12	·1114	7. 40	·02217			
		10. 38	·1100	9. 42	·02206			
		10. 49	·1104	13. 8	·02179			
		11. 10	·1104	18. 40	·02291			
		11. 27	·1108	22. 44	·02450			
		11. 37	·1107	23. 59	·02508			
		11. 55	·1112					
		12. 0	·1110					
		12. 46	·1112					
		13. 41	·1119					
		14. 5	·1116					
		14. 19	·1119					
		14. 48	·1118					
		15. 18	·1121					
		15. 48	·1116					
		16. 15	·1122					
		16. 34	·1123					
		17. 13	·1122					
		17. 43:	·1129					
		18. 22	·1125					
		19. 5	·1122					
		19. 30:	·1115					
		20. 2	·1118					
		21. 1	·1113					
		21. 9	·1111					
		21. 42	·1112					
		22. 13	·1102					
		22. 25	·1102					
		22. 35	·1104					
			(†)					
Jan. 3		Jan. 3		Jan. 3		Jan. 3		
	(†)		(†)	0. 0	·02508	1. 0	44·0	46·0
1. 30	21. 1. 0	0. 3	·1101	1. 24	·02516	3. 0	45·8	46·5
2. 36	1. 5	0. 12	·1104	2. 57	·02489	9. 0	45·5	46·8
2. 59	1. 50	2. 32	·1122	3. 59	·02449	21. 0	43·0	45·0
3. 22	21. 0. 25	3. 33	·1121	9. 34:	·02253			
4. 13	20. 59. 45	3. 43	·1119	18. 19	·02481			
4. 30	58. 30	3. 57	·1122	21. 3	·02498			
7. 0	59. 45	4. 12	·1119	23. 0	·02561			
9. 2	57. 45	6. 44	·1118	23. 59	·02550			
10. 56	56. 50	7. 45	·1121					
11. 25	54. 35	8. 12	·1121					
12. 20	56. 35	9. 13	·1117					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

January 2. The Declination Magnet was under adjustment during a portion of this day.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Jan. 3		Jan. 3						
h m	° ' "	h m		h m		h m	°	°
14. 38	20. 57. 55	10. 47	·1118					
15. 13	56. 55	11. 1	·1127					
15. 23	57. 10	11. 48	·1119					
15. 40	56. 15	13. 30	·1120					
16. 0	57. 20	15. 44	·1121					
16. 18	56. 10	16. 2	·1118					
17. 10	58. 15	18. 24	·1118					
18. 15	56. 45	18. 41	·1121					
18. 30	57. 5	20. 52	·1114					
19. 0	57. 30	21. 2	·1117					
19. 4	57. 5	21. 11	·1113					
19. 55	58. 10	22. 36	·1114					
20. 32	58. 10	23. 5	·1114					
21. 15	57. 40	23. 47	·1102					
22. 51	20. 58. 30		(†)					
23. 3	21. 0. 50							
23. 59	20. 58. 15							
Jan. 4		Jan. 4		Jan. 4		Jan. 4		
0. 0	20. 58. 15		(†)	0. 0	·02550	1. 0		47·0
0. 27	21. 0. 55	3. 0	·1089*	1. 55	·02488	3. 0	48·3	48·0
0. 41	0. 50	3. 8	·1087	3. 0	·02424	9. 0	46·5	47·8
1. 32	2. 50	4. 51	·1092	3. 6	·02437	22. 5	42·2	45·0
2. 27	21. 2. 20	5. 25	·1091	6. 7	·02180			
3. 30	20. 59. 45	8. 56	·1099		·02225			
4. 54	58. 20	9. 26	·1098	6. 23	·02218			
8. 52	58. 10	11. 8	·1100		·02403			
9. 10	56. 5	12. 13	·1107	9. 50:	·02370			
9. 40	56. 0	13. 22	·1107	12. 36	·02454			
10. 7	54. 50	13. 28	·1109	18. 47	·02691			
10. 15	55. 30	13. 31	·1105	19. 38	·02693			
10. 20	55. 20	13. 52	·1109	22. 54	·02792			
11. 43	56. 50	14. 27	·1106	23. 59	·02709			
12. 10	55. 10	14. 59	·1107					
12. 49	56. 25	15. 16	·1110					
12. 55	55. 30	15. 47	·1109					
13. 7	56. 45	18. 50	·1115					
13. 25	55. 30	19. 0	·1125					
14. 21	57. 25	19. 2	·1118					
14. 50	56. 25	19. 10	·1121					
15. 48	57. 55	19. 43	·1077					
17. 11	57. 50	20. 40	·1116					
18. 35	20. 57. 15	20. 57	·1108					
19. 5	21. 12. 40	21. 3	·1109					
19. 19	9. 40	21. 23	·1121					
19. 52	21. 11. 30	22. 7	·1118					
20. 32	20. 59. 0	22. 40	·1114					
20. 38	20. 58. 55		(†)					
20. 50	21. 0. 35							
	***							
23. 59	0. 0							
Jan. 5		Jan. 5		Jan. 5		Jan. 5		
0. 0	21. 0. 0		(†)	0. 0	·02709	8. 34	46·0	47·8
0. 28	0. 20	5. 5	·1108	1. 18	·02690	21. 0	39·5	42·8
0. 36	21. 0. 50	5. 35	·1086	4. 39	·02493			
0. 55	20. 59. 45	5. 55	·1089	5. 32	·02448			
4. 26	20. 58. 55	6. 14	·1087	11. 16:	·02345			

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Jan. 5		Jan. 5		Jan. 5				
h m	° ' "	h m		h m		h m	°	°
5. 28	21. 1. 5	6. 47	·1089	17. 2	·02618			
5. 48	20. 58. 55	7. 28	·1100	21. 34	·02830			
6. 8	21. 1. 0	7. 40	·1098	23. 59	·02857			
6. 28	20. 59. 0	7. 48	·1098					
6. 39	59. 55		(†)					
7. 8	56. 50	8. 17	·1104					
7. 48	58. 20	8. 24	·1099					
9. 15	56. 0	8. 33	·1105					
11. 4	56. 20		***					
12. 37	57. 35	9. 19	·1102					
18. 30	20. 57. 55	9. 26	·1105					
22. 16:	21. 1. 0	9. 30	·1103					
22. 45	0. 0	9. 40	·1109					
23. 12	1. 30	9. 55	·1101					
23. 59	0. 35	10. 31	·1109					
		10. 40	·1104					
		11. 43	·1104					
		12. 2	·1097					
		12. 19	·1102					
		12. 26	·1097					
		12. 32	·1099					
		13. 0	·1098					
		13. 22	·1102					
		13. 45	·1101					
		14. 15	·1102					
		14. 25	·1100					
		14. 48	·1104					
		14. 57	·1102					
		15. 8	·1104					
		15. 21	·1103					
		15. 55	·1104					
		16. 2	·1103					
		16. 22	·1106					
		16. 33	·1104					
		21. 41	·1106					
		22. 5	·1103					
			(†)					
Jan. 6				Jan. 6		Jan. 6		
0. 0	21. 0. 35			0. 0	·02857	1. 0		44·3
1. 7	2. 30			1. 37	·02819	3. 0		46·3
1. 19	2. 0			3. 1	·02736	9. 0	44·0	46·0
2. 27	21. 1. 25			6. 20:	·02450	21. 0	41·8	43·8
5. 17	20. 59. 20			10. 16	·02404			
7. 5	58. 0			10. 38	·02440			
7. 17	58. 30			13. 23	·02483			
8. 45	57. 25			18. 30	·02600			
9. 15	57. 35			19. 50	·02594			
9. 41	56. 35			22. 49	·02638			
12. 21:	57. 10			23. 59	·02643			
15. 45	59. 30							
16. 28	58. 45							
16. 36	59. 20							
16. 41	58. 50							
17. 29:	58. 50							
17. 43	59. 40							
18. 18	20. 58. 40							
18. 57	21. 1. 0							
	***							

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

January 4. At noon the Horizontal Force Magnet was displaced, and the annual examination of its adjustments were begun.

January 6 and 7. The Horizontal Force Magnet was under adjustment.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Jan. 6								
h m	° ′ ″	h m		h m		h m	°	°
19. 48	20. 59. 10 ***							
20. 53	58. 10							
20. 57	58. 45							
21. 18	58. 0							
21. 24	56. 55							
21. 40	59. 55							
21. 46	20. 58. 40							
22. 20	21. 0. 30							
22. 30	20. 59. 20							
22. 55	59. 40							
23. 6	20. 58. 40							
23. 19	21. 0. 20							
23. 27	20. 59. 40							
23. 33	59. 40							
23. 50	20. 59. 40							
23. 59	21. 0. 10							
Jan. 7		Jan. 7		Jan. 7		Jan. 7		
0. 0	21. 0. 10		(†)	0. 0	·02643	1. 0	49 ·0	46 ·3
1. 7	0. 45	1. 23	·1050	2. 42	·02476	3. 0	50 ·0	48 ·8
2. 21	21. 0. 30	3. 0	·1046	4. 29	·02297	9. 0	49 ·3	50 ·2
4 21	20. 57. 50	3. 21	·1049	4. 38	·02308	21. 0	46 ·5	47 ·8
6. 12	57. 55	6. 15	·1052	5. 6	·02287	22. 0	47 ·3	48 ·6
6. 44	57. 15	6. 30	·1048	5. 24	·02305	23. 0	48 ·5	49 ·3
7. 8	57. 35	7. 10	·1054	9. 44	·02270			
8. 18	56. 55	10. 32	·1059	12. 26	·02282			
12. 45	56. 15	10. 43	·1040	17. 35	·02520			
15. 18	20. 57. 45	14. 57	·1066	22. 49	·02696			
15. 40	21. 0. 10	15. 30	·1064	23. 59	·02690			
15. 55	20. 59. 20	16. 15	·1071					
16. 15	57. 10	16. 31	·1070					
16. 28	56. 40	18. 16	·1073					
16. 34	57. 0	20. 1	·1067					
16. 44	56. 30	20. 17	·1062					
16. 56	57. 25	20. 32	·1063					
17. 10	56. 35	22. 8	·1049					
19. 45	57. 40	23. 8	·1053					
21. 14	20. 56. 55	23. 59	·1048					
23. 59	21. 2. 35							
Jan. 8		Jan. 8		Jan. 8		Jan. 8		
0. 0	21. 2. 35		(†)	0. 0	·02690	0. 0	49 ·3	50 ·2
0. 11	6. 30	1. 0	·0958*	0. 5	{ ·02680 ·02608	1. 0	51 ·0	50 ·8
0. 16	5. 20	1. 22	·0953			2. 0	52 ·1	51 ·9
0. 33	5. 30	1. 59	·0959	1. 43	·02434	3. 0	52 ·7	53 ·0
0. 48	2. 5	2. 53	·0951	5. 10	·02014	6. 0	53 ·0	53 ·0
1. 5	3. 0	3. 37	·0960 ***	6. 49	·02055	9. 0	52 ·2	52 ·8
1. 23	1. 40			7. 46	·02046	12. 0	51 ·0	51 ·8
1. 54	1. 30	5. 27	·0958	8. 3	·02102	18. 0	46 ·5	48 ·6
2. 45	21. 2. 50	5. 45	·0964 ***	10. 48:	·02136	21. 0	47 ·0	49 ·3
3. 43	20. 58. 50			17. 34:	·02672	22. 0	47 ·8	49 ·7
4. 47	59. 10	7. 25	·0968	20. 59	·02800	23. 0	48 ·5	50 ·0
5. 29	57. 20	7. 44	·0967	22. 36	{ ·02780 ·02728			
6. 9	58. 35	8. 30	·0972					
7. 46	57. 0	13. 43	·0973 ***	23. 59	·02730			
10. 3	55. 35							
10. 19	56. 30	15. 37	·0978 ***					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Jan. 8		Jan. 8						
h m	° ′ ″	h m		h m		h m	°	°
14. 5	20. 56. 30	16. 46	·0977 ***					
14. 44	58. 30							
15. 6	56. 50	18. 1	·0981					
15. 22	57. 20	19. 35	·0973					
15. 43	56. 0	19. 52	·0974					
17. 27	55. 55	20. 53	·0967					
17. 30	56. 55	21. 15	·0968 ***					
17. 38	56. 0							
18. 18	55. 50	22. 53	·0957 ***					
20. 39	56. 0							
21. 43	58. 0 (†)	23. 45	·0959 (†)					
Jan. 9		Jan. 9		Jan. 9		Jan. 9		
	(†)		(†)	0. 0	·02730	0. 0	49 ·2	50 ·2
1. 0	21. 2. 11*	3. 0	·0894*	1. 37	·03005	1. 0	50 ·0	50 ·7
6. 31	20. 57. 55	9. 0	·0902*	3. 12	·02922	3. 0	52 ·3	52 ·5
7. 34	58. 10	18. 3	·0906	9. 4:	·02477	9. 0	54 ·8	54 ·8
11. 38	58. 5	20. 0	·0910	13. 28	·02322	21. 0	54 ·0	55 ·0
13. 28	59. 30	21. 11	·0907		(†)			
15. 48	58. 40	21. 41	·0906	18. 23	·02273			
16. 50	58. 0	22. 35	·0896	22. 1	·02252			
19. 51	57. 30	23. 23	·0892	22. 22	·02270			
20. 45	57. 10 (†)	23. 43	·0896 (†)	23. 22	·02253			
21. 0	56. 9*			23. 59	·02204			
Jan. 10		Jan. 10		Jan. 10		Jan. 10		
1. 0	21. 0. 51*	1. 0	·0899*	0. 0	·02204	1. 0	56 ·0	56 ·0
3. 0	21. 0. 51*	3. 0	·0902*	0. 26	{ ·02210 ·02296	3. 0	57 ·0	57 ·5
9. 0	20. 56. 50*	9. 0	·0907*			9. 0	54 ·5	56 ·5
21. 0	57. 12*	21. 0	·0911*	2. 19	·02178	21. 0	53 ·0	53 ·8
				4. 28	·02221			
				10. 2	·02224			
				12. 43:	·02297			
				14. 29	·02472			
				17. 48	·02703			
				20. 19	·02816			
				21. 57	·02823			
				23. 47	·02782			
				23. 59	·02784			
Jan. 11		Jan. 11		Jan. 11		Jan. 11		
0. 0	21. 1. 40	1. 0	·0896*	0. 0	·02784	1. 0	54 ·0	54 ·2
1. 13	2. 35	3. 0	·0911*	1. 36	·02784	3. 0	54 ·0	54 ·8
2. 27	2. 0	9. 0	·0901*	3. 14	·02732	9. 0	51 ·4	53 ·0
3. 11	21. 0. 35	22. 10	·0907*	6. 6:	·02543	22. 10	44 ·8	47 ·0
4. 45	20. 58. 40 ***			8. 1	·02482			
				11. 27	·02478			
6. 57	58. 30			14. 5:	·02579			
7. 12	57. 30			19. 43	·03010			
7. 42:	59. 0			20. 55	·02969			
8. 42	53. 15			23. 59	·02950			
8. 58	54. 35							
9. 4	56. 30							
9. 18	54. 50							
9. 45	56. 0							
10. 24	51. 55							

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

January 8. The adjustments of the Horizontal Force Magnet were so altered that the spot of light fell on the paper, at about 0·0098 parts of the force farther from the Declination Photographic Trace. To connect the preceding series with that of this day, it is necessary to reduce them by 0·0098.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Jan. 11								
h m	° ′ ″	h m		h m		h m	°	°
10. 45	20. 53. 10							
11. 0	50. 40							
11. 37	53. 30							
11. 43	52. 10							
12. 6	51. 25							
12. 22	49. 45							
12. 30	50. 40							
12. 33	51. 25							
13. 27	54. 40							
13. 57	53. 5							
14. 16	54. 40							
14. 42	54. 30							
14. 58	55. 20							
15. 11	54. 40							
15. 29	55. 10							
15. 47	54. 0							
16. 6	54. 30							
16. 41	57. 5							
17. 3	20. 55. 0							
	***							
19. 8	21. 0. 10							
19. 40	20. 58. 10							
20. 15	58. 20							
20. 31	20. 56. 50							
21. 16	21. 0. 50							
21. 36	20. 59. 20							
22. 34	21. 0. 30							
23. 26	2. 10							
23. 59	1. 40							
Jan. 12		Jan. 12		Jan. 12		Jan. 12		
0. 0	21. 1. 20		(†)	0. 0	·02950	8. 0	47·8	49·5
0. 12	3. 10	0. 49	·0910	3. 3	·02968	21. 0	46·8	48·6
1. 8	3. 45	1. 41	·0916	8. 15	·02846			
1. 32	3. 15	2. 3	·0919	12. 16	·02700			
1. 53	4. 10	2. 14	·0917	18. 7	·02666			
2. 38	2. 5	3. 23	·0926	20. 28	·02692			
3. 18	21. 2. 25	4. 13	·0924	23. 59	·02790			
4. 18	20. 59. 50	4. 41	·0928					
5. 38	59. 35	5. 30	·0928					
6. 19	58. 0	5. 47	·0924					
7. 5	58. 50	6. 47	·0924					
7. 58	58. 0	7. 0	·0921					
8. 12	57. 55	7. 51	·0920					
8. 22	58. 10	8. 19	·0924					
8. 30	57. 40	8. 27	·0921					
8. 51	57. 55	8. 44	·0922					
9. 3	57. 25	9. 0	·0918					
9. 15	57. 50	9. 15	·0920					
11. 9	54. 50	10. 10	·0915					
11. 49	57. 10	10. 44	·0920					
12. 13	56. 25		***					
12. 23	57. 10	12. 10	·0910					
12. 36	56. 30	13. 31	·0915					
13. 16	58. 40	14. 44	·0914					
14. 0	58. 45	15. 0	·0910					
15. 3	57. 10	16. 31	·0917					
15. 22	58. 30	19. 59	·0915					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Jan. 12		Jan. 12						
h m	° ′ ″	h m		h m		h m	°	°
15. 37	20. 57. 35	20. 31	·0911					
15. 46	57. 55	22. 39	·0905					
16. 11	57. 30	23. 30	·0915					
16. 34	57. 55	23. 38	·0913					
17. 11	57. 20	23. 59	·0915					
19. 52	56. 40							
20. 43	55. 35							
21. 23	56. 5							
22. 30	58. 35							
22. 36	20. 58. 10							
22. 53	21. 0. 40							
23. 0	0. 40							
23. 15	2. 55							
23. 29	2. 10							
23. 59	4. 30							
Jan. 13		Jan. 13		Jan. 13		Jan. 13		
0. 0	21. 4. 30	0. 0	·0915	0. 0	·02790	1. 0	47·0	48·4
0. 11	5. 20	0. 41	·0917	2. 36	·02817	3. 0	46·0	48·0
1. 17	6. 35		(†)	3. 17	·02783	9. 0	48·8	50·2
1. 31	8. 20	1. 0	·0918*	5. 28	·02622	21. 0	45·0	47·3
1. 52	4. 5	2. 2	·0914	7. 48	·02548			
2. 11	3. 50	2. 42	·0922	9. 43	·02520			
2. 38	6. 40		***	10. 2	·02501			
3. 11	6. 0	4. 26	·0921	13. 16	·02465			
3. 26	6. 20		***	13. 48	·02490			
4. 11	3. 15	6. 7	·0920	15. 32	·02488			
4. 52	5. 55		***	16. 38	·02577			
5. 40	4. 15	6. 22	·0926	19. 49	·02712			
5. 48	5. 0		***	23. 59	·02830			
6. 5	4. 20	7. 17	·0905					
6. 33	6. 55	7. 32	·0912					
7. 9	6. 10	7. 54	·0901					
7. 24	1. 50	8. 13	·0908					
7. 37	21. 3. 35	8. 23	·0891					
7. 59	20. 59. 50	8. 32	·0895					
8. 4	21. 0. 50	8. 52	·0883					
8. 9	0. 25	9. 3	·0888					
8. 15	21. 2. 20	9. 17	·0884					
8. 32	20. 54. 45	9. 19	·0881					
8. 39	57. 0	9. 45	·0903					
9. 0	46. 20	10. 8	·0885					
9. 21	46. 35	10. 58	·0898					
9. 41	41. 0	11. 22	·0891					
9. 54	44. 45	11. 39	·0898					
10. 4	44. 25	12. 15	·0896					
10. 10	45. 10	12. 30	·0902					
10. 18	44. 25	12. 42	·0899					
10. 57	49. 25	13. 8	·0909					
11. 15	49. 10	13. 37	·0888					
11. 39	55. 0	13. 52	·0899					
11. 48	54. 25	14. 15	·0902					
12. 2	55. 20		***					
12. 10	54. 50	14. 52	·0901					
12. 33	58. 50	15. 13	·0895					
13. 24	51. 25	15. 33	·0915					
13. 27	53. 0	16. 0	·0915					
13. 40	51. 50	16. 29	·0909					
			***					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

January 9. Workmen had been engaged in the Observatory, and by some means caused the spot of light of the Horizontal Force Magnet to be removed on the Photographic sheet 0·0060 still farther from the Declination Trace. Therefore the series up to January 7 needs reducing by 0·0158, and on January 8 by 0·0060 to reduce the numbers to those of the following series.

January 10. The Photographic Traces for the Declination and Horizontal Force Magnets were too faint for use.

January 11. The Photographic Trace for the Horizontal Force Magnet was too faint for use.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Jan. 13		Jan. 13						
h m	° ′ ″	h m		m		h m	°	°
14. 0	20. 56. 20	17. 24	·0915					
			***					
14. 13	57. 50							
14. 26	58. 15	19. 23	·0909					
14. 55	59. 20	19. 25	·0905					
15. 3	20. 59. 0	19. 40	·0912					
15. 10	21. 0. 30	19. 50	·0908					
15. 40	20. 50. 20	20. 0	·0912					
15. 55	51. 0		***					
16. 10	56. 0	22. 0	·0897					
	***	22. 32	·0894					
17. 33	58. 50	23. 32	·0894					
17. 42	58. 0		(†)					
17. 49	59. 0							
17. 57	58. 20							
19. 36	57. 50							
19. 45	58. 55							
19. 55	57. 45							
20. 1	58. 5							
20. 10	57. 50							
20. 46	20. 58. 0							
	***							
23. 7	21. 4. 10							
23. 33	4. 0							
23. 37	2. 55							
23. 52	2. 0							
23. 59	2. 15							
Jan. 14		Jan. 14		Jan. 14		Jan. 14		
0. 0	21. 2. 15		(†)	0. 0	·02830	1. 0	46 ·8	48 ·7
0. 45	3. 55	0. 4	·0895	1. 23	·02849	3. 0	49 ·0	51 ·0
3. 43	0. 55	0. 36	·0905	6. 38⁏	·02408	9. 0	48 ·3	50 ·2
3. 50	21. 0. 15	2. 14	·0915	10. 12	·02304	21. 0	44 ·0	47 ·0
4. 57	20. 59. 0	2. 28	·0912	10. 47	·02311	22. 0	44 ·8	47 ·0
5. 48	21. 0. 40	3. 43	·0916	11. 0	·02290	23. 0	45 ·2	47 ·1
6. 42	20. 59. 0	4. 0	·0924	11. 50	·02257			
7. 18	21. 0. 45	4. 19	·0918	12. 35	·02340			
	***	4. 35	·0921	14. 4	·02376			
10. 19	20. 57. 25	5. 4	·0918	15. 15	·02380			
10. 28	58. 40	5. 21	·0922	18. 28	·02545			
10. 38	58. 25	5. 51	·0912	23. 59	·02720			
11. 57	29. 20	6. 2	·0917					
12. 16	45. 25	6. 24	·0913					
12. 23	44. 40	7. 8	·0911					
12. 58	20. 57. 45	8. 45	·0918					
13. 10	21. 0. 10	8. 55	·0912					
13. 55	20. 53. 35	9. 5	·0915					
14. 7	57. 0	9. 32	·0916					
14. 52	41. 50	9. 35	·0922					
15. 22	48. 20	9. 54	·0918					
15. 28	48. 0	10. 5	·0921					
15. 44	49. 35	10. 15	·0904					
16. 7	55. 50	10. 31	·0914					
16. 14	56. 0	10. 39	·0913					
16. 28	59. 30	10. 52	·0937					
16. 35	57. 30	11. 10	·0916					
17. 8	55. 40	11. 23	·0924					
	***	12. 16	·0872					
18. 2	59. 10	12. 47	·0902					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Jan. 14		Jan. 14						
h m	° ′ ″	h m		h m		h m	°	°
18. 16	20. 58. 30	13. 0	·0901					
18. 57	58. 5	13. 23	·0907					
19. 29	58. 35	14. 1	·0901					
	***	14. 24	·0910					
21. 3	20. 56. 10	14. 43	·0925					
	***	14. 48	·0924					
23. 59	21. 2. 20	15. 0	·0936					
		15. 25	·0909					
		15. 41	·0914					
		16. 13	·0909					
		16. 27	·0913					
		16. 37	·0910					
			***					
		17. 44	·0917					
			***					
		20. 15	·0917					
		21. 1	·0911					
		21. 9	·0912					
			***					
		22. 2	·0905					
		23. 26	·0911					
		23. 43	·0909					
		23. 59	·0912					
Jan. 15		Jan. 15		Jan. 15		Jan. 15		
0. 0	21. 2. 20		(†)		·02720	0. 0	45 ·8	47 ·3
0. 9	2. 10	1. 0	·0916*	1. 24	·02728	1. 0	46 ·5	48 ·0
0. 53	3. 20	1. 17	·0920	5. 39	·02498	2. 0	47 ·0	48 ·6
1. 44	2. 20	1. 32	·0923	6. 23	·02596	3. 0	47 ·5	48 ·8
1. 55	2. 50	1. 45	·0921	7. 25	·02600	6. 0	46 ·0	47 ·8
3. 24	1. 0	1. 57	·0924	7. 43	·02680	9. 0	44 ·0	47 ·0
4. 15	1. 35	3. 7	·0924	8. 26	·02647	12. 0	43 ·0	45 ·6
5. 15	21. 4. 35	3. 22	·0915	9. 24	·02630	18. 0	39 ·0	42 ·6
5. 45	20. 47. 40	3. 52	·0921	9. 45	·02557	21. 0	39 ·8	43 ·0
6. 13	20. 57. 50	3. 57	·0930	10. 11	·02546	22. 0	40 ·0	43 ·0
6. 30	21. 2. 20	4. 18	·0921	11. 14	·02602	23. 0	40 ·5	43 ·5
6. 38	20. 59. 0	4. 45	·0921	11. 47	·02562			
6. 44	21. 1. 45	4. 57	·0915	12. 57	·02646			
6. 56	20. 54. 40	5. 3	·0919	14. 2	·02666			
7. 3	20. 53. 45	5. 29	·0905	15. 8	·02720			
7. 21	21. 11. 0	5. 37	·0913	16. 11	·02735			
7. 35	21. 7. 20	5. 43	·0902	16. 27	·02772			
7. 53	20. 58. 40	5. 51	·0907	16. 41	·02760			
8. 5	53. 30	6. 6	·0893	17. 11	·02762			
8. 10	56. 30	6. 8	·0895	18. 8	·02859			
8. 21	54. 0	6. 17	·0886	20. 34	·02946			
8. 43	56. 0	6. 26	·0890	21. 9	·02929			
8. 53	53. 50	6. 38	·0872	22. 55	{ ·02932			
9. 0	55. 0	6. 42	·0885		·02783			
9. 9	55. 0	6. 52	·0878	23. 59	·02829			
9. 15	53. 20	7. 15	·0908					
9. 18	53. 30	7. 16	·0907					
9. 29	50. 0	7. 36	·0869					
9. 34	51. 40	7. 48	·0876					
9. 41	46. 20	7. 57	·0863					
9. 46	48. 30	8. 6	·0872					
9. 58	43. 0	8. 13	·0861					
10. 15	53. 30	8. 22	·0867					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol ⁏ attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Jan. 15		Jan. 15						
h m	° ′ ″	h m		h m		h m	°	°
10. 22	20. 53. 20	8. 38	·0868					
10. 31	55. 25	8. 42	·0864					
10. 43	55. 0	9. 0	·0879					
11. 5	49. 0		***					
11. 12	49. 30	9. 27	·0880					
11. 13	51. 30	9. 45	·0912					
11. 22	48. 10	9. 52	·0888					
11. 30	38. 10	10. 0	·0892					
11. 51	41. 20	10. 3	·0888					
11. 57	44. 30	10. 8	·0889					
12. 3	44. 30	10. 22	·0871					
12. 10	46. 20	10. 32	·0870					
13. 6	39. 55	10. 45	·0879					
13. 44	42. 30	10. 52	·0874					
13. 51	43. 30	10. 57	·0883					
14. 10	43. 45	11. 6	·0883					
14. 26	43. 20	11. 21	·0902					
15. 3	46. 40	11. 32	·0888					
15. 7	46. 35	11. 37	·0894					
15. 20	49. 55	11. 45	·0893					
15. 35	49. 45	11. 53	·0883					
15. 48	56. 40	11. 58	·0887					
16. 12	20. 49. 20	12. 8	·0875					
16. 40	21. 0. 20	12. 13	·0878					
16. 47	21. 0. 25	12. 23	·0873					
16. 54	20. 57. 30	12. 55	·0891					
17. 9	58. 35	13. 6	·0887					
17. 25	20. 56. 10	13. 25	·0886					
17. 44	21. 0. 0	13. 43	·0892					
18. 20	2. 50	13. 51	·0890					
18. 45	0. 20	13. 54	·0892					
19. 19	8. 25	14. 20	·0887					
19. 30	10. 40	14. 46	·0895					
19. 43	7. 0	15. 10	·0890					
	***	15. 25	·0898					
20. 29	3. 20	15. 39	·0901					
20. 40	21. 4. 10	15. 52	·0895					
21. 22	20. 53. 30	16. 10	·0904					
22. 7	21. 4. 10	16. 23	·0897					
22. 16	2. 10	16. 53	·0923					
	***	17. 45	·0896					
23. 12	4. 35	18. 30:	·0910					
23. 14	3. 30		***					
23. 26	6. 30	19. 9	·0901					
23. 30	4. 30	19. 28	·0918					
23. 35	7. 0		***					
23. 49	4. 5	20. 7	·0902					
23. 59	4. 25	20. 15	·0906					
		20. 30	·0899					
		20. 44	·0904					
			***					
		20. 52	·0899					
		21. 1	·0902					
		21. 7	·0898					
		21. 17	·0906					
		21. 38	·0919					
		21. 46	·0917					
		21. 53	·0920					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Jan. 15						
h m	° ′ ″	h m		h m		h m	°	°
		21. 58	·0913					
		22. 6	·0919					
		22. 16	·0910					
		23. 9	·0901					
		23. 23	·0908					
		23. 29	·0902					
		23. 37	·0909					
			(†)					
Jan. 16		Jan. 16		Jan. 16		Jan. 16		
0. 0	21. 4. 25		(†)	0. 0	·02829	0. 0	41·2	43·8
0. 14	6. 55	0. 46	·0909	0. 56	·02802	1. 0	41·9	44·5
1. 7	2. 0	1. 12	·0906	1. 9	·02810	2. 0	42·5	45·5
1. 22	4. 25	1. 22	·0914	3. 11	·02677	3. 0	43·3	46·2
1. 40	5. 0	1. 50	·0905	9. 23:	·02298	9. 0	42·0	42·3
1. 58	3. 0	2. 0	·0908	13. 39	·02440	21. 0	33·1	37·5
2. 4	1. 50	2. 7	·0905	19. 3	·02878			
2. 14	2. 0	2. 23	·0910	23. 30	·02903			
2. 39	21. 0. 20		(†)		(†)			
3. 40	20. 59. 45	2. 54	·0913					
3. 47	21. 0. 20	3. 4	·0917					
4. 26	20. 59. 40	3. 22	·0916					
5. 1	57. 55	3. 32	·0913					
5. 18	57. 0	3. 39	·0916					
5. 57	53. 40	3. 56	·0910					
6. 18	57. 40	4. 4	·0912					
6. 27	57. 30	4. 44	·0900					
6. 39	54. 30	5. 0	·0907					
6. 48	53. 50	5. 8	·0903					
7. 3	49. 55		***					
7. 11	50. 0	5. 52	·0901					
7. 22	52. 55	6. 22	·0911					
7. 35	55. 10	6. 37	·0907					
7. 49	55. 50	6. 41	·0909					
7. 58	54. 50	7. 0	·0905					
8. 10	56. 55	7. 19	·0918					
8. 33	57. 50	7. 24	·0915					
8. 45	57. 30	7. 46	·0917					
9. 0	58. 0	7. 53	·0915					
10. 37	56. 55	8. 8	·0918					
10. 57	55. 55	8. 37	·0912					
11. 52	57. 50	9. 21	·0917					
12. 18:	20. 57. 25	10. 24	·0915					
13. 0	21. 0. 20	10. 38	·0920					
13. 30	0. 40	10. 56	·0919					
13. 45	0. 0	11. 11	·0922					
14. 4	0. 10	11. 23	·0919					
14. 12	1. 0	11. 29	·0920					
14. 15	21. 0. 20	11. 38	·0916					
14. 40	20. 59. 40	11. 49	·0921					
15. 19	21. 0. 20	12. 6	·0918					
15. 48	20. 59. 0	12. 25	·0921					
16. 0	59. 45	12. 35	·0916					
16. 8	59. 0	12. 44	·0920					
16. 36	59. 35	12. 52	·0919					
16. 57	58. 50	13. 1	·0922					
17. 11	59. 30	14. 45	·0928					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.
Jan. 16	
h m	° ′ ″
18. 17	20. 58. 0
18. 28	58. 35
18. 36	57. 20
18. 44	58. 5
20. 0	56. 55
20. 29	55. 20
20. 36	56. 15
20. 45	20. 55. 30
23. 45	21. 1. 15
23. 56	2. 50
23. 59	2. 10
Jan. 17	
0. 0	21. 2. 10
1. 24	2. 40
2. 54	1. 25
3. 7	1. 50
3. 15	21. 1. 0
4. 49	20. 57. 40
5. 22	58. 5
5. 51	57. 0
6. 54	57. 15
8. 0	57. 25
8. 27	54. 30
9. 0	56. 50
10. 17	56. 30
12. 39	57. 45
14. 56	58. 0
15. 51	59. 40
20. 19	56. 50
21. 24	57. 30
22. 15	20. 59. 20
22. 45	21. 1. 30
23. 8	2. 0
23. 51	3. 0
23. 59	2. 30
Jan. 18	
0. 0	21. 2. 35
0. 21	1. 55
0. 32	2. 40
1. 38	21. 1. 20
2. 40	20. 59. 0
3. 18	59. 50
4. 46	58. 0
5. 32	56. 40
6. 15	57. 50
6. 27	57. 15
9. 23	20. 56. 45
10. 7	56. 0
10. 32	56. 40
10. 57	54. 25 ***
13. 24	58. 25
14. 44	58. 40
16. 25	58. 35
20. 16	56. 50
20. 45	55. 0
23. 59	59. 15
Jan. 19	
0. 0	20. 59. 15
1. 12	21. 1. 30
2. 0	21. 1. 20
3. 53	20. 58. 55
5. 9	57. 30
10. 6	57. 0
14. 38	58. 30
17. 45	57. 20
18. 15	57. 20
19. 7	58. 20
19. 20	57. 45
19. 37	58. 15
20. 27	56. 50
21. 28	58. 0
21. 42	57. 45
21. 56	59. 0
22. 27	20. 59. 0
23. 59	21. 1. 0
Jan. 20	
0. 0	21. 1. 0
1. 54	21. 1. 55
2. 47	20. 59. 40
3. 29	58. 30
7. 33	58. 0
7. 49	57. 25
9. 0	57. 50
10. 45	56. 25
10. 54	57. 10 ***
12. 12	56. 50
12. 22	57. 30
12. 38	56. 20
16. 52	57. 35
17. 0	58. 5
17. 16	57. 30
19. 26	57. 10
21. 12	20. 55. 40 ***
23. 59	21. 1. 0
Jan. 21	
0. 0	21. 1. 0
1. 10	1. 40

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Jan. 16	
h m	
15. 0	·0926
15. 16	·0930
17. 37	·0933
17. 48	·0932
18. 31	·0935
18. 37	·0933
18. 47	·0936
19. 51	·0933
19. 55	·0936
20. 6	·0932 ***
20. 35	·0929
20. 41	·0931
20. 55	·0925
22. 24	·0917
23. 16	·0909
23. 39	·0907
23. 55	·0911
23. 59	·0910
Jan. 17	
0. 0	·0910
0. 8	·0907
0. 41	·0907
2. 10	·0918
3. 3	·0928
3. 20	·0926
3. 30	·0928
3. 50	·0927
4. 38	·0930
4. 47	·0929
5. 22	·0927
5. 31	·0923
5. 46	·0927
6. 37	·0929
6. 58	·0927
8. 11	·0928
9. 9	·0933
15. 53	·0941
17. 38	·0941
20. 13	·0937
21. 0	·0932
23. 3	·0925
23. 8	·0928
23. 30	·0927 (†)
Jan. 18	
	(†)
1. 0	·0932*
2. 3	·0932
3. 1	·0928
4. 7	·0935
4. 17	·0934
4. 58	·0926
5. 37	·0929
5. 53	·0927
7. 58	·0933
10. 57	·0931
11. 8	·0931
11. 27	·0931 (†)
22. 12	·0928*
Jan. 19	
0. 0	·0930
0. 36	·0929
4. 39	·0938
7. 35	·0946
8. 49	·0942
9. 28	·0944
18. 22	·0944
18. 55	·0945
19. 58	·0946
20. 43	·0940
21. 1	·0939
21. 51	·0941
22. 25	·0935
22. 52	·0934 (†)
Jan. 20	
1. 0	·0933*
3. 0	·0940*
9. 0	·0946*
21. 0	·0941*
Jan. 21	
	(†)
1. 0	·0930*

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
Jan. 17	
	(†)
0. 28	·02875
3. 4	·02700
5. 14	·02464
10. 8:	·02284
19. 20	·02695
21. 36	·02866
23. 21	·02827
23. 59	·02810
Jan. 18	
0. 0	·02810
2. 12:	·02624
4. 37	·02197
6. 0	·02026
11. 10	·02050
16. 5:	·02288
20. 41	·02628
22. 8	·02760
23. 59	·02970
Jan. 19	
0. 0	·02970
0. 28:	·02987
5. 48	·02640
8. 53	·02520
14. 9	·02475
19. 52	·02546
22. 30	·02580
23. 59	·02543
Jan. 20	
0. 0	·02543
4. 25	·02084
5. 8	{ ·02116 ·02172
5. 56	·02138
9. 54	·02100
13. 23	·02159 (†)
21. 0	·02429*
21. 30	·02402
23. 2	·02422
23. 59	·02388
Jan. 21	
0. 0	·02388
3. 29	·02116

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Jan. 17		
1. 0	37 ·0	40 ·0
3. 0	40 ·0	41 ·8
9. 32	39 ·0	41 ·0
21. 0	32 ·5	36 ·0
Jan. 18		
1. 0	37 ·5	39 ·0
3. 0	41 ·5	42 ·2
9. 0	41 ·0	42 ·5
22. 12	31 ·5	35 ·0
Jan. 19		
9. 0	36 ·4	38 ·9
21. 0	35 ·0	37 ·5
Jan. 20		
1. 0	39 ·0	40 ·4
3. 0	41 ·2	41 ·8
9. 0	41 ·5	42 ·8
21. 0	37 ·0	40 ·0
Jan. 21		
1. 0	41 ·0	42 ·0
3. 0	43 ·0	43 ·6

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

January 20. The Photographic Trace for the Horizontal Force Magnet was too faint for use.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Jan. 21		Jan. 21		Jan. 21		Jan. 21		
h m	° ′ ″	h m		h m		h m	°	°
3. 35	21. 0. 0	1. 32	·0929	4. 11	·02150	9. 0	43 ·0	44 ·0
3. 52	20. 59. 10	2. 43	·0932	4. 17	·02247	21. 0	40 ·0	43 ·0
5. 0	21. 0. 15	3. 48	·0927	4. 53	·02226	22. 0	41 ·0	43 ·2
5. 10	20. 59. 40	4. 54	·0931	8. 23	·02233	23. 0	42 ·0	43 ·4
5. 22	59. 55	5. 5	·0934	9. 2	·02266			
5. 31	20. 58. 10	5. 13	·0933	11. 34	·02230			
5. 56	21. 1. 50	5. 23	·0940	11. 50	·02185			
6. 24	2. 40	5. 52	·0919	13. 39	·02180			
6. 49	21. 0. 0	5. 59	·0922	13. 53	·02149			
7. 10	20. 59. 15	6. 11	·0923	14. 42	·02154			
7. 20	20. 58. 10	7. 23	·0946	17. 14	·02343			
7. 42	21. 1. 0	8. 9	·0924	23. 59	·02572			
8. 0	21. 1. 0	8. 23	·0924					
8. 15	20. 58. 45	8. 38	·0909					
8. 25	20. 59. 0	8. 48	·0913					
8. 31	21. 0. 5	9. 0	·0910					
8. 42	20. 55. 30	9. 14	·0911					
8. 56	57. 40	9. 21	·0905					
9. 13	55. 0	9. 38	·0920					
9. 18	55. 45	9. 52	·0914					
9. 37	53. 20	10. 23	·0923					
9. 58	55. 55	10. 51	·0916					
10. 22	55. 40	11. 19	·0916					
10. 55	50. 50	11. 27	·0922					
11. 20	54. 20	11. 37	·0910					
12. 6	35. 20	11. 55	·0906					
12. 33	42. 25	12. 25	·0913					
12. 50	41. 15	12. 42	·0907					
13. 30	49. 25	12. 55	·0912					
13. 41	52. 50	13. 12	·0916					
13. 54	48. 20	13. 25	·0925					
13. 57	48. 0	13. 51	·0900					
14. 14	43. 0	14. 0	·0899					
14. 23	42. 50	14. 17	·0910					
14. 39	37. 0	14. 32	·0902					
14. 57	36. 25	14. 56	·0912					
15. 36	41. 30	15. 6	·0911					
16. 26	52. 25	15. 24	·0919					
16. 47	54. 35	15. 47	·0917					
16. 57	53. 55	16. 4	·0911					
17. 12	54. 10	16. 38	·0907					
17. 24	56. 0	17. 37	·0911					
17. 36	56. 40	18. 2	·0922					
17. 53	54. 30	18. 31	·0918					
18. 5	54. 30	19. 16	·0922					
18. 17	54. 0	20. 7	·0920					
18. 44	56. 0	20. 47	·0912					
19. 13	56. 35	21. 6	·0921					
19. 40	54. 50	21. 38	·0916					
20. 27	56. 5	21. 52	·0918					
20. 54	55. 0	22. 5	·0915					
21. 28	58. 35	22. 22	·0921					
22. 10	20. 59. 40	22. 26	·0918					
22. 17	21. 1. 30	22. 35	·0920					
22. 30	1. 30	22. 41	·0914					
23. 0	2. 55	22. 52	·0916					
23. 10	2. 30	23. 0	·0916					
23. 17	3. 15		(†)					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Jan. 21								
h m	° ′ ″	h m		h m		h m	°	°
23. 24	21. 2. 10							
23. 59	4. 55							
Jan. 22		Jan. 22		Jan. 22		Jan. 22		
0. 0	21. 5. 0		(†)	0. 0	·02572	0. 0	42 ·7	44 ·2
0. 12	6. 0	1. 0	·0913*	2. 0:	·02510	1. 0	44 ·0	45 ·2
0. 23	4. 30	1. 23	·0917	4. 7	·02182	3. 0	47 ·0	48 ·0
0. 33	4. 40	1. 38	·0918	7. 16	·02252	6. 0	48 ·5	49 ·5
0. 42	6. 0	2. 17	·0921	8. 15	·02244	9. 0	48 ·0	49 ·3
1. 6	3. 20	2. 28	·0918	8. 29	·02305	18. 0	38 ·8	39 ·3
1. 37	3. 25	2. 52	·0924	10. 10	·02263	21. 0	41 ·8	45 ·0
1. 49	4. 0	3. 16	·0920	14. 42	·02404	22. 0	42 ·7	45 ·0
2. 34	1. 20	3. 25	·0929	15. 17	·02396	23. 0	43 ·5	45 ·0
2. 53	2. 10	3. 35	·0924	17. 15	·02438			
3. 16	1. 40	3. 45	·0926	21. 59	·02807			
	***	4. 8	·0917	23. 59	·02910			
3. 48	3. 40	4. 22	·0922					
4. 7	2. 20	4. 30	·0921					
4. 36	1. 50	5. 8	·0929					
5. 15	2. 50	5. 21	·0918					
5. 27	1. 15	5. 54	·0925					
6. 51	1. 45	6. 8	·0923					
7. 5	0. 30	6. 17	·0924					
7. 39	21. 2. 45	6. 30	·0923					
8. 21	20. 47. 0	6. 38	·0924					
8. 42	56. 50	7. 3	·0920					
8. 56	59. 25	7. 37	·0926					
9. 20	59. 35	7. 39	·0924					
9. 59	58. 0	7. 43	·0924					
10. 48	57. 45	7. 53	·0917					
11. 7	57. 30	8. 2	·0920					
11. 30	58. 0	8. 7	·0920					
12. 27	58. 0	8. 22	·0934					
12. 39	55. 15	8. 39	·0914					
13. 10	20. 54. 45	8. 48	·0919					
13. 48	21. 0. 0	8. 55	·0917					
14. 1	4. 10	9. 35	·0918					
14. 24	1. 0	9. 51	·0922					
14. 33	2. 10	9. 55	·0920					
14. 41	1. 20	10. 37	·0922					
15. 1	2. 30	10. 51	·0925					
15. 19	6. 5	10. 55	·0922					
15. 53	7. 40	11. 4	·0922					
16. 9	7. 40	11. 11	·0928					
16. 28	2. 50		***					
16. 41	5. 40	12. 25	·0925					
16. 51	5. 45	12. 37	·0929					
17. 10	3. 40		***					
17. 24	3. 40	12. 57	·0925					
17. 40	4. 50	13. 0	·0929					
17. 54	8. 20	13. 18	·0927					
18. 1	8. 0	13. 23	·0932					
18. 14	10. 50	13. 31	·0926					
19. 2	21. 2. 5	13. 47	·0929					
19. 33	20. 59. 30	14. 3	·0925					
19. 50	21. 1. 40	14. 30	·0922					
20. 14	21. 1. 55	14. 43	·0923					
20. 35	20. 58. 50	15. 7	·0934					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Jan. 22

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
20.43	21. 0.10
20.57	20.59. 0
21.16	20.59. 0
21.35	21. 3. 5
21.45	3.35
22. 7	2. 0
22.20	3.50
22.52	3.20
22.58	4.20
23.10	2.30
23.17	3.15
	(†)

Greenwich Mean Solar Time. (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
15.22	·0935
15.36	·0942
15.43	·0936
15.49	·0936
16.12	·0926
16.26	·0933
16.36	·0931
17. 0	·0940
17. 9	·0940
17.31	·0922
17.52	·0924
17.58	·0921
18.21	·0909
18.42	·0919
18.53	·0917
19. 6	·0922
19. 9	·0922
19.22	·0931
19.43	·0926
19.56	·0930 ***
20.25	·0924
20.31	·0925
20.36	·0923
20.40	·0926
21.26	·0915
21.35	·0919
21.45	·0914
21.54	·0914
22. 5	·0919
22. 7	·0909
22.20	·0919 ***
22.54	·0910
23. 8	·0913
23.37	·0907
23.59	·0907

Jan. 23

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
	(†)
0. 6	21. 3. 0
0.15	3.10
0.19	5.10
0.27	5.25
1. 4	4.10
1.11	4.45
3. 0	21. 0.20
3.28	20.59.45
4.32	56.10
6.10	58.25
7. 0	57. 0
7.18	57.20
7.44	54.45
8.10	49. 0
8.23	51. 0
8.50	47. 0
9.16	52.55
9.26	52.50
9.48	20.56.20
10. 3	57.10
10.46	57.15
12.17	58.30
13. 6	59.40
14.17	20.59. 0
14.40	21. 0.25
15.13	20.58.45
15.31	59.25
15.43	58.40
16.13	59.15
16.27	58.45 ***
18.23	58.40 ***
20.12	57.40
21. 0	20.58.25
23. 0	21. 4. 0
23.59	3. 0

Greenwich Mean Solar Time. (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
0. 0	·0906
0.27	·0912
0.46	·0908
1.30	·0916
2.35	·0918
2.41	·0918
3.10	·0921
3.38	·0917
3.54	·0915
4. 7	·0909
4.38	·0918
4.42	·0917
5. 8	·0922
5.41	·0918
6. 4	·0921
6.19	·0917
6.54	·0921
7.24	·0919
7.37	·0921 ***
8. 8	·0914 ***
8.20	·0921
8.34	·0915
8.42	·0914
8.52	·0919
8.57	·0917
9. 8	·0919
9.20	·0915
9.53	·0922
10.17	·0920
10.31	·0922 ***
13.15	·0921
15. 2	·0925
16.27	·0924
17.21	·0927
17.38	·0926
18. 1	·0927
18.18	·0925
18.37	·0926
18.50	·0924
18.54	·0925
19.32	·0923
19.59	·0924
20.12	·0922
20.30	·0924
20.37	·0923
21.17	·0921
23.22	·0910
23.45	·0911
	(†)

Greenwich Mean Solar Time. (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
0. 0	·02910
0.39	·02869
2. 9	·02862
3. 5	·02820
5.26	·02641
8. 6	·02560
15.44	·02691
18.38:	·02790
22.11	·02770
23.59	·02688

Greenwich Mean Solar Time. (h m)	Readings of Thermometers. Of H. F. Magnet. (°)	Of V. F. Magnet. (°)
0. 0	43·8	45·1
1. 0	44·2	45·4
2. 0	45·1	46·0
3. 0	46·0	47·0
9. 0	46·5	47·5
21. 0	47·0	48·8

Jan. 24

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
0. 0	21. 3. 0
0.37	3.15
0.42	2.30
0.58	3.20
1.35	3.30
2. 8	2.15
2.45	2.15
3.10	1.20
3.43	21. 1.20
4.35	20.58.25
5.39	21. 0.35
6. 5	20.59.55
6.11	21. 0.10
7. 1	20.58.30
7.11	58.50
7.43	56.15
7.48	54.45
8. 0	55.50
8.31	54.10
9.24	57.40
10.14	57.30
10.25	56.35
10.43	57. 0
11. 8	56.10

Greenwich Mean Solar Time. (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
	(†)
1. 0	·0907*
1.22	·0909
2.25	·0913
2.26	·0908
2.46	·0910
2.55	·0907 ***
3.48	·0906
4.10	·0908
4.30	·0906
5. 7	·0911
5.27	·0909
7. 5	·0914
7.25	·0912
7.39	·0913
7.52	·0921
8. 0	·0919 ***
8.21	·0919
8.38	·0924
9.17	·0918
9.38	·0919
9.57	·0917

Greenwich Mean Solar Time. (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
0. 0	·02688
1.28	·02563
4.21	{ ·02237 ·02266
6.23	·02305
8.12	·02296
12.52	·02325
22.17	·02600
23.59	·02546

Greenwich Mean Solar Time. (h m)	Readings of Thermometers. Of H. F. Magnet. (°)	Of V. F. Magnet. (°)
1. 0	51·0	51·3
3. 0	52·7	52·3
9. 0	51·8	51·7
21. 0	48·5	51·0

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Jan. 24		Jan. 24						
h m	° ′ ″	h m		h m		h m	°	°
11.37	20.57.15	10. 9	·0920					
12.12	56.50	10.33	·0916					
12.36	53.45	10.52	·0919					
12.43	49.20	11.15	·0919					
12.55	52.15	11.25	·0916					
13.16	48.45	11.35	·0916					
14.15	56.50	11.40	·0913					
15.13	58. 0	11.58	·0919					
15.27	56.30	12. 8	·0917					
16.19	57. 0	12.21	·0918					
16.37	57.55	12.47	·0907					
	***		***					
18. 6	58. 0	13. 4	·0912					
18.44	59.30	13.10	·0910					
19. 7	58. 0	13.32	·0917					
19.24	58.30	14. 0	·0919					
19.58	56.50	14.15	·0917					
20.16	57.10	14.24	·0920					
20.28	56.30	14.54	·0921					
21. 1	56.50	15. 8	·0924					
21.24	57.20	18. 6	·0931					
21.33	59.30	19. 8	·0930					
21.40	58.40	20.26	·0921					
22. 1	20.58.40	20.57	·0915					
23.36	21. 2.50	21.16	·0913					
23.59	1.50	21.24	·0917					
		22. 2	·0909					
		22.17	·0910					
		22.42	·0905					
		23. 6	·0905					
		23.26	·0910					
		23.59	·0906					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force.	Greenwich Mean Solar Time.	Vertical Force.	Greenwich Mean Solar Time.	Of H. F. Magnet.	Of V. F. Magnet.
Jan. 25		Jan. 25		Jan. 25		Jan. 25		
0. 0	21. 1.50	0. 0	·0906	0. 0	·02546	1. 0	50 ·3	51 ·8
0.34	3. 0	0.33	·0908	2.56	·02460	3. 0	51 ·2	52 ·6
1. 7	2.30	0.53	·0903	7.33:	·02277	9. 0	48 ·0	50 ·5
1.46	21. 3.15	1.30	·0913	14.38	·02628	21. 0	39 ·8	43 ·0
4.15	20.59.30	2.42	·0915	19.18	·03101			
	***	3. 8	·0918	22.39	·03019			
6.52	59. 0	4. 6	·0914	23.59	·03026			
7.15	57. 0	5.47	·0920					
7.46	58.25	6.53	·0920					
9.10	58.40	7.13	·0919					
9.57	57.35	8.26	·0927					
10.26	58.20	8.52	·0925					
11. 6	56.50	9.17	·0923					
11.29	20.56.40	9.30	·0925					
13.55	21. 0.10	9.47	·0923					
14.30	4. 0	11.17	·0929					
14.57	21. 1.10	11.39	·0926					
15.19	20.59.20	12.40	·0925					
16.10	57.55	13. 8	·0926					
17. 4	57.50	13.20	·0926					
18.47	20.59. 0	13.38	·0928					
19.37	21. 0.30	14. 6	·0927					
19.56	20.59.30	14.22	·0929					
21.14	20.58.30	15.42	·0930					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Jan. 25		Jan. 25						
h m	° ′ ″	h m		h m		h m	°	°
22. 5	21. 0.55	15.52	·0933					
22.18	1. 0	16.22	·0933					
23.21	4.30	17. 7	·0936					
23.44	5. 0	17.41	·0934					
23.59	4.30	18. 9	·0935					
		18.36	·0933					
		18.45	·0934					
		19. 7	·0932					
			***					
		19.38	·0934					
		19.52	·0933					
		20. 6	·0935					
		21. 1	·0931					
		21.32	·0932					
		22.35	·0933					
		23.59	·0927					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force.	Greenwich Mean Solar Time.	Vertical Force.	Greenwich Mean Solar Time.	Of H. F. Magnet.	Of V. F. Magnet.
Jan. 26		Jan. 26		Jan. 26		Jan. 26		
0. 0	21. 4.30	0. 0	·0927	0. 0	·03026	9. 38	45 ·8	48 ·0
1.17	5.45	1.40	·0921	2. 5	·03005	21. 0	41 ·8	45 ·0
2.10	5.10	2.39	·0920	9.15:	·02367			
3.26	1.50	2.48	·0921	14.22	·02417			
4.37	21. 0.50	3. 1	·0918	23.59	·02739			
5.49	20.59. 0	3.32	·0917					
9.34	57.55	4. 2	·0919					
13.30	59. 0	4.47	·0919					
19.27	57.30	4.59	·0920					
20.28	56.30	5.35	·0924					
21. 1	20.56.55	9.46	·0926					
23.46	21. 3.40	10.15	·0928					
23.59	3.30	13.12	·0929					
		14.17	·0931					
		16. 0	·0934					
		18.42	·0935					
		19.23	·0935					
		20.24	·0931					
		22. 6	·0927					
		23.37	·0924					
			(†)					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force.	Greenwich Mean Solar Time.	Vertical Force.	Greenwich Mean Solar Time.	Of H. F. Magnet.	Of V. F. Magnet.
Jan. 27		Jan. 27		Jan. 27		Jan. 27		
0. 0	21. 3.30		(†)	0. 0	·02739	1. 0	45 ·3	46 ·5
0.18	2.25	0.20	·0922	2. 3	·02720	3. 0	47 ·0	47 ·5
1.24	2.35		***	5. 0	·02378	9. 0	46 ·3	48 ·5
2.41	21. 1. 0	0.43	·0921	6.58	·02204	21. 0	41 ·0	44 ·3
5.20	20.58.30	1. 5	·0925	9.51	·02142			
5.45	58.30	1.15	·0924	13.17	·02228			
7. 7	57.30	2. 6	·0921	23. 4	·02729			
7.30	55.35	3. 6	·0918	23.59	·02758			
8. 7	57.10	3.24	·0919					
8.20	55.50	4. 0	·0918					
8.36	55.35	4.25	·0919					
9. 9	57.20	5.21	·0916					
12. 2	58.15	7. 6	·0922					
15. 1	57.25	7.20	·0919					
15.31	58.30	7.39	·0923					
18. 6	58.10	8.16	·0922					
20.43	55.30	10.30	·0929					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.
Jan. 27 h m	° ′ ″
21. 51	20. 57. 10
23. 59	21. 2. 15
Jan. 28	
0. 0	21. 2. 20
0. 29	2. 40
2. 9	21. 2. 55
4. 14	20. 59. 40
4. 45	21. 0. 15
7. 50	20. 57. 45
11. 44	58. 10
12. 13	57. 50
13. 8	58. 45
15. 17	59. 45
15. 42	59. 5
16. 30	59. 35
20. 49	55. 50
22. 2	20. 57. 35
23. 59	21. 0. 40
Jan. 29	
0. 0	21. 0. 45
1. 43	3. 5
4. 46	21. 0. 0
7. 31	20. 58. 30
9. 48	58. 0
10. 51	57. 45
11. 0	58. 10
11. 42	56. 0
11. 54	57. 0
12. 0	55. 25
12. 18	54. 20
12. 57	54. 0
13. 13	54. 40
13. 30	53. 50
15. 54	20. 59. 55
16. 5	21. 1. 30
16. 22	20. 58. 25
16. 54	21. 6. 0
17. 24	20. 58. 25
17. 48	58. 50
18. 0	58. 0 ***
Jan. 29 h m	° ′ ″
18. 44	20. 59. 50 ***
19. 33	59. 30
19. 51	58. 30
19. 59	59. 35
20. 27	57. 30
22. 30	59. 20
22. 36	20. 59. 0
23. 59	21. 1. 30
Jan. 30	
0. 0	21. 1. 50
0. 23	2. 50
0. 30	1. 55
1. 0	3. 55 ***
3. 26	1. 0
4. 17	0. 10
4. 47	21. 0. 20
8. 9	20. 57. 55
8. 47	58. 0
9. 2	57. 30
10. 29	57. 30
16. 35	59. 50 ***
17. 49	20. 59. 30
17. 56	21. 0. 25
18. 4	20. 59. 0
18. 13	21. 1. 10
18. 17	0. 10
18. 23	21. 1. 40
18. 33	20. 59. 45
18. 40	21. 2. 0
18. 46	0. 50
18. 51	1. 30
19. 10	21. 0. 40
19. 28	20. 59. 10
20. 1	59. 0
20. 25	57. 30
20. 30	55. 20
20. 50	57. 20
21. 54	57. 0

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Jan. 27 h m	
10. 41	·0926
11. 7	·0930
11. 22	·0929
17. 12	·0942
19. 17	·0940
21. 52	·0929
22. 38	·0927
23. 59	·0930
Jan. 28	
0. 0	·0930
1. 5	·0929
1. 21	·0931
2. 8	·0931
3. 24	·0927
3. 45	·0924
4. 31	·0921
8. 10	·0930
8. 28	·0928
9. 47	·0929
11. 45	·0931
12. 3	·0933
12. 14	·0932
14. 24	·0933
18. 23	·0937
19. 9	·0937
19. 23	·0936
20. 45	·0934
21. 41	·0928
21. 52	·0929
22. 58	·0926
23. 18	·0926
23. 23	·0924
23. 59	·0923
Jan. 29	
0. 0	·0923
0. 12	·0923
0. 36	·0921
1. 19	·0921
2. 38	·0923
2. 53	·0925
3. 3	·0924
7. 21	·0927
10. 21	·0922
11. 6	·0925
11. 13	·0947 ***
11. 45	·0926
12. 3	·0924
12. 9	·0928
12. 30	·0927
12. 36	·0926
12. 42	·0930 ***
13. 8	·0923 ***
13. 37	·0924
Jan. 29 h m	
13. 40	·0920
13. 48	·0924 ***
15. 38	·0932
16. 33	·0924
16. 58	·0946 ***
17. 46	·0941 ***
18. 25	·0932
18. 39	·0936
18. 51	·0924
18. 59	·0937 ***
19. 58	·0934
20. 12	·0928 ***
21. 19	·0925
21. 40	·0915
21. 54	·0915
22. 19	·0912
22. 45	·0904
22. 55	·0907
23. 18	·0904 (†)
Jan. 30	(†)
1. 0	·0907*
1. 31	·0907
3. 2	·0914
3. 20	·0914
3. 35	·0917
4. 20	·0915
4. 37	·0922
4. 53	·0918
5. 53	·0921
7. 51	·0922
8. 8	·0919
9. 35	·0925 ***
11. 9	·0923
11. 20	·0924
11. 29	·0922
12. 53	·0920
13. 8	·0921
13. 44	·0920
16. 25	·0926
16. 31	·0924
16. 37	·0926 ***
17. 57	·0927 ***
18. 8	·0922
18. 16	·0925 ***
18. 57	·0930
19. 22	·0928

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
Jan. 28	
0. 0	·02758
2. 12	·02826
6. 53:	·02333
10. 28	·02140
10. 34	·02161
13. 44	·02166
17. 18	·02212
20. 59	·02304
23. 59	·02437
Jan. 29	
0. 0	·02437
1. 39:	·02430
3. 40	·02201
7. 7	·02267
12. 37	·02284
12. 44	·02305
13. 45	·02282
17. 0	·02279
17. 20	·02250
21. 28	{ ·02271 ·02482
23. 24	·02498
23. 59	·02450
h m	
Jan. 30	
0. 0	·02450
1. 3	·02466
1. 38	·02430
2. 1	·02433
2. 14	·02458
2. 56	·02424
5. 46	·02443
6. 0	·02524
7. 52	·02512
12. 35	·02573
13. 53	·02600
18. 9	·02551
21. 24	·02470
21. 47	·02503
23. 59	·02480

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Jan. 28		
1. 0	43 ·0	45 ·0
3. 0	46 ·0	47 ·2
9. 0	49 ·0	50 ·5
21. 0	47 ·3	49 ·8
22. 0	47 ·5	50 ·0
23. 0	48 ·1	50 ·2
Jan. 29		
0. 0	49 ·0	50 ·3
1. 0	49 ·7	50 ·6
2. 0	51 ·0	52 ·1
3. 0	52 ·3	53 ·5
6. 0	54 ·0	54 ·5
9. 33	54 ·0	54 ·4
12. 0	53 ·9	54 ·5
21. 0	53 ·2	55 ·0
22. 0	53 ·7	55 ·2
23. 0	54 ·2	55 ·3
h m	°	°
Jan. 30		
0. 0	54 ·6	55 ·7
1. 0	55 ·3	55 ·8
2. 0	56 ·0	56 ·4
3. 0	56 ·2	56 ·6
9. 0	54 ·5	55 ·9
21. 0	53 ·6	55 ·2

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Jan. 30		Jan. 30						
h m	° ′ ″	h m		h m		h m	°	°
22. 35	20. 58. 0	19. 40	·0922					
22. 51	57. 0	20. 3	·0923					
23. 0	20. 57. 35	20. 22	·0932					
23. 10	21. 0. 20	20. 52	·0928					
23. 25	0. 15		(†)					
23. 39	1. 40	21. 0	·0930*					
23. 49	0. 50							
23. 59	2. 0							
Jan. 31		Jan. 31		Jan. 31		Jan. 31		
0. 0	21. 2. 0		(†)	0. 0	·02480	1. 0	55·8	56·7
0. 14	3. 40	0. 43	·0916	0. 13	·02513	3. 0	57·0	58·6
0. 40	1. 10		***	0. 45	·02492	9. 0	57·0	58·8
0. 53	3. 0	1. 9	·0907	0. 54	·02670	21. 0	54·8	56·2
1. 2	2. 40	1. 24	·0911	2. 25	·02640			
1. 29	2. 50	2. 5	·0924	3. 24	·02552			
1. 38	3. 50	2. 18	·0928	3. 37	·02578			
1. 48	3. 30	2. 38	·0926	4. 8	·02554			
1. 54	4. 0	2. 52	·0933	5. 15	·02547			
2. 19	3. 30	3. 22	·0921	5. 28	·02593			
2. 28	2. 55	3. 54	·0922	6. 37	·02572			
2. 52	4. 0	4. 17	·0925	6. 45	·02634			
3. 3	3. 50	4. 42	·0923	7. 43	·02598			
3. 23	2. 0	5. 5	·0926	11. 25	·02580			
3. 45	0. 45		***	15. 19	·02672			
4. 32	0. 20	5. 32	·0919	22. 17	·02803			
5. 13	1. 10		***	23. 45	·02736			
5. 35	1. 50	5. 50	·0918		(†)			
6. 3	21. 1. 35	6. 35	·0898					
6. 44	20. 54. 5	6. 53	·0908					
7. 27	21. 0. 10	7. 1	·0909					
7. 44	20. 58. 50	7. 10	·0914					
7. 59	58. 25	7. 38	·0907					
8. 10	59. 0	7. 46	·0908					
8. 17	58. 45	7. 55	·0905					
8. 38	59. 15	8. 7	·0909					
9. 10	58. 10	8. 42	·0910					
9. 51	58. 15	8. 51	·0912					
10. 0	58. 25	9. 10	·0916					
10. 6	57. 50	9. 32	·0915					
10. 31	58. 35	10. 7	·0920					
11. 11	56. 0	10. 40	·0916					
11. 30	58. 40	10. 55	·0919					
11. 40	20. 58. 20	11. 7	·0918					
12. 7	21. 1. 20	11. 24	·0923					
12. 24	20. 59. 35	11. 38	·0918					
12. 57	58. 25	12. 6	·0919					
13. 13	59. 30	12. 21	·0915					
13. 27	59. 0	12. 38	·0930					
13. 55	56. 10	12. 56	·0925					
14. 19	55. 0	13. 17	·0926					
14. 34	54. 30	13. 37	·0924					
14. 57	54. 35	13. 50	·0922					
15. 24	56. 45	14. 8	·0924					
16. 44	58. 0	14. 30	·0923					
17. 16	58. 10	14. 38	·0921					
17. 24	58. 40	16. 30	·0925					
18. 41	58. 50	16. 44	·0923					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Jan. 31		Jan. 31						
h m	° ′ ″	h m		h m		h m	°	°
19. 31	20. 59. 50	18. 8	·0924					
19. 37	59. 0	18. 24	·0923					
20. 22	20. 59. 20	18. 41	·0924					
20. 37	21. 0. 35	19. 0	·0923					
21. 0	1. 25	19. 51	·0917					
21. 33	0. 30	20. 4	·0916					
22. 50	5. 0	20. 8	·0912					
22. 59	3. 50	21. 15	·0908					
23. 6	6. 0	21. 39	·0910					
23. 34	7. 0	22. 35	·0905					
23. 59	6. 40	22. 40	·0906					
		22. 53	·0902					
		23. 7	·0910					
		23. 24	·0904					
		23. 59	·0910					
Feb. 1		Feb. 1		Feb. 1		Feb. 1		
0. 0	21. 6. 40	0. 0	·0910		(†)	1. 0	56·0	58·0
0. 25	5. 15	0. 7	·0908	0. 19	·02768	3. 0	57·0	58·5
1. 8	6. 50	0. 58	·0917	2. 27:	·02780	9. 0	56·7	58·0
3. 15	21. 2. 0	1. 22	·0915	5. 50	{ ·02559	22. 0	52·0	53·4
3. 35	20. 56. 45	2. 7	·0915		·02760			
3. 58	20. 59. 35		(†)	8. 35:	·02675			
4. 26	21. 0. 10	10. 22	·0921	12. 48	·02706			
5. 11	20. 59. 20	11. 9	·0921	22. 48	{ ·03034			
5. 23	21. 0. 0	11. 28	·0920		·03172			
6. 43	20. 59. 15	11. 51	·0925	23. 59	·03185			
7. 26	59. 0	12. 19	·0923					
8. 13	57. 40	12. 38	·0926					
8. 22	58. 5	12. 47	·0920					
8. 58	56. 0	13. 0	·0924					
9. 0	54. 15	13. 12	·0923					
9. 5	54. 10	13. 26	·0924					
9. 27	57. 0	13. 42	·0922					
9. 48	49. 40	14. 6	·0923					
10. 24	54. 45	15. 47	·0928					
11. 28	57. 5	15. 55	·0931					
13. 7	55. 55	16. 3	·0929					
13. 27	57. 0	16. 10	·0933					
14. 2	56. 0	16. 51	·0934					
15. 29	57. 40	17. 1	·0937					
20. 21	57. 15	17. 9	·0935					
21. 10	20. 58. 5	17. 53	·0937					
	(†)	18. 22	·0935					
23. 59	21. 1. 35	18. 30	·0936					
		19. 3	·0929					
		21. 37	·0927					
			(†)					
Feb. 2		Feb. 2		Feb. 2		Feb. 2		
0. 0	21. 1. 40		(†)	0. 0	·03185	8. 30	53·0	53·8
0. 10	3. 0	6. 37	·0920	2. 45	·03205	21. 0	52·2	53·5
0. 26	3. 15	7. 4	·0926	9. 10	·03161			
0. 33	2. 45	7. 53	·0931	10. 28	·03160			
0. 50	5. 0	8. 10	·0927	11. 22	·03143			
1. 7	4. 25	8. 46	·0929	13. 28	·03192			
1. 26	5. 20	9. 21	·0925	13. 37	·03181			

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Western Declination

Greenwich Mean Solar Time.	Western Declination.
Feb. 2	
h m	° ′ ″
1.45	21. 3.15
2.18	1.50
2.28	2.10
2.38	0.50
3.19	21. 0.40
3.31	20.59.45
4.43	21. 2.10
4.54	1.15
5.24	1.20
5.41	4. 0
5.54	4.30
6. 0	3.55
6.15	4.30
6.37	21. 2.20
7.24	20.59.15
8.36	57.50
9.10	58.10
9.29	57.50
9.39	57.10
9.58	57.10
10.40	53. 5
11. 0	53.15
11.31	56.50
11.43	56.40
12. 1	57.40
20.50	20.57.40
23. 1	21. 1.10
23.49	2. 5
23.59	2.40
Feb. 3	
0. 0	21. 2.50
0.37	3.55
2.22	21. 3. 0
4.14	20.59.20
4.50	21. 0.15
5.35	20.59.20
5.45	59.45
5.55	59.10
6. 6	59.30
6.40	58.15
7.15	59.40
9. 1	58.15
11.13	57.40
11.33	54.35
11.55	53.10
12. 9	54.10
12.24	54.15
12.46	56.25
13.17	56.45
13.22	57.30
13.46	57.10
14.14	58. 0
14.37	57.20
15.38	58. 0
16.15	59.40
18.26	57.45
18.57	58. 0
21.44	20.58.10
22.55	20.59.30
23.14	21. 0.55
23.59	1.10
Feb. 4	
	(†)
0.36	21. 3.20
0.44	4.35
1. 1	4.20
1.21	4.55
1.29	5.45
1.37	4.15
1.48	5.40
2. 5	4.20
2.54	21. 3.55
4.26	20.59.15
5. 0	21. 2.30
5.16	1. 0
5.44	2.10
6.56	21. 0.30
7.46	20.59.25
9.36	58.50
9.44	57.50
10.22	58.30
10.55	57.35
11.16	58. 0
11.31	59.20
11.50	59.15
12.19	58. 0
12.44	59. 0
13.29	58. 5
17.44	58.30
18. 7	59.45
18.36	58.30
21. 1	20.57. 0
	***
23.54	21. 5. 0
23.59	4.35
Feb. 5	
0. 0	21. 4.45
0. 2	4. 0
0.19	5. 5
0.44	4.55
0.45	5. 0
1. 0	4.40
1.27	5. 0
2.12	4. 0
2.30	3. 0

Horizontal Force in parts of the whole H. F. uncorrected for Temperature

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Feb. 2	
h m	
9.48	·0924
10.45:	·0945
11.33	·0929
11.57	·0927
13. 5	·0928
13.21	·0930
14.53	·0930
15. 9	·0932
19.23	·0933
21.44	·0918
23.21	·0914
23.59	·0915
Feb. 3	
0. 0	·0915
0.28	·0912
2. 9	·0920
2.33	·0918
	(†)
3. 0	·0927*
3.35	·0924
4.21	·0919
5.11	·0918
5.50	·0919
6.27:	·0911
7. 0	·0922
8.48	·0924
9. 0	·0926
11.11	·0924
11.38	·0934
12.26	·0922
12.40	·0923
13.26	·0923
14.51	·0927
17.12	·0932
19.53	·0928
21.38	·0921
21.56	·0918
22.52	·0917
23. 7	·0919
23.40	·0913
23.59	·0914
Feb. 4	
0. 0	·0914
0.19	·0914
	(†)
1. 0	·0913*
2. 0	·0927
2.28	·0926
3.14	·0927
4. 3	·0924
4.10	·0925
4.23	·0922
4.45	·0923
5. 4	·0921
5.30	·0926
7.21	·0929
7.54	·0926
9. 7	·0926
9.17	·0923
9.34	·0922
9.51	·0925
10. 8	·0925
11.31	·0931
11.39	·0930
12. 0:	·0935
12.37	·0928
12.54	·0928
13. 0	·0930
13.40	·0928
13.52	·0930
14.58	·0929
15.11	·0931
15.23	·0930
17.49	·0932
17.58	·0930
18.35	·0933
20. 7	·0932
21. 4	·0926
21.10	·0924
21.29	·0924
22. 0	·0917
22.21	·0916
	(†)
Feb. 5	
	(†)
0. 8	·0913
2.27	·0929
2.53	·0929
3. 8	·0930
5. 0	·0930
8.54	·0934
9.34	·0933
9.49	·0934

Vertical Force in parts of the whole V. F. uncorrected for Temperature

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
Feb. 2	
h m	
22. 5	{ ·03167 / ·03092
23.59	·03017
Feb. 3	
0. 0	·03017
1.19	·02875
5.15:	·02410
8. 0	·02204
11.28	·02193
13. 2	{ ·02164 / ·02300
18.28	·02538
21.24	·02622
22.56	·02684
23.59	·02705
Feb. 4	
0. 0	·02705
1. 0	·02637
1.36	·02666
3. 3	·02603
5.45	·02340
7.36	·02216
7.39	·02242
8.22	·02244
8.27	·02298
10.37	·02261
10.42	·02342
12.24	·02327
16.37	·02430
17.45	·02518
20.26	·02621
22.21	·02750
23.59	·02738
Feb. 5	
0. 0	·02738
0.42	·02693
1.37	·02724
2.42	·02682
5.30	·02428
7.12	{ ·02334 / ·02460
10.40:	·02446
13.38	·02528

Readings of Thermometers

Greenwich Mean Solar Time.	Of H. F. Magnet.	Of V. F. Magnet.
Feb. 2		
h m	°	°
Feb. 3		
1. 0	54·6	55·3
3. 0	55·8	56·6
9. 0	55·0	57·0
21. 0	51·6	53·8
Feb. 4		
1. 0	54·0	55·2
3. 0	55·0	56·8
9. 0	57·5	59·2
21. 0	53·0	54·3
22. 0	53·0	54·3
23. 0	53·3	54·6
Feb. 5		
0. 0	53·6	55·0
1. 0	54·7	55·4
2. 0	55·3	56·0
3. 0	55·8	56·3
6. 0	55·6	56·1
9. 0	55·2	56·0
12. 0	54·0	55·3
18. 0	50·2	52·3
21. 0	49·6	51·8

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.
Feb. 5 h m	° ′ ″
2. 36	21. 3. 5
2. 50	2. 0
3. 23	0. 35
4. 15	21. 0. 10
9. 57	20. 58. 0
12. 35	57. 30
12. 45	57. 45
13. 11	57. 0
14. 12	57. 30
17. 33	58. 25
18. 39	59. 10
19. 20	58. 5
19. 58	58. 30
20. 5	58. 0
20. 13	58. 10
20. 33	57. 0
20. 44	57. 15
21. 3	56. 35
22. 50	20. 58. 50
23. 15	21. 0. 15
23. 30	3. 35
23. 39	3. 0
23. 48	4. 0
23. 57	3. 40
23. 59	3. 50
Feb. 6	
0. 0	21. 4. 0
0. 29	6. 10
0. 33	7. 30
0. 42	7. 0
0. 48	7. 30
0. 57	6. 10
1. 10	7. 30
1. 29	4. 50
1. 36	6. 50
1. 44	4. 30
1. 57	7. 30
2. 0	5. 15
2. 22	3. 55
2. 57	4. 5
3. 6	2. 55
3. 46	2. 55
4. 0	2. 0
4. 54	21. 1. 45
5. 30	20. 58. 50
6. 4	59. 30
6. 54	58. 50
7. 22	54. 10
7. 44	54. 50
7. 55	56. 10
8. 18	55. 50
9. 1	56. 15
9. 17	57. 0
9. 45	57. 5
9. 59	20. 55. 0
10. 16	54. 40
10. 44	56. 5
11. 0	55. 25
11. 15	56. 30
12. 0	56. 0
12. 33	57. 10
12. 54	56. 0
13. 12	56. 20
13. 30	55. 0
13. 43	55. 30
14. 1	54. 45
14. 22	56. 10
15. 17	57. 5
16. 10	58. 10
16. 20	58. 35
16. 45	20. 57. 50
17. 37	21. 0. 5
19. 3	20. 58. 0
19. 45	58. 5
20. 28	20. 58. 45
20. 48	21. 0. 45
21. 13	20. 59. 50
	(†)
22. 46	21. 4. 35
22. 52	3. 10
	***
23. 39	3. 10
23. 55	2. 10
23. 59	2. 30
Feb. 7	
0. 0	21. 2. 45
0. 29	2. 45
0. 56	2. 15
1. 2	2. 50
1. 13	2. 20

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Feb. 5 h m	
10. 20	·0932
11. 47	·0934
12. 11	·0937
12. 38:	·0934
13. 7	·0937
13. 53:	·0933
14. 21	·0935
14. 28	·0934
16. 3	·0940
16. 22	·0939
17. 21	·0945
17. 46	·0943
18. 53	·0953
19. 43	·0950
19. 53	·0951
20. 0	·0950
20. 12	·0953
21. 28	·0945
21. 32	·0946
21. 46	·0942
22. 0:	·0943
22. 42	·0935
23. 8	·0936
23. 13	·0934
23. 28	·0939
23. 36	·0937
23. 41	·0938
23. 59	·0932
Feb. 6	
0. 0	·0932
0. 20	·0925
0. 36	·0933
0. 48	·0928
0. 55	·0926
1. 6	·0929
1. 8	·0927
1. 21	·0928
1. 23	·0925
1. 35	·0929
1. 40	·0921
1. 55	·0932
1. 56	·0927
2. 7	·0927
2. 20	·0922
3. 0	·0929
3. 9	·0930
3. 17	·0928
3. 40	·0931
	***
4. 8	·0924
	***
5. 0	·0928
5. 9	·0926
5. 25:	·0931
5. 39	·0928
6. 6	·0925
7. 4	·0935
7. 24	·0923
7. 35	·0925
7. 38	·0925
8. 7	·0932
8. 16	·0930
9. 5	·0935
9. 21	·0937
9. 49	·0941
10. 10	·0938
10. 24	·0938
10. 41	·0942
10. 52	·0941
11. 22	·0944
11. 36	·0943
12. 0	·0946
12. 11	·0945
12. 26	·0949
12. 49	·0949
13. 5	·0953
13. 11	·0949
13. 21	·0950
13. 48	·0948
14. 1	·0951
14. 33	·0952
14. 41	·0951
15. 36	·0956
16. 31	·0955
16. 38	·9956
16. 48	·0954
16. 53	·0956
17. 18	·0953
18. 23	·0961
18. 55	·0958
19. 11	·0959
19. 18	·0957
19. 25	·0958
20. 7	·0952
20. 22	·0952
20. 30	·0950
20. 48	·0949
21. 9	·0953
	(†)
22. 23	·0957
22. 39	·0953
22. 52	·0954
23. 7	·0952
23. 10	·0953
23. 16	·0959
23. 22	·0957
23. 32	·0958
23. 59	·0944
Feb. 7	
0. 0	·0944
0. 21	·0945
0. 34	·0951
0. 51	·0948
1. 0	·0949

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
Feb. 5 h m	
23. 2	·03035
23. 59	·03018
Feb. 6	
0. 0	·03018
0. 53	·03004
1. 51	·03013
3. 53	·02887
7. 18	·02723
10. 12	·02776
13. 27	·02972
14. 47	{ ·03105 ·03078
19. 39	·03004
23. 59	·02850
Feb. 7	
0. 0	·02850
0. 23	·02880
1. 47	·02886
5. 27	·02645
6. 45	·02589

Greenwich Mean Solar Time.	Reading of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Feb. 5 h m	°	°
22. 0	49·8	51·8
23. 0	50·5	52·3
Feb. 6		
0. 0	51·0	52·7
1. 0	51·3	53·0
2. 0	52·3	53·7
3. 0	53·2	54·3
9. 0	51·5	52·6
21. 0	42·0	45·0
Feb. 7		
1. 0	43·0	45·0
3. 0	45·8	46·5
9. 0	44·2	46·0
21. 0	36·0	40·0

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.
Feb. 7 h m	° ′ ″
1.30	21. 2.40
1.40	2. 0
2. 8	3. 5
2.28	2.10
2.54	2.10
3.20	1.15
5.40	21. 0.35
5.59	20.59.30
6.30	21. 1.35
6.53	20.57.30
7.15	21. 5. 0
7.30	20.57.35
7.35	57.10
7.52	20.53.35
8.20	21. 0. 0
8.29	20.58.30
8.45	41.30
8.57	46.10
9. 2	47. 0
9.30	56.10
9.43	54.45
10. 6	55. 0
10.33	57.40
10.48	54.10
10.58	54.10
11. 8	53. 5
11.19	53.30
11.30	52.30
11.33	52.50
11.59	49.35
12.12	50.30
12.23	49.50
12.47	54.10
13.51	56.10
14. 0	57.25
14.20	57.20
14.44	53.50
15.16	56. 0
16.17	54.25
16.45	58. 0
17. 9	56. 0
17.27	55.10
17.34	56.10
17.43	55.25
18.24	56.40
18.45	57. 0
20.47	20.57.10
21.44	21. 1. 0
21.54	0.20
22.43	5.10
23. 0	4.55
23.21	2.40
23.45	3. 0
23.55	2.10
23.59	2. 0
Feb. 8	
0. 0	21. 2. 0
0.13	4. 0
0.29	2.30
1. 0	3.45
1.30	2.45
1.46	3.45
1.58	2.50
2. 7	2.50
2.44	0.20
3. 2	21. 1.55
	***
4. 9	20.58.30
9.57	55.55
10. 3	56.15
10.47	55.55
11.24	54. 5
11.36	55.35
11.47	55.55
12.12	54.30
12.45	55.15
14.13	54.30
14.35	52.20
15. 2	51.35
15.30	52.40
15.33	54.25
16.44	55.55
17.10	55.25
18.44	56.40
19. 0	56. 5
20.16	57. 5
21. 9	58.30
21.19	59.30
21.52	20.59.55
22. 5	21. 0.50
23.53	1. 0
23.59	1. 5
Feb. 9	
0. 0	21. 1. 5
1.13	2.25
1.23	2.55
1.44	1.45
2.55	21. 0.25
3.14	20.59.10
3.55	58.40
4.25	59.10
4.44	58.45

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Feb. 7 h m	
1. 1	·0957
1.18	·0947
1.28	·0949
1.31	·0949
1.40	·0948
2. 1	·0957
2.50	·0953
3. 5	·0954
3.13	·0953
3.18	·0957
4.18	·0957
4.23	·0949
5.16	·0953
5.26	·0953
5.39	·0953
6.26	·0947
6.37	·0948
6.55	·0942
7.13	·0952
7.34	·0927
7.40	·0932
7.50	·0929
8. 7	·0942
8.20	·0941
8.38	·0926
8.54	·0965
9.15	·0953
9.23	·0954
9.38	·0932
9.52	·0932
10. 0	·0935
10. 8	·0935
10.17	·0941
10.30	·0943
10.45:	·0935
11. 2	·0944
11.20	·0943
11.27	·0938
11.38	·0943
11.45	·0943
12.19	·0931
12.38	·0936
12.47	·0935
12.55	·0935
13.38	·0945
14. 8	·0946
14.18	·0945
15.11	·0948
15.25	·0947
15.41	·0950
16. 9	·0949
16.30	·0955
17.28	·0949
18. 7	·0950
18.19	·0948
18.37	·0950
19. 6	·0947
20.41	·0946
20.58	·0946
21.36	·0947
21.52	·0949
22. 3	·0947
22.24	·0951
	(†)
22.40	·0952
22.57	·0950
	(†)
Feb. 8	
	(†)
1. 0	·0951*
3. 0	·0946*
4. 7	·0934
6.22	·0945
8. 1	·0949
8.18	·0951
8.29	·0950
9. 9	·0952
9.40	·0949
10.20	·0951
10.53	·0948
11.23	·0950
11.47	·0945
12.11	·0945
12.37	·0948
14. 4	·0949
14.32	·0952
15.15	·0951
15.45	·0952
16.22	·0951
18.30	·0950
21.21	·0950
	(†)
22.10	·0948*
Feb. 9	
10.10	·0940*
21. 0	·0936*

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
Feb. 7 h m	
8.37	·02585
8.45	·02597
9.32	·02559
10.34	·02578
14.38	·02717
18. 5	·02944
18.56	·02923
19. 9	·02883
19.26	·02890
19.33	·02860
20.30	·02857
	***
21.44	·02703
22.12	{·02731 ·02677
22.47	·02683
23.59	·02650
Feb. 8	
0. 0	·02650
2.37	{·02520 ·02475
4.28	·02300
6.58	·02191
9.52	·02183
22.10	·02632
23.59	·02566
Feb. 9	
0. 0	·02566
1.52	·02520
7.14	·02172
11. 0	·02022
12. 6	·01950
19.44	·01918
22.28	·01965
23.13	·01950
	(†)

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Feb. 7 h m	°	°
Feb. 8		
1. 0	39·2	41·7
3. 0	41·3	43·1
9. 0	39·0	42·0
22.10	33·5	37·5
Feb. 9		
10.10	41·5	44·0
21. 0	40·2	43·0

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

February 9. The Photographic Trace for the Horizontal Force Magnet was too faint for use.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Feb. 9								
h m	° ′ ″	h m		h m		h m	°	°
5. 30	20. 58. 55							
5. 43	59. 30							
6. 2	20. 59. 20							
6. 35	21. 0. 50							
7. 5	0. 10							
7. 15	1. 20							
7. 18	21. 1. 25							
	(†)							
8. 32	20. 57. 40							
8. 59	57. 35							
9. 9	57. 50							
9. 46	56. 35							
10. 48	56. 20							
11. 1	56. 50							
11. 7	55. 0							
11. 17	54. 45							
11. 27	51. 50							
11. 35	52. 0							
11. 45	51. 0							
12. 15	54. 25							
12. 27	53. 55							
12. 35	54. 5							
12. 44	53. 40							
13. 27	55. 10							
13. 40	54. 10							
14. 58	53. 45							
15. 15	50. 20							
15. 50	48. 45							
16. 30	51. 0							
16. 50	51. 0							
19. 15	58. 45							
19. 37	58. 45							
20. 0	57. 0							
20. 24	56. 30							
	***							
22. 0	20. 57. 15							
	***							
23. 36	21. 2. 0							
23. 59	2. 40							
Feb. 10		Feb. 10		Feb. 10		Feb. 10		
0. 0	21. 2. 25		(†)		(†)	1. 0	44 ·0	45 ·0
0. 8	2. 0	0. 30	·0928	0. 32	·01928	3. 0	47 ·0	48 ·0
0. 18	3. 0	0. 41	·0927	1. 7	·01903	9. 0	45 ·5	47 ·3
0. 45	1. 20	0. 56	·0931	3. 5	{ ·01687	21. 0	36 ·3	41 ·2
0. 59	2. 40	1. 21	·0931		{ ·01746			
2. 13	0. 35	2. 31	·0941	3. 50	·01694			
2. 36	21. 0. 55	3. 0	·0937	6. 19	·01963			
2. 55	20. 59. 20	4. 22	·0941	9. 50	·01998			
3. 54	58. 0	4. 37	·0944	12. 15	·02087			
4. 30	58. 10	5. 9	·0940	12. 34	·02093			
6. 29	57. 30	5. 12	·0944	16. 57	·02398			
7. 30	56. 45	5. 29	·0938	20. 54	·02720			
8. 53	57. 0		***	22. 20	·02897			
12. 17	56. 30	5. 55	·0936	23. 1	·02936			
13. 33	54. 10	7. 22	·0943		(†)			
14. 38	55. 30	7. 30	·0943					
15. 0	56. 50	8. 7	·0945					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Feb. 10		Feb. 10						
h m	° ′ ″	h m		h m		h m	°	°
15. 18	20. 56. 0	8. 22	·0944					
16. 4	56. 10	8. 27	·0945					
16. 16	55. 30	8. 38	·0944					
17. 31	56. 30	8. 52	·0946					
18. 2	56. 5	9. 4	·0947					
18. 44	56. 40	9. 23	·0944					
19. 37	55. 10	9. 42	·0948					
21. 0	20. 56. 55	9. 55	·0946					
22. 27	21. 0. 0		***					
23. 59	1. 55	11. 27	·0948					
		11. 37	·0946					
		11. 52	·0947					
		12. 20	·0946					
		12. 38:	·0952					
		12. 54	·0950					
		13. 25	·0947					
		13. 57	·0949					
			***					
		17. 23	·0953					
		19. 38	·0949					
		19. 52	·0951					
		20. 4	·0949					
		20. 20	·0950					
		20. 42	·0946					
		21. 27	·0946					
		22. 38	·0944					
		23. 47	·0944					
			(†)					
Feb. 11		Feb. 11		Feb. 11		Feb. 11		
0. 0	21. 1. 55		(†)		(†)	1. 0	39 ·8	42 ·0
1. 0	2. 20	0. 50	·0943	0. 22	·02960	3. 0	42 ·2	44 ·0
1. 25	1. 45	1. 47	·0946	1. 56	·02937	9. 0	45 ·3	47 ·2
1. 53	21. 1. 30	1. 55	·0946	3. 52	·02804	21. 0	45 ·0	47 ·0
2. 58	20. 59. 30	2. 51	·0947	4. 58	·02674	22. 0	45 ·8	48 ·3
3. 6	58. 40	3. 8	·0946	8. 50	·02373	23. 0	46 ·8	48 ·6
3. 15	58. 30	3. 23	·0948	12. 0	·02225			
3. 40	57. 10	3. 40	·0945	16. 22	·02143			
3. 57	58. 15	3. 52	·0947	21. 33	·02122			
4. 5	57. 15	4. 9	·0943	22. 38	·02137			
5. 36	58. 25	4. 25	·0951	23. 59	·02100			
7. 31	57. 15	4. 36	·0946					
9. 28	57. 0	5. 5	·0946					
10. 4	57. 45	5. 23	·0942					
10. 52	56. 55	6. 0	·0945					
11. 16	54. 35	7. 8	·0945					
11. 38	56. 25	7. 26	·0948					
12. 7	55. 0	7. 42	·0945					
12. 29	53. 10	9. 33	·0946					
12. 58	53. 10	9. 52	·0947					
13. 6	54. 0	11. 16	·0939					
13. 48	52. 20	11. 43	·0945					
14. 24	53. 10	12. 24:	·0934					
14. 42	52. 5	12. 53	·0937					
15. 0	52. 50	13. 4	·0936					
15. 15	52. 10	13. 20	·0939					
15. 33	53. 30	13. 50	·0933					
15. 49	53. 5	14. 19	·0938					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Feb. 11		Feb. 11						
h m	° ′ ″	h m		h m		h m	°	°
16. 18	20. 54. 50	14. 35	·0936					
17. 3	54. 50	15. 40	·0942					
17. 25	56. 20	15. 54	·0940					
17. 40	56. 10	17. 51	·0942					
18. 7	54. 50	18. 10	·0944					
18. 33	56. 0	19. 0	·0940					
18. 57	56. 0	19. 8	·0942					
19. 3	55. 10	19. 39	·0941					
19. 22	54. 50	20. 42	·0935					
19. 51	54. 45	21. 37	·0935					
19. 58	55. 30	22. 14	·0931					
20. 23	55. 30	22. 48	·0934					
	***	23. 1	·0928					
21. 5	59. 5	23. 19	·0927					
	***	23. 23	·0925					
21. 28	20. 59. 30	23. 32	·0927					
	***	23. 58	·0925					
22. 5	21. 1. 0		(†)					
22. 23	0. 55							
22. 35	1. 20							
22. 54	3. 55							
23. 43	6. 55							
23. 59	6. 30							
Feb. 12		Feb. 12		Feb. 12		Feb. 12		
0. 0	21. 6. 30		(†)	0. 0	·02100	0. 0	47·0	49·2
0. 10	6. 15	0. 7	·0924	1. 58	·02022	1. 0	48·0	49·3
0. 27	5. 0	0. 18	·0926	2. 7	·02048	2. 0	49·2	50·3
0. 37	4. 50	0. 23	·0925	3. 43	·02086	3. 0	50·5	51·2
0. 44	5. 10	1. 11	·0927	6. 45	·02077	6. 0	49·8	51·8
0. 54	5. 0	1. 27	·0930	6. 52	·02134	9. 0	49·0	51·5
1. 29	5. 50	1. 39	·0933	8. 32	·02097	12. 0	47·8	50·3
1. 45	5. 40	2. 8	·0929	11. 47:	·02121	18. 0	42·8	44·0
2. 33	4. 15	2. 33	·0930	15. 57	·02250	21. 0	44·0	46·8
2. 47	3. 10	3. 7	·0923	22. 41	·02579	22. 0	44·6	46·8
2. 56	3. 35	4. 13	·0924	23. 59	·02604	23. 0	45·0	46·8
3. 57	1. 5	4. 38	·0925					
4. 5	1. 15	5. 4	·0923					
4. 21	0. 20		***					
4. 46	21. 0. 25	5. 55	·0925					
5. 5	20. 59. 45	6. 26	·0931					
5. 46	21. 0. 10	6. 56	·0931					
6. 4	20. 58. 50	8. 7	·0936					
7. 21	58. 0	8. 23	·0934					
7. 29	58. 30	9. 14	·0935					
9. 30	56. 40	9. 33	·0939					
11. 40	57. 30	10. 10	·0935					
11. 52	57. 0	11. 26	·0935					
12. 29	57. 10	11. 47	·0937					
12. 44	56. 30	12. 25	·0935					
14. 48	58. 10	14. 8	·0937					
15. 25	56. 30	14. 49	·0940					
15. 37	56. 15	15. 0	·0938					
15. 48	57. 25	15. 10	·0940					
16. 22	58. 5	16. 7	·0936					
16. 35	57. 40	16. 57	·0941					
16. 38	56. 50	18. 7	·0935					
17. 19	55. 5	18. 23	·0939					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Feb. 12		Feb. 12						
h m	° ′ ″	h m		h m		h m	°	°
17. 57	20. 57. 40	18. 55	·0940					
	***	19. 21	·0943					
19. 12	55. 25	20. 0	·0940					
19. 57	57. 30	20. 31	·0936					
20. 43	20. 57. 20	20. 52	·0940					
	***	21. 52	·0931					
21. 59	21. 1. 25	21. 58	·0931					
22. 24	0. 55	22. 25	·0923					
	***	22. 36	·0926					
23. 40	4. 10	22. 55	·0925					
23. 59	2. 30	23. 34	·0933					
		23. 50	·0931					
			(†)					
Feb. 13		Feb. 13		Feb. 13		Feb. 13		
0. 0	21. 2. 30		(†)	0. 0	·02604	0. 0	45·6	46·8
0. 20	2. 5	0. 47	·0934	1. 2	·02568	1. 0	45·5	47·2
0. 35	2. 15	1. 6	·0935	2. 20	·02590	2. 0	46·4	48·5
1. 0	3. 40	1. 32	·0942	7. 48	·02391	3. 0	47·0	48·7
1. 8	3. 0	1. 43	·0938	8. 7	·02399	9. 0	46·5	48·0
1. 30	6. 55	1. 53	·0944	9. 14	·02357	21. 0	43·0	45·3
1. 57	5. 10	2. 7	·0946	13. 47	·02389			
2. 2	5. 15	2. 25	·0935	22. 37	·02697			
2. 17	4. 10	2. 34	·0937	23. 59	·02688			
2. 28	1. 55	2. 54	·0927					
2. 40	4. 0	3. 9	·0935					
2. 45	3. 0	3. 22	·0932					
3. 17	1. 0	3. 35	·0933					
3. 40	1. 0	3. 50	·0929					
4. 0	2. 0	4. 13	·0932					
4. 16	1. 0	4. 38	·0924					
4. 30	0. 55	4. 49	·0924					
4. 56	21. 1. 15	5. 5	·0928					
5. 31	20. 59. 25	5. 29	·0921					
5. 47	59. 45	5. 38	·0921					
6. 5	57. 50	5. 47	·0921					
7. 8	57. 10	6. 8	·0925					
7. 27	53. 0	6. 20	·0923					
7. 39	45. 40	6. 31	·0927					
7. 51	43. 0	6. 38	·0925					
8. 0	43. 20	7. 13	·0931					
8. 39	55. 55	7. 22	·0928					
8. 53	54. 20	7. 32	·0933					
8. 59	54. 15		***					
9. 5	52. 30	8. 8	·0924					
9. 16	51. 40	8. 32	·0940					
9. 23	50. 50	8. 38	·0937					
9. 28	51. 25	8. 47	·0940					
9. 36	50. 50	9. 1	·0924					
9. 45	50. 50	9. 12	·0921					
10. 3	54. 45	9. 35	·0916					
10. 23	54. 30	9. 52	·0920					
10. 35	56. 0	10. 10:	·0932					
10. 55	55. 5	10. 25	·0928					
11. 2	56. 20	10. 37	·0936					
11. 14	56. 20	10. 49	·0940					
11. 30	53. 55	10. 58	·0933					
11. 44	56. 0	11. 10	·0936					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Feb. 13 — Western Declination

Greenwich Mean Solar Time (h m)	Western Declination (° ′ ″)
11.56	20.54.10
12.18	54. 5
12.45	55. 5
13. 0	57. 5
13.14	56.30
13.54	54. 0
14. 8	53.35
14.30	55. 0
14.45	53.30
15. 4	53.40
15.29	55.10
15.39	55. 0
16. 1	56. 0
16.38	55. 0
16.53	56. 0
17.18	54.50
18.12	54.50
18.32	55.45
	***
20.47	57. 0
20.57	57.30
21. 3	57. 0
21.58	59.35
22.13	20.58.50
23.16	21. 2.50
23.38	1.50
23.59	3.40

Feb. 13 — Horizontal Force

Greenwich Mean Solar Time (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature
11.17	·0935
11.37	·0941
11.55	·0934
12.20	·0932
12.31	·0934
12.50	·0931
13. 1	·0933
13. 8	·0933
13.20	·0938
13.37	·0941
14. 0	·0936
14.12	·0939
14.45	·0935
15. 7	·0936
15.45	·0935
17.34	·0942
17.57	·0941
18. 8	·0943
18.37	·0943
18.56	·0940
19.18	·0942
19.45	·0936
19.53	·0938
20.15	·0934
20.23	·0936
21.10	·0930
21.22	·0931
21.42	·0927
21.49	·0928
22. 8	·0922
22.51	·0924
23. 6	·0926
23.34	·0924
23.59	·0931

Feb. 14 — Western Declination

Greenwich Mean Solar Time (h m)	Western Declination (° ′ ″)
0. 0	21. 4.10
0.14	6. 0
0.17	5.55
0.28	4.55
0.38	5.15
0.54	2.50
1. 0	2.30
1.22	4.25
1.29	4. 0
1.45	5. 0
2. 0	2. 0
2.17	1.10
2.52	0.45
3.15	1.35
4.15	0. 0
4.29	21. 0.20
5. 0	20.58.45
5.43	58. 0
6.30	58.40
6.43	58. 0
7. 1	54.15
7.12	50.35
7.21	20.48.55
7.33	48.10
8.15	54.50
8.27	54.20
8.36	51.40
8.50	49.50
	***
9.21	52.40
9.54	52.20
10. 7	53. 0
10.16	54.20
10.52	55.15
11. 0	54.35
11.47	54. 5
12.37	55. 0
13.27	54.35
13.53	55.15
14.12	54.55
14.42	55.45
15. 5	55. 5
15.39	56.10
15.48	56. 0
16.29	57.55
17.15	54.10
17.27	54. 5
17.50	55.55
18.12	56. 0
18.24	57. 0
18.45	56.50
18.48	56. 0
19.23	56.45
19.29	55.40
19.37	56.25
20. 0	55.40
20.35	55.55
20.51	57. 0
21.16	57. 0
21.40	57.50
21.45	59.10
21.53	20.59. 0
22.35	21. 1.10
23.59	2. 0

Feb. 14 — Horizontal Force

Greenwich Mean Solar Time (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature
0. 0	·0931
0. 6	·0933
0.25	·0920
0.38	·0922
0.53	·0919
1. 6	·0919
1.15	·0923
2.20	·0933
2.45	·0938
2.53	·0938
3.20	·0943
3.35	·0943
3.57	·0938
4.16	·0939
4.23	·0937
5.13:	·0930
5.42	·0937
5.50	·0936
6.13	·0940
7. 2	·0934
7.17	·0946
7.29	·0951
7.35	·0951
7.45	·0953
8.14	·0943
8.35	·0931
9. 5	·0935
9.30	·0930
10. 8:	·0943
10.30	·0939
11. 3	·0940
11.22	·0943
11.35	·0941
12.11	·0941
12.27	·0944
12.52	·0942
13. 7	·0946
13.48	·0944
14. 9	·0945
14.30	·0943
	***
16.12	·0943
16.50	·0953
17.22	·0950
17.49	·0951
18. 0	·0949
18.20	·0948
	***
19.52	·0945
20.22	·0949
20.35	·0946
20.41	·0948
21.22	·0944
21.45	·0946
22.31	·0941
23.35	·0942
23.59	·0945

Feb. 14 — Vertical Force

Greenwich Mean Solar Time (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature
0. 0	·02688
1.38	·02690
5.37	·02425
8.27	·02330
11.22	·02333
17.18	·02447
22.56	·02581
23.59	·02543

Feb. 14 — Readings of Thermometers

Greenwich Mean Solar Time (h m)	Of H. F. Magnet (°)	Of V. F. Magnet (°)
1. 0	45·0	46·8
3. 0	47·0	48·3
9. 0	46·1	48·0
21. 0	43·0	45·6

Feb. 15 — Western Declination

Greenwich Mean Solar Time (h m)	Western Declination (° ′ ″)
0. 0	21. 2. 0
0.55	2. 5
2.23	0.50
2.30	21. 0. 0
3.23	20.59.50
3.44	58.50
3.46	57.35
3.59	57.15
4.17	56.10
4.33	57.10
4.49	56.50
5. 6	57.55
5.51	58.40
6.21	58. 0

Feb. 15 — Horizontal Force

Greenwich Mean Solar Time (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature
0. 0	·0945
1.38	·0945
2.15	·0946
2.52	·0943
3.10	·0944
3.39:	·0955
3.53	·0950
4.25	·0942
4.43	·0941
4.56	·0943
5.11	·0940
5.51:	·0945
6.34:	·0937
6.59	·0944

Feb. 15 — Vertical Force

Greenwich Mean Solar Time (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature
0. 0	·02543
0.22	·02567
1.58	·02471
2.56	·02370
4.23	·02184
5.12	{ ·02108 ·02235
6. 5	·02203
6.14	·02223
9.24	·02218
11.54	·02230
14. 8	{ ·02293 ·02320
15.28	·02353

Feb. 15 — Readings of Thermometers

Greenwich Mean Solar Time (h m)	Of H. F. Magnet (°)	Of V. F. Magnet (°)
1. 0	46·8	48·6
3. 0	49·8	50·7
9. 0	49·5	51·0
22.35	43·0	45·0

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H.F. Magnet.	Of V.F. Magnet.
Feb. 15		Feb. 15		Feb. 15				
h m	° ′ ″	h m		h m		m	°	°
6. 45	20. 54. 30	7. 8	·0943	19. 32	·02541			
7. 26	55. 10	7. 56	·0944	23. 59	·02760			
7. 38	56. 15	8. 9	·0946					
8. 36	56. 35	8. 23	·0945					
8. 55	56. 10	9. 23	·0949					
10. 7	55. 15	9. 52	·0946					
10. 24	53. 10	10. 22	·0948					
10. 59	51. 0	10. 39	·0940					
11. 33	54. 45	11. 7	·0940					
12. 15	55. 0	11. 38	·0947					
12. 29	56. 0	11. 46	·0948					
13. 21	56. 10	13. 12	·0951					
14. 29	55. 0	13. 22	·0953					
15. 0	57. 35	13. 37	·0952					
15. 37	54. 0	14. 20	·0950					
15. 50	54. 0	15. 2	·0954					
16. 28	56. 15	15. 40	·0948					
17. 36	53. 15	17. 12	·0951					
17. 48	55. 35	19. 26	·0953					
18. 20	56. 25		***					
21. 9	55. 30	22. 20	·0946					
22. 31	58. 30	23. 20	·0950					
23. 6	20. 59. 0	23. 59	·0948					
23. 59	21. 0. 10							
Feb. 16		Feb. 16		Feb. 16		Feb. 16		
0. 0	21. 0. 10	0. 0	·0948	0. 0	·02760	9. 0	45 ·2	46 ·9
0. 40	20 59. 50	0. 49	·0952	0. 25	·02777	21. 0	41 ·6	44 ·2
0. 49	21. 0. 20	1. 0	·0951	0. 39	·02796			
1. 32	20. 59. 0	1. 33	·0952	2. 17	·02803			
2. 28	58. 45	2. 45	·0950	3. 30	·02752			
3. 58	57. 35	2. 53	·0951	5. 33	·02644			
5. 0	58. 15	3. 53	·0946	7. 50	·02570			
6. 32	57. 55	4. 38	·0949	9. 40	·02558			
8. 37	55. 45	4. 51	·0946	10. 15	·02546			
9. 7	52. 10	5. 34	·0947	14. 5	·02700			
9. 29	54. 50	5. 52	·0952	16. 53	·02862			
9. 39	53. 10	6. 6	·0950	22. 34	·03035			
9. 47	54. 0	6. 28	·0952	23. 59	·03003			
10. 21	50. 20	7. 30	·0951					
10. 34	51. 10	7. 40	·0954					
10. 45	50. 50	7. 59	·0953					
12. 36	55. 55	8. 21	·0955					
12. 59	55. 0	8. 39	·0951					
13. 20	56. 50	8. 58	·0957					
13. 33	56. 35	9. 28	·0952					
13. 45	55. 15	9. 45	·0964					
14. 10	56. 0	9. 58	·0964					
14. 23	55. 0	10. 20	·0947					
15. 8	54. 45	10. 40	·0944					
15. 22	54. 0	11. 0	·0949					
16. 2	55. 5	11. 19	·0947					
16. 22	55. 10	11. 30	·0949					
	***		***					
17. 51	55. 15	12. 19	·0948					
18. 35	56. 20	12. 27	·0945					
19. 1	57. 5	12. 37	·0948					
19. 18	56. 55	13. 1	·0951					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Feb. 16		Feb. 16						
h m	° ′ ″	h m		h m		h m	°	°
19. 30	20. 57. 5	13. 28	·0948					
20. 29	57. 0	13. 52	·0949					
20. 32	57. 30	14. 4	·0948					
20. 40	57. 0	14. 15	·0950					
21. 29	20. 57. 40	14. 29	·0946					
22. 15	21. 0. 5	14. 43	·0952					
23. 59	1. 40	15. 6	·0951					
		15. 40	·0953					
		16. 59	·0951					
		17. 37	·0961					
		18. 25	·0963					
		19. 11	·0958					
		19. 26	·0959					
			***					
		21. 13	·0951					
		21. 45	·0953					
		22. 53	·0946					
		23. 12	·0947					
		23. 49	·0953					
			(†)					
Feb. 17		Feb. 17		Feb. 17		Feb. 17		
0. 0	21. 1. 45		(†)	0. 0	·03003	1. 0	45 ·2	47 ·5
1. 18	21. 0. 45	0. 15	·0951	1. 3	·02977	3. 0	47 ·8	49 ·5
1. 40	20. 59. 10	0. 42	·0951	2. 45	·02813	9. 0	49 ·0	51 ·0
1. 54	59. 45	0. 56	·0949	5. 28	·02502	21. 10	47 ·2	49 ·0
2. 35	58. 30	1. 15	·0949	6. 19	·02436			
4. 6	58. 10	1. 33	·0947	7. 1	·02416			
5. 40	59. 20	1. 47	·0951	7. 55	·02359			
9. 2	57. 55	2. 6	·0949	8. 17	·02318			
9. 31	56. 10	2. 37	·0950	10. 21	·02212			
	***	2. 52	·0948	13. 37	·02181			
10. 53	56. 35	3. 9	·0949	18. 54	·02306			
11. 0	57. 50	3. 36	·0948	21. 2	·02355			
11. 51	54. 50	4. 10	·0947	23. 59	·02452			
13. 18	56. 50	4. 43	·0947					
13. 33	56. 5	5. 4	·0949					
19. 0	57. 10	5. 21	·0947					
20. 29	20. 57. 50	8. 37	·0949					
21. 44	21. 0. 25	9. 3	·0947					
22. 13	2. 30	9. 54:	·0955					
22. 58	4. 0	10. 10	·0948					
23. 28	3. 35	10. 52	·0942					
23. 59	3. 10	11. 10	·0947					
		11. 23	·0943					
		11. 32	·0946					
		11. 43	·0943					
		12. 8	·0942					
		12. 38	·0944					
		13. 11	·0943					
		13. 30	·0945					
		14. 45	·0946					
		14. 52	·0945					
		15. 5	·0948					
		17. 30	·0948					
		19. 38	·0946					
		20. 1	·0947					
		21. 14	·0943					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Western Declination

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
Feb. 18	
0. 0	21. 3. 10
0. 35	2. 50
0. 45	3. 0
2. 9	1. 15
2. 58	21. 0. 50
3. 30	20. 59. 0
3. 57	58. 40
4. 55	59. 30
6. 38	58. 0
7. 20	58. 30
10. 45	56. 35
11. 0	57. 25
12. 5	54. 50
12. 44	55. 30
12. 59	55. 30
13. 9	55. 0
13. 23	56. 45
13. 50	54. 40
14. 5	56. 30
14. 53	57. 0
15. 2	55. 55
16. 1	56. 50
16. 15	56. 0
16. 18	56. 30
16. 29	56. 15
16. 45	54. 50
17. 2	56. 30
17. 12	20. 56. 30
17. 37	21. 0. 10
17. 53	20. 58. 10
18. 32	56. 10
18. 44	57. 15
18. 54	56. 20
20. 0	56. 50
20. 18	56. 10
21. 40	20. 57. 20
23. 45	21. 3. 10
23. 59	2. 50
Feb. 19	
0. 0	21. 2. 50
0. 11	2. 50
0. 17	3. 55
0. 34	2. 55
2. 19	2. 0
2. 30	3. 0
2. 39	21. 2. 0
3. 39	20. 59. 50
8. 4	57. 15
9. 57	56. 45
11. 37	56. 30
13. 32	20. 57. 0
13. 51	58. 50
14. 19	55. 5
17. 7	54. 30
17. 23	56. 10
17. 33	53. 55
17. 44	55. 40
17. 57	54. 45
18. 31	54. 50
19. 24	56. 45
20. 51	56. 30
21. 36	59. 40
21. 46	20. 59. 0
23. 39	21. 4. 40
23. 59	4. 45
Feb. 20	
0. 0	21. 4. 50
0. 9	5. 55
0. 30	4. 55
0. 50	5. 0
0. 57	5. 50
1. 29	4. 0
1. 43	4. 50
2. 17	3. 35
2. 43	3. 35
3. 50	0. 0
4. 22	21. 2. 20
7. 3	20. 58. 30
7. 29	58. 45
10. 0	55. 30
10. 17	55. 55
11. 12	46. 50
11. 21	48. 45
11. 36	50. 0
12. 14	51. 0
12. 39	49. 30
13. 24	54. 20
14. 6	49. 10
14. 24	49. 10
14. 34	51. 0
14. 47	51. 45
15. 5	51. 15
15. 45	53. 30
16. 30	57. 0
16. 45	56. 30
	***
20. 13	20. 59. 10
20. 15	21. 1. 50
20. 29	20. 58. 45
21. 4	21. 8. 45

Horizontal Force

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Feb. 17	
h m	
21. 31	·0944
21. 38	·0945
22. 45	·0938
23. 17	·0943
	(†)
Feb. 18	
0. 0	·0935
1. 6	·0941
1. 24	·0941
2. 0	·0943
2. 49	·0940
3. 6	·0941
3. 18	·0935
4. 12	·0935
4. 34	·0933
4. 59	·0934
5. 10	·0932
5. 51	·0935
7. 0	·0933
7. 23	·0936
10. 26	·0935
10. 56	·0940
11. 9	·0937
12. 40	·0936
12. 51	·0942
13. 7	·0937
13. 46	·0941
13. 56	·0936
14. 12	·0940
14. 47	·0941
15. 0	·0944
15. 8	·0940
	***
17. 5	·0944
17. 46	·0939
18. 15:	·0946
18. 45:	·0943
19. 11	·0947
	***
23. 0	·0921
23. 38	·0921
	(†)
Feb. 19	
	(†)
0. 44	·0923
2. 9	·0934
3. 0	·0937
3. 31	·0939
3. 48	·0935
4. 15	·0939
7. 10	·0937
8. 25	·0939
8. 48	·0936
9. 12	·0939
11. 45	·0933
12. 58	·0935
13. 21	·0934
14. 5	·0941
14. 57	·0936
15. 18	·0938
15. 33	·0937
16. 57	·0941
17. 7	·0944
17. 19	·0941
17. 55	·0947
18. 29	·0946
19. 18	·0938
19. 38	·0939
20. 37	·0934
21. 28	·0929
21. 52	·0931
22. 9	·0925
23. 20	·0921
23. 31	·0916
23. 49	·0920
23. 59	·0919
Feb. 20	
0. 0	·0919
0. 29	·0918
0. 57	·0927
1. 3	·0920
1. 27	·0917
2. 10:	·0927
3. 20	·0922
4. 8	·0925
4. 34	·0919
5. 53	·0921
6. 9	·0925
6. 35	·0923
7. 14	·0929
7. 35	·0924
9. 7	·0932
9. 22	·0938
9. 53	·0931
10. 9	·0934
10. 38	·0926
11. 9	·0932
11. 52	·0930
12. 19	·0933
12. 40	·0930
13. 38	·0942
14. 8	·0937
14. 34	·0943
14. 45	·0939
15. 12	·0939
15. 34	·0943
15. 44	·0944
16. 0	·0939
17. 10	·0947
18. 6	·0949
18. 24	·0945

Vertical Force

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
Feb. 18	
0. 0	·02452
2. 3:	·02380
4. 9	·02130
4. 57	{ ·02054 ·02083
5. 54	·02117
6. 9	·02102
7. 52	·02120
8. 17	·02131
9. 24	·02127
9. 32	·02195
11. 15	·02166
13. 6	·02165
15. 31	·02258
19. 50	·02380
21. 36	·02436
23. 59	·02487
Feb. 19	
0. 0	·02487
5. 20	·02284
8. 3	·02235
11. 31	·02286
14. 29	·02232
16. 2	·02263
20. 30	·02438
22. 52	{ ·02435 ·02306
23. 59	·02265
Feb. 20	
0. 0	·02265
3. 11	·02194
4. 57	·01965
5. 0	·02042
5. 29	·02006
5. 32	·02108
6. 19	·02080
6. 31	·02110
8. 6	·02100
10. 55	·02227
14. 39	·02543
18. 17	·02808
20. 15	·02930
21. 6	{ ·02902 ·02806
22. 6	·02855
23. 59	·02860

Readings of Thermometers

Greenwich Mean Solar Time.	Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Feb. 18		
1. 0	51·0	51·4
3. 0	54·0	54·0
9. 0	55·0	55·0
21. 0	50·3	51·9
22. 0	50·5	51·7
23. 0	51·0	52·2
Feb. 19		
0. 0	52·0	52·8
1. 0	52·9	53·2
2. 0	54·0	54·1
3. 0	54·5	54·5
6. 0	55·0	55·0
9. 0	54·0	54·5
12. 0	53·5	53·6
21. 0	52·0	53·8
22. 0	52·6	54·0
23. 0	53·1	54·5
Feb. 20		
0. 0	54·0	55·2
1. 0	54·2	54·8
3. 0	55·2	55·8
9. 0	53·0	54·6
21. 0	46·8	49·3

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Feb. 20		Feb. 20						
h m	° ′ ″	h m		h m		h m	°	°
21. 10	21. 7. 45	18. 46	·0946					
21. 17	9. 0	18. 53	·0944					
21. 35	8. 30	19. 8	·0946					
21. 40	9. 15	20. 11	·0935					
21. 54	7. 20	20. 16	·0938					
22. 2	7. 10	20. 22	·0925					
22. 37	12. 50	20. 38	·0933					
23. 15	7. 30	20. 45	·0931					
23. 28	8. 30	21. 0	·0930					
23. 43	5. 0	21. 15	·0933					
23. 51	6. 50	21. 41	·0921					
23. 58	6. 15		(†)					
Feb. 21		Feb. 21		Feb. 21		Feb. 21		
0. 0	21. 6. 30		(†)	0. 0	·02860	1. 0	51 ·0	51 ·6
0. 7	8. 0	1. 0	·0913*	1. 22	·02818	3. 0	54 ·2	54 ·7
0. 38	8. 35	1. 14	·0923	2. 7	·02762	9. 0	53 ·3	54 ·8
0. 54	9. 50	1. 31	·0913	2. 32	·02751	21. 0	49 ·3	51 ·7
1. 4	8. 25	1. 40	·0923	3. 1	·02673			
1. 12	12. 0	1. 53	·0927	3. 24	·02722			
1. 21	13. 10	2. 0	·0921	5. 3	·02468			
1. 31	13. 30	2. 16	·0919	6. 19	·02364			
1. 39	12. 55		(†)	7. 0	·02383			
2. 0	13. 0	3. 0	·0921*	7. 9	·02341			
2. 8	14. 50	3. 42	·0915	7. 22	·02350			
2. 17	14. 35	3. 59	·0933	7. 32	·02400			
2. 32	11. 5	4. 8	·0922	7. 46	·02292			
2. 51	6. 40	4. 18	·0931	8. 9	·02212			
2. 58	7. 0	4. 23	·0921	8. 19	·02227			
3. 9	6. 0	4. 42	·0934	8. 46	·02050			
3. 33	10. 35	5. 24	·0909	9. 10	·02043			
3. 45	9. 35	6. 5	·0933	9. 23	·02097			
3. 54	11. 10	6. 8	·0927	10. 6	·02102			
4. 5	8. 50	6. 20	·0927	10. 17	·02110			
4. 16	10. 0	6. 34	·0937	11. 40	·02060			
4. 49	8. 0	6. 50	·0904	11. 53	·02070			
5. 4	3. 40		(†)	12. 15	·02035			
5. 10	4. 10	7. 29	·0922	12. 25	·02046			
5. 33	3. 45	7. 34	·0936	12. 42	·02033			
5. 46	7. 0		(†)	13. 7	·02080			
6. 8	3. 20	8. 34	·0919	16. 43	·02281			
6. 15	21. 5. 0	8. 46	·1003	18. 48	·02385			
6. 40	20. 53. 35	8. 54	·0963	20. 1	·02422			
7. 10	21. 7. 0	9. 6	·0972	22. 21	·02533			
	(†)	9. 9	·0919	23. 59	·02582			
8. 45	21. 12. 10		(†)					
9. 21	20. 42. 50	9. 52	·0902					
9. 36	50. 0	9. 56	·0900					
9. 45	49. 0	10. 22	·0910					
9. 57	49. 50	10. 26	·0902					
10. 12	47. 10	10. 40	·0915					
10. 37	55. 15	11. 15	·0929					
10. 55	52. 0	11. 26	·0930					
11. 7	52. 15	11. 37	·0924					
11. 26	48. 20	11. 52	·0927					
12. 0	47. 10	11. 56	·0923					
12. 27	38. 0		(†)					
12. 41	42. 55	13. 52	·0916					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Feb. 21		Feb. 21						
h m	° ′ ″	h m		h m		h m	°	°
12. 50	20. 42. 0	14. 8	·0920					
13. 15	49. 10	17. 5	·0931					
13. 41	53. 30		(†)					
13. 58	54. 5	18. 55	·0934					
14. 30	56. 10	20. 6	·0931					
14. 59	56. 0	20. 32	·0927					
15. 12	56. 5	20. 38	·0928					
16. 56	58. 35	21. 6	·0925					
18. 39	57. 50	21. 26	·0922					
19. 45	56. 20	21. 50	·0921					
20. 12	56. 45	23. 20	·0921					
20. 20	55. 50	23. 52	·0916					
20. 31	55. 30	23. 59	·0918					
20. 36	56. 20							
20. 45	20. 56. 0							
	***							
23. 13	21. 0. 10							
23. 59	1. 25							
Feb. 22		Feb. 22		Feb. 22		Feb. 22		
0. 0	21. 1. 15	0. 0	·0918	0. 0	·02582	1. 0	51 ·8	52 ·7
0. 30	3. 0	0. 21	·0917	0. 35	·02574	3. 0	54 ·2	55 ·0
0. 54	2. 5	0. 37	·0920	1. 42	·02595	9. 0	54 ·0	56 ·0
1. 15	2. 35	0. 50	·0917	5. 19:	·02224	22. 35	50 ·2	52 ·8
1. 42	2. 5	2. 9	·0914	9. 3	·02073			
	***	2. 26	·0918	13. 12	·02052			
2. 8	1. 50	2. 58	·0919	13. 43	·02013			
2. 16	2. 5	3. 18	·0923	20. 28	·02236			
2. 59	2. 35	3. 32	·0921	23. 59	·02360			
3. 15	21. 0. 50	3. 41	·0923					
3. 27	20. 59. 50	3. 52	·0921					
4. 0	59. 0	4. 5	·0923					
6. 30	58. 20	4. 14	·0922					
6. 57	57. 50	6. 37	·0932					
8. 51	58. 10	7. 0	·0931					
11. 29	57. 30	8. 22	·0935					
12. 36	20. 57. 50	8. 42	·0934					
12. 53	21. 5. 45	11. 15	·0935					
13. 3	21. 4. 20	11. 48	·0936					
13. 30	20. 57. 5	11. 53	·0938					
13. 43	56. 0		***					
14. 2	55. 20	12. 37	·0937					
14. 30	56. 55	13. 2	·0934					
18. 49	58. 50	13. 22:	·0946					
19. 15	58. 0	13. 38	·0937					
20. 18	57. 40	14. 3	·0937					
20. 30	58. 0	14. 9	·0935					
20. 44	57. 15		***					
21. 2	58. 0	14. 52	·0933					
21. 16	57. 45	15. 23	·0936					
22. 26	58. 30	16. 36	·0937					
23. 2	20. 59. 55	17. 26	·0942					
23. 59	21. 1. 5	19. 15	·0945					
		20. 26	·0944					
		20. 38	·0942					
		20. 56	·0944					
		21. 7	·0941					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Feb. 22						
h m	° ′ ″	h m		h m		h m	°	°
		22. 24	·0933					
		23. 59	·0925					
Feb. 23		Feb. 23		Feb. 23		Feb. 23		
0. 0	21. 1. 5	0. 0	·0925	0. 0	·02360	6. 45	52 ·0	53 ·0
1. 8	2. 0	0. 48	·0923	3. 38	·02384	21. 0	45 ·8	48 ·6
2. 14	2. 5	1. 15	·0925	8. 5	·02332			
3. 30	0. 50	4. 3	·0935	10. 22:	·02358			
3. 53	0. 45	5. 55	·0936	15. 27	·02691			
4. 30	0. 0	8. 7	·0936	19. 6	·02872			
5. 30	21. 0. 5	10. 52	·0939	21. 14	·03002			
7. 0	20. 59. 0	14. 34	·0945		·02848			
13. 44	57. 50	17. 39	·0948	22. 16	·02907			
17. 41	59. 0	20. 23	·0945		·02840			
	***	20. 39	·0943	22. 53	·02862			
20. 18	57. 0	20. 49	·0944	23. 23	·02843			
21. 56	59. 15	20. 54	·0941		(†)			
22. 21	59. 10		***					
22. 44	20. 59. 10	23. 15	·0951					
23. 16	21. 0. 50	23. 19	·0946					
23. 26	0. 10	23. 31	·0946					
23. 59	0. 5	23. 48	·0945					
		23. 59	·0948					
Feb. 24		Feb. 24		Feb. 24		Feb. 24		
0. 0	21. 0. 0	0. 0	·0948	0. 0	·02757	1. 0	47 ·8	49 ·7
1. 34	0. 50		***	4. 55:	·02573	3. 0	49 ·2	50 ·8
3. 15	0. 50	0. 53	·0945	7. 42	·02570	9. 0	47 ·6	49 ·3
4. 1	0. 10	1. 10	·0950	11. 51	·02676	21. 0	43 ·0	45 ·7
5. 10	21. 0. 35	1. 23	·0951	17. 57	·02839			
9. 9	20. 58. 10	3. 7	·0947	20. 37	·02874			
9. 45	58. 10	3. 38	·0947	20. 54	·02862			
9. 47	59. 0	4. 16	·0943	22. 13	·02841			
10. 2	57. 30	4. 30	·0943		·02797			
10. 30	56. 5	5. 55	·0946	22. 51	·02792			
10. 40	56. 10	6. 35	·0948		(†)			
10. 57	57. 10	8. 48	·0950					
11. 14	57. 10	9. 39	·0949					
11. 25	56. 50	9. 55	·0954					
12. 8	57. 45	10. 7	·0952					
12. 38	57. 55	10. 15	·0953					
13. 8	57. 30	10. 37	·0948					
15. 11	57. 30	11. 7	·0952					
15. 58	58. 10	11. 26	·0948					
16. 30	57. 50	12. 39	·0951					
17. 20	58. 10	17. 46	·0955					
17. 47	57. 0	19. 0	·0953					
19. 2	57. 30	19. 37	·0954					
19. 49	57. 55	20. 6	·0951					
20. 14	57. 30	21. 38	·0947					
21. 22	58. 5	22. 5	·0942					
21. 46	59. 25	22. 19	·0946					
22. 12	59. 0		***					
22. 43	20. 59. 40	23. 45	·0950					
22. 47	21. 0. 35		(†)					
23. 7	20. 59. 55							
23. 50	21. 0. 10							
	(†)							

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Feb. 25		Feb. 25		Feb. 25		Feb. 25		
h m	° ′ ″	h m		h m		h m	°	°
	(†)		(†)	0. 0	·02557	1. 0	45 ·8	46 ·8
0. 5	21. 0. 20	0. 8	·0947	2. 22	·02491	3. 0	47 ·8	48 ·2
1. 35	0. 15	0. 18	·0947	5. 8	·02295	9. 0	46 ·0	47 ·0
1. 44	21. 0. 45	0. 38	·0945	8. 19	·02234	21. 0	41 ·2	44 ·5
2. 16	20. 59. 45	1. 15	·0946	12. 26	·02289	22. 0	41 ·7	44 ·5
2. 36	59. 55	1. 25	·0945	19. 3	·02453	23. 0	41 ·9	44 ·5
2. 51	59. 0	2. 7	·0945	22. 15	·02577			
3. 23	59. 20	2. 28	·0947	22. 22	·02568			
4. 23	58. 35	2. 49	·0941	23. 59	·02597			
6. 0	58. 45	3. 22	·0945					
7. 15	58. 0	3. 37	·0941					
9. 3	57. 30	4. 55	·0942					
	***	6. 31	·0947					
14. 9	58. 15	8. 39	·0952					
15. 16	57. 35	10. 8	·0952					
	***	10. 40	·0952					
21. 1	56. 30	12. 22	·0955					
22. 50	20. 59. 0	16. 54	·0959					
23. 28	21. 0. 50	18. 23	·0960					
23. 59	1. 0	19. 19	·0958					
		20. 50	·0948					
		21. 3	·0947					
		21. 45	·0945					
		22. 38	·0946					
		23. 4	·0944					
		23. 28	·0944					
		23. 59	·0945					
Feb. 26		Feb. 26		Feb. 26		Feb. 26		
0. 0	21. 1. 5	0. 0	·0945	0. 0	·02597	0. 0	42 ·2	44 ·5
0. 27	1. 20	0. 35	·0945	1. 13	·02590	1. 0	43 ·2	44 ·5
1. 30	21. 0. 45	2. 10	·0952	2. 11	·02553	2. 0	43 ·6	45 ·0
3. 50	20. 57. 45	2. 51	·0950		·02378	3. 0	44 ·0	45 ·6
4. 47	57. 35	3. 10	·0953	6. 30:	·02250	6. 0	43 ·8	45 ·0
5. 28	58. 20	3. 22	·0950	12. 11	·02360	9. 0	42 ·0	44 ·0
7. 54	57. 35	3. 50	·0950	14. 31	·02365	12. 0	41 ·5	43 ·6
9. 49	58. 0	3. 56	·0949	20. 9	·02469	18. 0	41 ·0	43 ·0
12. 10	56. 55	4. 36	·0949	21. 50	·02468	21. 0	39 ·2	41 ·6
12. 36	57. 20	5. 8	·0952	23. 59	·02430	22. 0	39 ·5	41 ·6
13. 4	56. 35	5. 23	·0951			23. 0	39 ·8	42 ·0
15. 6	57. 0	5. 45	·0953					
19. 1	57. 0	6. 22	·0952					
20. 45	55. 10	6. 47	·0956					
21. 48	56. 55	7. 20	·0959					
21. 56	57. 45	7. 37	·0959					
22. 7	58. 5	8. 23	·0961					
22. 18	20. 58. 0	8. 49	·0960					
23. 9	21. 0. 30	9. 34	·0963					
23. 16	0. 30	9. 54	·0962					
23. 48	1. 5	10. 7	·0963					
23. 59	1. 25	10. 18	·0960					
		10. 56	·0960					
		11. 7	·0961					
		11. 30	·0959					
		12. 30	·0965					
		12. 54	·0964					
		16. 58	·0964					
		18. 18	·0966					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
h m	° ′ ″	Feb. 26 h m		h m		h m	°	°
		18. 58	·0966					
		19. 20	·0965					
		19. 30	·0967					
		20. 8	·0963					
		20. 23	·0964					
		21. 15	·0960					
		21. 53	·0961					
		22. 10	·0959					
		23. 27	·0963					
		23. 59	·0962					
Feb. 27		Feb. 27		Feb. 27		Feb. 27		
0. 0	21. 1. 30	0. 0	·0962	0. 0	·02430	0. 0	40·0	42·6
1. 15	1. 5	1. 15	·0963	1. 56	·02427	1. 0	40·8	42·7
1. 29	21. 0. 20	1. 37	·0961	5. 22:	·02244	3. 0	42·6	43·2
3. 27	20. 58. 15	1. 54	·0964	8. 53	·02155	9. 0	43·8	44·1
5. 30	58. 55	2. 9	·0962	14. 46	·02166	21. 0	41·0	43·0
8. 15	56. 30	3. 9	·0962	19. 53	·02204			
11. 23	56. 30	3. 22	·0959	21. 53	·02253			
11. 45	57. 25	5. 43	·0962	23. 59	·02222			
13. 29	58. 0	6. 7	·0961					
13. 43	57. 20	6. 37	·0963					
14. 25	57. 15	7. 45	·0965					
14. 40	58. 45	7. 56	·0963					
15. 7	56. 10	9. 7	·0965					
15. 19	57. 15	9. 23	·0964					
15. 55	56. 50	10. 15	·0969					
17. 24	56. 45	10. 37:	·0967					
17. 52	55. 50	10. 54	·0969					
19. 6	56. 45	11. 9	·0966					
19. 15	57. 15	11. 32	·0967					
19. 42	56. 50	11. 47	·0971					
19. 59	55. 0	12. 0:	·0968					
20. 17	54. 35	12. 17	·0970					
20. 58	57. 10	12. 37	·0970					
21. 18	56. 0	12. 47	·0968					
21. 27	56. 45	13. 7	·0969					
21. 38	56. 5	13. 17	·0971					
21. 51	58. 15		***					
22. 7	59. 55	14. 15	·0971					
22. 15	20. 58. 15	14. 31	·0974					
23. 32	21. 2. 20	15. 8	·0970					
23. 45	4. 55	15. 39	·0973					
	(†)		***					
		16. 37	·0976					
		16. 45	·0976					
		17. 52	·0979					
		18. 45	·0978					
			***					
		19. 56	·0973					
		20. 5	·0970					
		20. 9	·0971					
		20. 23	·0966					
		20. 29	·0966					
		20. 38	·0961					
		21. 17	·0955					
		21. 34	·0961					
		21. 48	·0956					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
h m	° ′ ″	Feb. 27 h m		h m		h m	°	°
		22. 8	·0948					
		22. 16	·0948					
		22. 24	·0945					
		22. 30	·0948					
		22. 37	·0944					
		22. 47	·0947					
		22. 55	·0943					
		23. 9	·0951					
		23. 59	·0957					
Feb. 28		Feb. 28		Feb. 28		Feb. 28		
0. 0	21. 5. 0	0. 0	·0957	0. 0	·02222	1. 0	43·0	44·5
0. 13	5. 0	0. 19	·0952	0. 55	·02185	3. 0	45·7	46·8
0. 15	6. 0	0. 28	·0958	1. 18	·02196	9. 0	43·2	46·6
0. 29	5. 20	0. 46	·0945	5. 2	·01930	21. 0	41·3	43·6
0. 38	7. 0	0. 52	·0946	6. 17	·01879			
0. 58	4. 50	1. 0	·0934	8. 30	·01914			
1. 2	4. 20	1. 23	·0949	10. 1	·01909			
1. 11	2. 0	1. 38	·0952	12. 9	·01840			
1. 33	3. 0	1. 51	·0957	13. 25	·01828			
1. 52	1. 45	2. 0	·0955	16. 1	·01970			
2. 8	1. 20	2. 11	·0959	18. 42	·02052			
3. 29	1. 20	2. 21	·0958	22. 47	·02100			
3. 49	0. 40	2. 35	·0957	23. 59	·02036			
4. 4	1. 10	3. 43	·0949					
4. 15	0. 10	4. 8	·0956					
5. 8	21. 0. 10	4. 15	·0952					
6. 0	20. 58. 45	5. 46	·0959					
6. 12	20. 57. 10	6. 0	·0955					
6. 30	21. 1. 30	6. 9	·0959					
6. 38	21. 0. 15	6. 24	·0949					
6. 49	20. 56. 30	6. 45:	·0930					
6. 59	57. 10	7. 0	·0935					
7. 15	57. 0	7. 7	·0934					
7. 27	55. 50	7. 18	·0941					
7. 45	56. 55	7. 23	·0932					
8. 6	55. 25	7. 37	·0939					
8. 19	58. 30	8. 6	·0926					
8. 36	51. 50	8. 22	·0932					
8. 43	53. 20	8. 30	·0920					
9. 1	48. 0	8. 38	·0927					
9. 5	48. 40	8. 52	·0915					
9. 45	42. 45	9. 0	·0918					
9. 56	44. 25	9. 36	·0919					
10. 7	44. 5	9. 47	·0915					
10. 27	41. 0	9. 55	·0924					
11. 7	47. 10	10. 14	·0903					
11. 13	46. 30	10. 25	·0919					
11. 30	50. 0	10. 36	·0915					
	(†)	11. 13	·0920					
12. 5	53. 30	11. 27	·0913					
12. 15	52. 30	11. 47	·0952					
12. 28	55. 30	11. 58	·0919					
12. 33	54. 30	12. 12	·0931					
12. 45	56. 10	12. 26	·0917					
12. 59	53. 45	12. 42	·0934					
13. 7	54. 55	13. 9	·0960					
13. 13	54. 30	13. 31	·0942					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Feb. 28		Feb. 28						
h m	° ′ ″	h m		h m		h m	°	°
13.22	20.50.0	13.37	·0944					
13.48	53.20	13.58	·0932					
13.52	54.30	14.5	·0933					
14.6	57.10	14.9	·0931					
14.15	20.57.20	14.38	·0942					
14.39	21.4.30	14.52:	·0937					
15.0	21.3.0	15.0	·0938					
15.59	20.58.25	15.19	·0947					
16.8	58.45	15.30	·0948					
16.29	57.25	15.42	·0945					
17.1	57.30	16.5	·0949					
17.14	58.15		***					
17.21	57.5	17.10	·0952					
17.36	58.10	17.22	·0948					
17.58	57.30	17.28	·0951					
18.30	58.25		***					
19.24	57.0	18.32	·0948					
19.48	57.45	19.4	·0951					
19.57	58.55		***					
20.16	57.5	19.40	·0939					
20.24	58.0	19.55	·0942					
20.31	57.15	20.15	·0937					
20.37	57.50	20.22	·0940					
20.43	56.55	20.30	·0934					
21.15	20.56.35	20.37	·0936					
22.57	21.1.0	20.42	·0934					
23.25	1.0	21.34	·0936					
23.45	1.50	21.40	·0937					
23.59	2.15		***					
		22.41	·0927					
		22.56	·0930					
		23.25	·0929					
		23.52	·0937					
			(†)					
Mar. 1		Mar. 1		Mar. 1		Mar. 1		
0.0	21.2.15		(†)	0.0	·02036	1.0	44·2	45·5
0.24	3.15	1.0	·0938*	1.31	·02017	3.0	45·8	47·2
1.30	3.25	3.0	·0942*	4.40	·01746	9.0	43·4	45·5
2.9	2.20	3.15	·0937	9.28	·01804	21.45	38·0	41·3
2.17	2.50	3.51	·0938	17.27	·02128			
2.40	1.20	4.23	·0933	23.7	·02317			
3.30	21.0.0	4.45	·0933	23.59	·02340			
3.55	20.58.45	5.0	·0934					
4.38	58.0	5.29	·0933					
	(†)	5.50	·0937					
7.27	57.30	6.26	·0936					
7.48	57.15	6.41	·0939					
7.50	57.10	6.56	·0938					
8.20	57.50	7.38	·0941					
8.57	57.5	8.15	·0938					
9.23	57.55	8.30	·0940					
10.15	56.35	9.16	·0940					
10.43	56.45	9.34	·0939					
11.19	57.10	9.46	·0940					
12.7	56.20	10.53	·0938					
12.35	56.50	11.52	·0942					
	(†)	12.21:	·0939					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Mar. 1		Mar. 1						
h m	° ′ ″	h m		h m		h m	°	°
13.45	20.58.20	12.45	·0943					
17.58	56.35	13.36	·0940					
19.40	57.0	14.0	·0942					
19.59	56.10	14.16	·0941					
21.45	56.50	16.38	·0948					
22.6	57.0	18.50	·0948					
22.12	20.57.0	19.11	·0950					
23.25	21.0.5	19.41	·0946					
23.34	1.25	20.10	·0945					
23.59	1.50	21.0	·0940					
		22.5	·0936					
		22.57	·0931					
		23.8	·0929					
		23.23	·0934					
		23.33	·0932					
		23.47	·0933					
		23.59	·0932					
Mar. 2		Mar. 2		Mar. 2		Mar. 2		
0.0	21.1.50	0.0	·0932	0.0	·02340	10.15	42·0	43·7
0.10	1.50	0.37	·0936	1.43:	·02347	21.0	36·0	38·2
0.21	2.45	0.58	·0936	4.55	·02164			
1.0	2.0	1.13	·0939	10.47:	·01978			
1.20	2.5	1.48	·0942	16.1	·02147			
1.39	1.10	1.53	·0941	22.52	·02558			
1.51	21.1.30		***	23.59	·02566			
4.8	20.57.35	3.38	·0941					
5.48	57.0	4.34	·0939					
6.23	58.0	6.37	·0944					
7.30	57.0	7.25	·0943					
7.44	55.55	8.10	·0946					
8.0	56.30	13.4	·0948					
8.13	56.5	17.11	·0953					
8.21	56.30	19.2	·0951					
8.57	57.0	20.4	·0952					
9.15	56.40	20.37	·0948					
10.10	57.10	21.25	·0947					
10.20	57.0	21.47	·0945					
12.45	57.40		***					
12.58	58.0	22.46	·0946					
	***	23.5	·0943					
16.8	57.55	23.59	·0945					
19.59	58.10							
20.16	57.30							
21.47	59.20							
21.58	20.58.55							
22.0	21.0.15							
22.8	20.59.45							
22.50	21.1.5							
23.6	0.30							
23.25	1.45							
23.50	1.35							
23.59	1.40							
Mar. 3		Mar. 3		Mar. 3		Mar. 3		
0.0	21.1.50	0.0	·0945	0.0	·02566	1.0	39·2	40·5
0.24	1.55	0.42	·0937	1.1	·02572	3.0	41·8	43·0
0.35	2.10	2.37	·0956	2.17	·02474	9.0	40·0	43·0

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Mar. 3		Mar. 3		Mar. 3		Mar. 3		
h m	° ′ ″	h m		h m		h m	°	°
1. 4	21. 1.45	3.24	·0963	5.11:	·02163	21. 0	31·8	35·2
1.13	2.30		(†)	8.47	·02058			
1.36	2.10	4.21	·0957	11. 2	·02038			
1.43	21. 2.40	7. 6	·0955	13.46	·02165			
3.26	20.59. 0	7.45	·0959	16. 3	·02304			
4. 3	58.35	8.25:	·0953	18.12	·02481			
5.15	59.15	8.52	·0959	19.44	{ ·02596			
6.27	58.50	9.14	·0960		·02528			
7.21	56.10	9.23	·0962	21.37	·02698			
7.58	57.35	10.21	·0963	23.45	·02640			
8.15	57.50	11. 7	·0960	23.50	·02614			
8.50	57.25	11.42	·0964	23.59	·02621			
9.37	57.45	11.56	·0962					
13.32	57.35	14.29	·0965					
13.45	58. 0	15.25	·0974					
14. 7	57.10	17. 4	·0967					
14.13	57.45	18. 4	·0976					
14.30	57.15	18.45	·0975					
15. 0	56. 5	19.12	·0977					
15.15	55.40	20. 0	·0971					
15.43	56.55	20.22	·0973					
16. 7	58.40	21. 8	·0967					
16.29	58.45	21.38	·0959					
17.17	56.50	21.56	·0961					
17.35	57. 0		(†)					
17.48	56.15							
18.57	57. 0							
19.15	56.45							
19.52	57. 0							
20.13	58.10							
20.30	58. 0							
20.39	56.55							
20.53	20.56.55							
21.44	21. 3. 5							
22.13	4. 0							
	(†)							
23.28	6.10							
23.44	5.20							
23.59	6.50							
Mar. 4		Mar. 4		Mar. 4		Mar. 4		
0. 0	21. 7. 0		(†)	0. 0	·02621	1. 0	36·0	38·0
0.15	8. 0	1. 0	·0972*	1. 2	·02597	3. 0	40·2	42·7
0.28	7.45	1.50	·0958	1.56	·02538	9. 0	41·6	43·7
1. 4	7. 0	2. 2	·0962	10.29:	·01728	21. 0	34·0	36·8
1.43	3.20	2.22	·0955	19.57	·02205	22. 0	34·8	37·2
1.52	5. 0	2.47	·0955	22.33	·02377	23. 0	36·5	38·6
2.14	2.50	3.36	·0960	23.59	·02296			
2.45	21. 1.50	4.37	·0963					
3. 7	20.59.55	5.15	·0960					
3.17	59.55	5.25	·0960					
3.30	59. 0	5.53	·0956					
3.43	59. 0	8.45	·0956					
4. 0	58. 5	9. 3	·0958					
5. 6	57.50	9.25	·0957					
6. 6	58. 0	9.49	·0958					
7.41	57. 5	11.37	·0959					
8.15	56.30	11.58	·0958					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Mar. 4		Mar. 4						
h m	° ′ ″	h m		h m		h m	°	°
9.18	20.56.50	12. 6	·0958					
11. 3	57.35	12.17	·0966					
11.22	57. 5	12.40	·0958					
12.14	57. 0	13.22	·0960					
12.38	55.55	13.57	·0959					
13.20	57.20	15.44	·0962					
14.45	58.15	16.53	·0959					
15.15	58. 0	18.22	·0957					
15.31	57.30	19.52	·0950					
16. 5	58. 0	20.38	·0945					
17. 0	58. 0		(†)					
20. 6	54.10	21. 0	·0948*					
20.12	53.55	21.38	·0939					
20.27	53.55	22.37	·0935					
21.53	58.45	23.15	·0943					
22. 5	20.59. 0	23.37	·0945					
22.15	21. 0. 0	23.59	·0943					
23.15	2. 0							
23.59	2. 0							
Mar. 5		Mar. 5		Mar. 5		Mar. 5		
0. 0	21. 1.50	0. 0	·0943	0. 0	·02296	0. 0	37·8	39·8
1.11	2. 0	1.42	·0951	1.43	·02087	1. 0	40·0	41·7
2.16	21. 1. 0	2. 0	·0955	3.34	·01720	2. 0	41·7	43·6
2.58	20.59.15	2.23	·0944	6. 4	·01707	3. 0	44·0	45·8
4.14	57.45	3.15	·0944	9.16	·01740	6. 0	43·5	45·0
	***	3.32	·0936	11. 7	·01784	9. 0	43·0	44·0
9.16	57.50	3.40	·0937	15.23:	·02063	12. 0	42·2	43·0
9.29	59. 0	4.12	·0931	18.52	·01997	18. 0	45·5	47·7
10. 6	55.30	4.35	·0934	19.38	·01962	21. 0	47·3	49·8
10.22	56.20	6.25	·0931	21.18	·01860	22. 0	49·0	50·7
10.40	55.50	8.16	·0938	21.22	·01842	23. 0	50·0	52·1
10.57	56. 0	8.53	·0937	22.36	·01757			
11. 2	57. 0	9.15	·0941	22.42	·01761			
11.28	54.50	9.30	·0936	22.50	·01745			
11.44	53.55	10. 0	·0938	22.55	·01680			
12. 6	53.50	10.24:	·0936	23.59	·01629			
12.46	55.45	11. 0	·0943					
13.23	57.30	11.11	·0941					
13.43	57.30	11.30	·0945					
13.57	58. 5	12. 5	·0940					
14.47	57. 5	13.16	·0945					
15. 0	58.10	13.30	·0945					
16.22	57.50	13.45	·0949					
16.30	57. 0	14. 1	·0949					
16.52	56.55	15.20	·0956					
17.24	57.55	15.49	·0956					
19.22	55.55	16.31	·0958					
19.28	53.50	17.21	·0956					
19.33	53.30	17.55	·0958					
19.44	55.20	18.28	·0958					
20.13	54.45	19.24	·0954					
20.20	54.10	19.44	·0956					
20.30	56. 0	20.23	·0942					
20.39	55.25	20.31	·0942					
20.56	57. 0	20.41	·0938					
21. 4	56. 0	20.52	·0940					
21.24	57. 5	21. 5	·0938					

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Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H.F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V.F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H.F. Magnet.	Readings of Thermometers. Of V.F. Magnet.
Mar. 5		Mar. 5						
h m	° ′ ″	h m		h m		h m	°	°
21.35	20.56.50	21.30	·0940					
21.40	53.0	21.38	·0951					
21.45	20.56.30	21.58	·0937					
22.15	21.3.35	22.15	·0946					
22.20	2.30	22.25	·0933					
22.29	3.50	22.35	·0922					
22.33	2.0	22.43	·0929					
22.40	4.30	22.49	·0919					
22.47	1.30		(†)					
23.14	12.30	23.3	·0923					
23.18	10.30	23.20	·0889					
23.30	16.0	23.30	·0915					
	(†)	23.35	·0909 ***					
		23.41	·0909					
		23.49	·0902					
		23.59	·0906					
Mar. 6		Mar. 6		Mar. 6		Mar. 6		
	(†)	0.0	·0906	0.0	·01629	0.0	51·0	53·2
0.45	21.11.0	0.9	·0907	0.30	·01623	1.0	52·0	53·2
1.15	12.0	0.20	·0915	1.5	·01676	2.0	53·3	54·0
1.30	17.0	0.33	·0922		·01770	3.0	54·8	54·7
1.53	7.0	0.41	·0917	1.50	·01826	9.0	54·5	54·6
2.0	9.10	0.50	·0924		·02030	21.0	51·8	53·2
2.9	8.0	0.57	·0920	2.17	·02024			
2.46	13.0	1.4	·0922		·02130			
3.36	4.0	1.9	·0914	3.3	·02058			
3.46	3.20	1.16	·0914	3.47	·02146			
4.2	3.45	1.37	·0962	4.20	·02168			
4.13	1.45	1.56	·0928	5.32	·02257			
4.18	3.5	2.14	·0938	5.49	·02365			
4.32	0.15	2.22	·0938	6.13	·02320			
5.1	2.0	2.39	·0952	7.40	·02266			
5.12	3.15	2.47	·0949	7.45	·02245			
5.29	1.30	2.52	·0950	9.0	·02200			
5.38	21.5.55	3.35	·0923	9.10	·02208			
6.0	20.58.25	3.52	·0926	9.16	·02176			
6.10	59.45	4.7	·0937	9.30	·02194			
6.20	54.55	4.15	·0933	9.52	·02080			
6.30	20.56.25	4.20	·0927	10.6	·02138			
6.45	21.2.35	4.24	·0933	10.40	·02110			
6.57	20.58.20	4.37	·0924	12.32	·02218			
7.8	21.2.20	4.51	·0939	13.39	·02227			
7.15	0.50	5.14	·0940	18.35	·02535			
7.28	21.0.10	5.19	·0937	20.55	·02610			
7.31	20.55.30		(†)	23.59	·02552			
7.38	57.0	5.45	·0908					
7.44	20.55.50	5.53	·0896					
8.10	21.7.25	6.5	·0911					
8.15	20.53.55	6.11	·0910					
8.23	57.0	6.22	·0922					
8.33	50.50	6.28	·0920					
9.0	48.20	6.41	·0923					
9.7	49.10	6.53	·0915					
9.14	48.10	7.8	·0930					
9.23	49.35	7.12	·0926					
9.40	44.50	7.22	·0931					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H.F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V.F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H.F. Magnet.	Readings of Thermometers. Of V.F. Magnet.
Mar. 6		Mar. 6						
h m	° ′ ″	h m		h m		h m	°	°
9.49	20.46.20	7.25	·0929					
10.0	50.0	7.35	·0936					
10.7	47.20	7.39	·0934					
10.15	56.45	7.47	·0941					
10.33	47.10	7.52	·0935					
10.45	50.15	8.0	·0942					
10.59	52.40	8.5	·0939					
11.0	52.10	8.10	·0948					
11.8	56.15	8.21	·0912					
11.18	54.10	8.26	·0930					
11.30	49.10	8.38	·0915					
11.42	51.55	8.40	·0916					
11.48	50.20	9.0	·0910					
11.59	53.20	9.8	·0915					
12.3	52.0	9.16	·0907					
12.13	54.20	9.28	·0916					
12.15	53.10	9.35	·0908					
12.27	53.0	9.43	·0918					
12.37	55.55	9.50	·0906					
12.45	20.54.55	9.53	·0910					
13.13	21.0.0	10.4	·0918					
13.28	20.58.0	10.23	·0910					
13.35	59.0	10.47	·0948					
13.46	58.55	10.54	·0946					
14.15	56.10	11.6	·0928					
14.40	57.15	11.11	·0921					
15.17	55.55	11.21	·0929					
15.40	56.55	11.34	·0930					
15.50	58.10	11.41	·0935					
16.9	57.10	11.50	·0932					
17.14	56.35	11.55	·0936					
17.16	57.10	12.4	·0930					
18.10	57.15	12.10	·0935					
18.22	58.55	12.25	·0933					
18.39	58.15	12.35	·0937					
19.17	59.50	12.58	·0955					
19.28	58.45		***					
20.21	58.20	13.28	·0943					
20.39	59.30	13.35	·0945					
20.49	20.59.30	13.50	·0941					
21.19	21.1.40		***					
21.33	1.5	14.46	·0940					
21.55	3.15	15.1	·0945					
22.11	3.20	15.49	·0940					
23.59	9.35	16.28	·0950					
		16.41	·0950					
		17.8	·0943					
		18.10	·0937					
		18.20	·0935					
		18.30	·0928					
		18.45	·0927					
		18.52	·0925					
		19.10	·0930					
		19.19	·0929					
		19.26	·0933					
		20.30	·0928					
		20.38	·0925					
		20.48	·0925					
		21.32	·0919					

For the Horizontal and Vertical Forces, increasing Readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
h m	° ′ ″	Mar. 6 h m		h m		h m	°	°
		21. 50	·0925					
		22. 41	·0921					
		23. 37	·0929					
		23. 59	·0935					
Mar. 7		Mar. 7		Mar. 7		Mar. 7		
0. 0	21. 9. 40	0. 0	·0935	0. 0	·02552	1. 0	54 ·6	55 ·1
0. 19	9. 30	0. 20	·0935	1. 53	·02484	3. 0	56 ·0	56 ·5
	(†)	0. 43	·0927	2. 49	·02438	9. 0	55 ·0	56 ·0
4. 0	4. 10	1. 5	·0933	3. 55	·02310	21. 0	52 ·7	53 ·8
4. 18	1. 15	1. 35	·0934	6. 12	{ ·02135			
4. 45	21. 1. 25	2. 32	·0935		{ ·02166			
5. 14	20. 59. 55	2. 44	·0937	8. 2	·02157			
5. 23	21. 0. 10	2. 54	·0936	9. 56	·02135			
5. 45	21. 0. 0	3. 7	·0939	11. 35	·02163			
6. 38	20. 57. 35	3. 42	·0940	12. 1	·02147			
7. 11	59. 0	3. 54	·0938	13. 56	·02218			
7. 28	20. 58. 45	4. 7	·0927	14. 32	·02227			
	***	4. 27	·0941	19. 37	·02480			
7. 57	21. 0. 10	5. 9	·0934	22. 22	·02552			
8. 7	21. 0. 10	5. 36	·0936	23. 59	·02518			
8. 20	20. 59. 10	5. 59	·0935					
8. 34	21. 0. 30	6. 23	·0929					
9. 2	20. 59. 10	6. 52	·0936					
10. 5	57. 55	7. 0	·0934					
10. 13	58. 30	7. 6	·0933					
11. 27	57. 0	7. 15	·0927					
11. 42	54. 15	7. 48	·0928					
11. 52	55. 55	7. 54	·0931					
12. 8	54. 35	8. 9	·0928					
12. 26	55. 55	8. 31	·0934					
12. 44	51. 55	8. 45	·0932					
12. 53	53. 0	9. 44	·0938					
13. 15	50. 20	10. 38	·0941					
13. 27	52. 0	11. 6	·0940					
13. 47	53. 10	11. 38	·0970					
14. 7	55. 55	12. 20	·0938					
14. 56	53. 10	12. 37	·0943					
15. 25	55. 55	13. 28	·0936					
15. 30	56. 20	14. 8	·0942					
15. 58	56. 0	14. 38	·0945					
17. 13	58. 50	15. 19	·0943					
17. 43	56. 55	15. 53	·0945					
17. 53	56. 50	16. 22	·0944					
18. 18	58. 5	17. 8	·0945					
19. 14	57. 45	17. 25	·0947					
19. 56	58. 45	17. 54	·0942					
20. 5	57. 50	18. 10	·0944					
20. 25	57. 25	18. 20	·0942					
20. 38	59. 0	19. 2	·0941					
20. 51	59. 0	19. 23	·0936					
20. 58	59. 45	20. 3	·0932					
21. 5	20. 59. 30	20. 20	·0932					
21. 14	21. 0. 15	20. 44	·0930					
21. 21	0. 0	21. 52	·0920					
22. 8	0. 40	22. 25	·0925					
22. 27	2. 15	23. 7	·0925					
22. 55	3. 35	23. 30	·0920					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Mar. 7 h m	° ′ ″	Mar. 7 h m		h m		h m	°	°
23. 3	21. 5. 0	23. 37	·0925					
23. 15	4. 55	23. 43	·0925					
23. 26	21. 0. 15	23. 59	·0926					
23. 42	20. 59. 50							
23. 59	21. 1. 30							
Mar. 8		Mar. 8		Mar. 8		Mar. 8		
0. 0	21. 1. 30	0. 0	·0926	0. 0	·02518	1. 0	56 ·3	56 ·6
0. 17	2. 35	0. 22	·0928	3. 30	{ ·02193	3. 0	57 ·3	58 ·8
0. 30	1. 0	0. 32	·0925		{ ·02224	9. 0	58 ·5	58 ·0
1. 8	3. 30	0. 39	·0927	4. 20	·02127	22. 20	51 ·5	52 ·0
1. 14	3. 45	1. 9	·0930	4. 23	·02160			
2. 0	0. 10	1. 40	·0908	4. 58	·02124			
2. 10	21. 1. 35	1. 56	·0922	5. 28	·02142			
2. 37	20. 59. 0	2. 23	·0934	6. 3	·02138			
3. 34	21. 0. 35	2. 33	·0932	7. 29	·02162			
3. 45	21. 0. 15	2. 48	·0938	8. 0	·02144			
4. 6	20. 58. 35	3. 2	·0936	8. 12	·02175			
4. 24	58. 55	3. 25:	·0942	8. 43	·02158			
5. 0	57. 15	3. 36	·0940	11. 11	·02130			
5. 14	53. 10	4. 39	·0936	11. 18	{ ·02135			
5. 18	53. 15	4. 51	·0934		{ ·02256			
5. 36	56. 10	5. 0	·0930	12. 38	·02263			
5. 53	56. 35	5. 9	·0941	13. 57	·02322			
6. 32	55. 20	5. 15	·0941	14. 56	·02420			
6. 45	56. 15	5. 22	·0945	17. 15	·02573			
7. 14	56. 20	5. 51	·0939	18. 21	·02674			
8. 13	54. 45	6. 2	·0941	23. 59	·03003			
8. 30	55. 30	6. 14	·0940					
9. 3	53. 50	6. 22	·0941					
9. 32	54. 45	6. 45	·0939					
10. 49	54. 40	6. 58	·0941					
11. 44	54. 0	7. 14	·0940					
13. 0	53. 55	7. 29	·0943					
	(†)	8. 8	·0943					
14. 23	54. 40	8. 22	·0942					
14. 35	55. 0	8. 44	·0946					
15. 0	54. 10	9. 7	·0945					
15. 28	52. 55	9. 55:	·0939					
15. 55	53. 45	11. 0	·0942					
16. 33	58. 45	11. 29	·0937					
16. 50	56. 45	12. 30	·0935					
16. 58	56. 35	12. 41	·0936					
17. 26	54. 5	13. 0	·0932					
18. 48	54. 10	13. 38	·0941					
19. 7	53. 30	13. 56	·0937					
19. 26	54. 15	14. 19	·0941					
20. 23	54. 0	14. 28	·0941					
20. 59	54. 20		(†)					
21. 28	57. 10	15. 38	·0941					
22. 2	58. 45	16. 0	·0939					
22. 33	59. 0	16. 21	·0933					
22. 47	20. 58. 50	16. 54	·0945					
23. 9	21. 2. 45	17. 39	·0945					
23. 42	1. 0	18. 22	·0950					
23. 59	1. 45		(†)					
		19. 7	·0946					
		19. 15	·0947					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.
h m	° ' ''
Mar. 9	
0. 0	21. 1. 50
0. 9	1. 35
0. 34	2. 0
0. 57	4. 10
1. 30	2. 30
1. 36	2. 55
1. 45	2. 50
1. 58	1. 45
2. 1	1. 55
2. 15	1. 15
2. 22	1. 55
2. 47	0. 10
3. 22	0. 45
3. 39	0. 10
3. 57	21. 0. 0
4. 39	20. 55. 40
4. 50	55. 40
5. 10	56. 30
6. 38	56. 35
6. 54	56. 5
7. 45	55. 15
8. 8	52. 45
8. 33	54. 5
8. 48	53. 15
9. 5	53. 15
9. 17	54. 0
9. 54	53. 40
10. 24	54. 55
10. 41	54. 50
11. 2	55. 10
12. 9	54. 45
12. 19	55. 0
13. 32	54. 55
14. 20	55. 10
19. 45	53. 55
19. 56	53. 5
20. 27	52. 55
20. 38	54. 0
21. 17	54. 20
23. 0	20. 58. 50
23. 54	21. 1. 0
23. 59	0. 55
Mar. 10	
0. 0	21. 0. 40
0. 30	1. 10
0. 51	0. 50
0. 57	1. 0
1. 34	21. 1. 50

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Mar. 8	
h m	
19. 40	·0942
20. 37	·0938
20. 54	·0938
22. 5	·0927
	(†)
23. 47	·0938
23. 59	·0931
Mar. 9	
0. 0	·0931
	***
1. 37	·0944
2. 9	·0941
2. 22	·0944
2. 34	·0938
2. 58	·0946
3. 19	·0943
	***
4. 5	·0943
4. 22	·0945
5. 3	·0937
5. 36	·0947
5. 43	·0946
6. 30	·0947
6. 55	·0948
7. 13	·0951
8. 24	·0949
8. 37	·0953
8. 52	·0953
9. 20	·0955
9. 31	·0955
9. 40	·0952
10. 15	·0955
10. 44	·0951
11. 13	·0952
11. 52	·0954
11. 49	·0952
14. 52	·0952
17. 5	·0955
18. 55	·0952
20. 30	·0944
22. 23	·0940
23. 9	·0945
23. 26	·0943
	(†)
Mar. 10	
	(†)
1. 0	·0949*
1. 31	·0950
2. 8	·0954
2. 50	·0945

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
Mar. 9	
0. 0	·03003
1. 52	·03056
4. 5	·03082
20. 7	·03014
21. 43	{ ·02956 ·02584
23. 59	·02552
Mar. 10	
0. 0	·02552
2. 15	·02423
3. 13	·02396
5. 46	·02170
7. 40	·02058

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Mar. 9		
8. 0	51 ·5	52 ·0
21. 0	50 ·0	51 ·0
Mar. 10		
1. 0	52 ·0	53 ·4
3. 0	53 ·8	54 ·6
9. 0	53 ·6	54 ·5
21. 0	48 ·0	49 ·8

Greenwich Mean Solar Time.	Western Declination.
Mar. 10	
h m	° ' ''
2. 15	20. 59. 25
2. 30	59. 40
3. 30	58. 35
3. 55	57. 0
4. 10	57. 5
4. 35	56. 0
4. 57	56. 0
5. 10	56. 30
5. 45	55. 20
6. 0	55. 50
6. 25	55. 10
6. 30	55. 35
6. 45	55. 40
6. 53	55. 10
7. 10	55. 15
7. 18	56. 0
7. 30	55. 15
8. 4	55. 15
8. 17	54. 50
8. 23	55. 0
8. 35	54. 0
8. 47	54. 45
9. 10	54. 30
9. 21	55. 0
9. 31	54. 55
10. 10	55. 10
10. 29	55. 0
10. 43	56. 5
11. 7	55. 0
12. 29	55. 15
12. 39	56. 0
13. 15	55. 0
14. 40	55. 15
14. 54	55. 0
15. 2	55. 5
15. 53	54. 15
16. 52	54. 10
17. 3	54. 15
17. 43	53. 20
17. 55	53. 40
18. 14	52. 50
18. 33	53. 0
19. 15	52. 5
19. 45	52. 30
22. 0	59. 25
22. 22	20. 59. 10
22. 45	21. 1. 5
23. 17	2. 0
23. 24	2. 50
23. 41	2. 30
	(†)
Mar. 11	
	(†)
0. 14	21. 3. 50
0. 23	3. 15
0. 45	4. 0
1. 18	3. 35

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Mar. 10	
h m	
3. 24	·0954
3. 46	·0947
4. 4	·0948
4. 10	·0947
4. 21	·0950
5. 8	·0943
5. 53	·0944
6. 20	·0942
6. 38	·0942
7. 21	·0941
7. 50	·0943
8. 6	·0939
8. 16	·0941
8. 23	·0940
9. 7	·0950
9. 22	·0955
9. 38	·0951
9. 52	·0952
10. 22	·0949
10. 37	·0951
10. 48	·0950
11. 0	·0951
11. 23	·0948
12. 5	·0953
12. 19	·0952
13. 15	·0956
13. 34	·0955
15. 26	·0962
15. 38	·0960
16. 52	·0958
17. 16	·0958
17. 25	·0960
18. 34	·0958
18. 48	·0956
18. 57	·0958
19. 52	·0953
20. 49	·0946
21. 8	·0946
21. 22	·0944
21. 37	·0945
22. 24	·0946
22. 55	·0947
23. 41	·0951
	(†)
Mar. 11	
	(†)
0. 15	·0949
1. 7	·0948
1. 30	·0950
1. 43	·0950

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
Mar. 10	
h m	
10. 10	·01972
11. 14	·02004
15. 45	·02348
20. 57	·02658
22. 13	{ ·02693 ·02506
23. 10	{ ·02484 ·02438
23. 59	·02424
Mar. 11	
0. 0	·02424
1. 48	·02360
5. 49	·02134
7. 22	·02075
10. 39	·02013

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Mar. 11		
1. 0	51 ·2	51 ·6
3. 0	53 ·0	53 ·6
9. 0	54 ·0	54 ·5
21. 0	51 ·6	53 ·2
22. 0	53 ·0	53 ·7

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Mar. 11		Mar. 11		Mar. 11		Mar. 11		
h m	° ′ ″	h m		h m		h m	°	°
1. 49	21. 3. 55	2. 11	·0947	11. 56	·01944	23. 0	53·6	54·3
2. 3	2. 0	2. 50	·0951	12. 59	·01948			
2. 33	1. 15	4. 11	·0950	13. 25	·01924			
2. 50	1. 35	6. 22	·0951	16. 2	·01955			
3. 5	1. 10	6. 59	·0952	18. 35	·02028			
3. 13	21. 1. 30	7. 22	·0956	21. 57	·02135			
4. 11	20. 59. 10	7. 53:	·0953	23. 59	·02046			
5. 15	58. 30	8. 12	·0958					
5. 51	58. 50	8. 49	·0955					
7. 0	58. 30	9. 5	·0956					
7. 23	59. 10	9. 30	·0956					
8. 8	58. 25	9. 54:	·0954					
8. 35	58. 30	10. 3	·0959					
9. 30	56. 0	10. 49:	·0955					
9. 36	56. 10	11. 37	·0970					
9. 57	55. 15	11. 59	·0962					
10. 43	56. 20	12. 15	·0961					
10. 57	59. 5	12. 39	·0956					
11. 13	59. 30	13. 7	·0972					
11. 20	58. 55	13. 37	·0962					
11. 35	59. 10	14. 53	·0958					
12. 30	53. 20	15. 22	·0954					
12. 47	54. 10	15. 38	·0953					
13. 18	59. 25	16. 2	·0957					
13. 51	55. 30	16. 22	·0958					
14. 12	54. 55	17. 7	·0966					
14. 43	52. 50	17. 23:	·0961					
15. 1	52. 10	17. 56:	·0971					
15. 45	53. 0	18. 28:	·0965					
16. 40	52. 0	18. 51:	·0968					
17. 0	53. 55	19. 42	·0949					
17. 8	54. 0	20. 15	·0944					
17 51	56. 50	20. 32	·0939					
18 43	54. 55	20. 41	·0939					
19. 19	56. 55	21. 22	·0932					
20. 0	20. 55. 0	21. 37	·0937					
20. 32	21. 0. 45	22. 23	·0935					
20. 37	0. 50		***					
20. 45	2. 5	23. 47	·0946					
20. 46	1. 50		(†)					
20. 56	2. 35							
21. 29	0. 15							
22. 7	5. 0							
22. 30	4. 20							
23. 24	4. 25							
23. 30	5. 15							
23. 43	4. 10							
23. 59	5. 20							
Mar. 12		Mar. 12		Mar. 12		Mar. 12		
0. 0	21. 5. 50		(†)	0. 0	·02046	0 0	54·0	55·0
0. 31	6. 0	0. 7	·0943	0. 41	·02024	1. 0	54·6	55·5
0. 47	3. 30	0. 15	·0940	1. 2	·02033	2. 0	54·6	55·6
0. 52	3. 10	0. 34	·0943	2. 56	·01924	3. 0	54·8	55·6
1. 0	4. 55	0. 47	·0936	3. 33	·01915	6. 0	55·0	56·0
1. 14	3. 55	1. 2	·0942	4. 7	·01874	9. 0	53·5	55·2
1. 18	4. 35	1. 22	·0937	4. 31	·01860	12. 0	53·0	53·9
1. 38	4. 5	1. 36	·0940	6. 12	·01738	18. 0	46·0	47·3

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Mar. 12		Mar. 12		Mar. 12		Mar. 12		
h m	° ′ ″	h m		h m		h m	°	°
1. 51	21. 4. 55	1. 45	·0937	7. 1	·01723	21. 0	48·0	50·3
2. 10	3. 35	2. 7	·0940	7. 18	·01737	22. 0	48·3	50·5
2. 15	4. 30	2. 11	·0937	7. 54	·01696	23. 0	49·3	51·0
2. 27	4. 10	2. 37	·0940	10. 13	·01755			
2. 57	1. 15	3. 7	·0935	15. 8	·01980			
3. 11	2. 45	3. 31:	·0942	18. 41	·02185			
3. 30	2. 45	3. 43	·0940	21. 53	·02313			
3. 41	0. 30	3. 55	·0929	23. 59	·02290			
3. 54	0. 50	4. 34	·0931					
4. 8	21. 0. 0	4. 49	·0936					
4. 45	20. 55. 10	5. 17	·0942					
4. 59	55. 10	5. 30	·0939					
5. 12	56. 10	5. 46	·0942					
5. 23	56. 5	6. 0	·0937					
5. 44	55. 30	6. 29:	·0945					
5. 59	57. 5	7. 9	·0930					
6. 32	54. 55	7. 32	·0969					
6. 43	56. 10	7. 47	·0969					
6. 45	56. 10	8. 8	·0935					
6. 54	57. 0	8. 22:	·0941					
7. 8	53. 10	8. 37	·0923					
7. 15	40. 0	9. 2	·0938					
7. 19	37. 10	9. 11	·0940					
7. 47	49. 20	9. 38	·0944					
8. 10	44. 35	10. 20	·0939					
8. 32	54. 40	10. 30	·0941					
8. 44	53. 0	10. 41	·0939					
9. 5	54. 50	11. 4	·0945					
10. 12	54. 15	11. 16	·0945					
10. 23	51. 55	11. 32	·0949					
10. 29	51. 45	12. 0	·0949					
10. 38	52. 50	12. 18	·0954					
11. 15	53. 15	12. 45	·0949					
11. 30	52. 20	13. 3	·0951					
11. 45	53. 0	13. 36	·0944					
12. 52	51. 0	14. 34	·0947					
13. 1	49. 15	15. 1	·0958					
13. 28	49. 10	15. 26	·0953					
13. 43	54. 30	16. 22	·0951					
13. 50	54. 20	16. 54	·0956					
14. 17	56. 0	17. 10	·0952					
14. 50	54. 0	17. 19	·0955					
15. 25	53. 40	18. 0	·0954					
16. 0	55. 15	18. 16	·0957					
16. 13	54. 50	18. 27	·0954					
16. 28	55. 0	18. 48	·0957					
16. 37	54. 45	19. 30	·0953					
16. 58	55. 30	20. 1	·0953					
17. 11	54. 10	20. 25	·0949					
17. 44	54. 55	20. 41	·0949					
18. 2	54. 50	21. 7	·0947					
18. 18	56. 50	22. 6	·0951					
18. 30	54. 50	22. 22	·0949					
18. 42	54. 45	22. 31	·0953					
18. 45	55. 5	23. 10	·0952					
19. 2	55. 10	23. 22	·0954					
19. 42	54. 35	23. 59	·0951					
20. 14	54. 30							

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Mar. 12								
h m	° ′ ″	h m		h m		h m	°	°
20. 57	20. 55. 50							
21. 7	55. 10							
22. 18	58. 55							
22. 30	57. 55							
22. 33	20. 59. 20							
23. 14	21. 1. 10							
23. 27	2. 15							
23. 30	1. 55							
23. 47	1. 20							
23. 59	1. 55							
Mar. 13		Mar. 13		Mar. 13		Mar. 13		
0. 0	21. 2. 15	0. 0	·0951	0. 0	·02290	0. 0	50·0	51·7
0. 16	2. 5	0. 50	·0952	0. 38	·02280	1. 0	50·6	51·8
0. 27	1. 25	0. 59	·0956	1. 20	·02293	2. 0	51·5	52·7
0. 44	1. 10	2. 23	·0956	2. 57	·02220	3. 0	52·3	53·6
0. 59	3. 20	2. 48	·0960	5. 42	·02016	9. 0	54·0	55·5
1. 22	3. 40	2. 54	·0962	6. 49	·01953	21. 0	47·0	49·6
1. 44	2. 20	3. 30	·0951	11. 6:	·01787			
2. 12	2. 0	3. 38	·0951	14. 15	·01900			
2. 55	3. 40	3. 53	·0946	18. 30	·02164			
3. 28	2. 0	4. 8	·0945	22. 7	·02336			
3. 38	2. 15	5. 7	·0955	23. 59	·02370			
3. 52	21. 1. 0	5. 41	·0957					
4. 37	20. 59. 0	6. 30	·0959					
7. 6	56. 55	7. 50	·0958					
7. 40	57. 0	8. 14	·0954					
7. 59	56. 35	8. 23	·0956					
8. 23	52. 0	8. 45	·0954					
9. 0	55. 0	9. 0	·0958					
9. 27	55. 15	9. 20	·0953					
9. 43	56. 30	9. 44	·0952					
10. 0	56. 10	10. 40	·0956					
11. 15	57. 25	10. 55	·0955					
14. 33	57. 55	13. 9	·0958					
	***	13. 31	·0956					
20. 3	54. 50	14. 37	·0957					
21. 32	56. 30	15. 3	·0960					
22. 40	58. 25	18. 22	·0962					
23. 6	20. 59. 45	18. 58	·0960					
23. 43	21. 0. 10	19. 54	·0960					
23. 59	0. 0	20. 38	·0955					
		21. 7	·0957					
		22. 4	·0958					
		22. 38	·0960					
		23. 44	·0967					
			(†)					
Mar. 14		Mar. 14		Mar. 14		Mar. 14		
0. 0	21. 0. 0		(†)	0. 0	·02370	1. 0	48·8	50·0
0. 37	1. 0	0. 13	·0960	2. 7	·02403	3. 0	50·2	50·8
0. 53	0. 20	0. 35	·0955	8. 12:	·02192	9. 0	48·9	51·0
1. 15	21. 0. 15	1. 7	·0957	13. 31	·02268	21. 0	44·8	46·3
2. 0	20. 59. 10	1. 25	·0956	18. 41	·02430			
2. 15	59. 30	2. 20	·0966	20. 0	·02478			
2. 44	58. 55	2. 41	·0963	20. 18	·02473			
2. 55	59. 5	2. 55	·0964	22. 14	·02544			
3. 16	58. 10	3. 22	·0958	23. 15	·02540			

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Mar. 14		Mar. 14		Mar. 14				
h m	° ′ ″	h m		h m		h. m	°	°
8. 29	20. 55. 40	3. 47	·0961	23. 59	·02558			
10. 23	56. 0	4. 22	·0964					
13. 9	54. 30	5. 4	·0962					
13. 17	55. 0	6. 18	·0967					
13. 55	51. 40	9. 48	·0968					
14. 57	56. 20	10. 13	·0969					
15. 15	57. 10	10. 37	·0968					
16. 31	57. 0	11. 10	·0969					
17. 8	56. 10	11. 45	·0968					
18. 38	56. 20	12. 0	·0970					
18. 59	56. 0	13. 7	·0966					
19. 5	56. 40	13. 31	·0972					
20. 3	54. 55	13. 46	·0973					
21. 12	56. 15	14. 16	·0966					
21. 26	57. 15	14. 35	·0964					
21. 28	58. 5	15. 10	·0965					
21. 40	57. 50	15. 35	·0967					
21. 45	58. 15	16. 10	·0969					
21. 54	58. 0	16. 53	·0971					
22. 27	20. 58. 55	17. 8	·0970					
22. 53	21. 2. 10	17. 23	·0971					
23. 7	2. 55	18. 29	·0972					
23. 18	1. 50	18. 53	·0968					
23. 46	4. 30	19. 4	·0970					
23. 59	4. 45	20. 38	·0963					
		20. 53	·0960					
		21. 1	·0961					
		21. 8	·0960					
		21. 20	·0963					
		21. 33	·0959					
		22. 23	·0963					
		22. 47	·0970					
		23. 7	·0967					
		23. 22	·0958					
		23. 28	·0961					
		23. 59	·0966					
Mar. 15		Mar. 15		Mar. 15		Mar. 15		
0. 0	21. 4. 45	0. 0	·0966	0. 0	·02558	1. 0	47·0	49·0
0. 13	4. 45	0. 28	·0971	0. 57	·02530	3. 0	48·0	50·2
0. 31	5. 35	0. 49	·0972	2. 28	{ ·02578	9. 0	47·9	50·2
1. 6	5. 10	2. 37	·0966		{ ·02523	22. 22	45·0	47·0
1. 32	3. 55	2. 52	·0964	5. 48:	·02340			
2. 5	5. 15	3. 26:	·0971	9. 14	·02304			
2. 19	3. 50	3. 53	·0969	9. 42	·02290			
2. 27	4. 20	4. 15	·0962	11. 20	·02284			
2. 40	3. 5	4. 40	·0958	22. 1	·02525			
3. 0	4. 5	5. 22	·0961	22. 9	·02514			
3. 20	3. 50	5. 44	·0964	23. 59	·02556			
3. 39	2. 35	6. 15:	·0969					
4. 6	3. 0	6. 51	·0966					
4. 25	2. 20	7. 15	·0966					
4. 36	21. 0. 55	7. 41:	·0973					
5. 45	20. 59. 0	8. 7	·0970					
7. 10	58. 10	8. 21	·0964					
7. 36	57. 15	8. 39	·0965					
7. 59	57. 50	9. 0	·0956					
8. 27	56. 55	9. 20	·0954					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Mar.15		Mar.15						
h m	° ′ ″	h m		h m		h m	°	°
8. 43	20. 57. 0	9. 40	·0960					
8. 57	52. 30	10. 5	·0956					
9. 7	51. 40	10. 33:	·0949					
9. 17	51. 30	11. 12	·0962					
9. 30	52. 50	11. 22	·0960					
9. 59	47. 15	11. 29	·0962					
10. 12	48. 10	11. 40	·0957					
10. 46	54. 10	11. 53	·0960					
10. 57	53. 40	12. 12	·0962					
11. 3	54. 10	12. 35	·0959					
11. 30	53. 0	13. 40	·0963					
11. 44	54. 50	14. 5	·0958					
12. 32	54. 5	14. 17	·0961					
	(†)	14. 54	·0959					
16. 55	56. 0	15. 33	·0961					
17. 25	56. 10	15. 40	·0964					
18. 6	55. 10	15. 49	·0962					
18. 30	56. 0	16. 1	·0964					
20. 18	53. 45	17. 31	·0965					
21. 41	55. 20	17. 44	·0964					
22. 0	57. 20	17. 52	·0965					
22. 9	20. 57. 10	18. 12	·0963					
23. 15	21. 0. 50	18. 39	·0965					
23. 59	2. 20	19. 7	·0965					
		21. 3	·0959					
		21. 22	·0956					
		22. 6	·0955					
		22. 7	·0959					
		22. 28	·0960					
		22. 44	·0958					
		23. 8	·0957					
		23. 31	·0959					
		23. 59	·0951					
Mar.16		Mar.16		Mar.16		Mar.16		
0. 0	21. 2. 20	0. 0	·0951	0. 0	·02556	9. 0	47 ·0	48 ·8
0. 35	3. 15	0. 12	·0953	0. 35	·02565	21. 0	46 ·0	48 ·6
1. 22	2. 20	0. 22	·0957	0. 40	·02547			
1. 33	2. 50	1. 1	·0962	3. 51	·02600			
2. 28	2. 10	1. 49	·0963	8. 52	·02514			
3. 43	0. 5	2. 20	·0970	13. 30	·02488			
4. 43	21. 1. 5	2. 37	·0970	20. 40	·02545			
5. 34	20. 59. 45	3. 4	·0974	23. 59	·02544			
6. 13	21. 0. 0	3. 52	·0974					
7. 10	20. 59. 0	4. 20	·0975					
7. 45	58. 0	5. 2	·0973					
7. 58	58. 25	5. 19	·0967					
9. 14	57. 50	5. 35	·0964					
	(†)	6. 25	·0966					
12. 44	52. 45	7. 24	·0965					
13. 0	50. 0	7. 45	·0961					
13. 16	49. 10	8. 5	·0965					
13. 30	50. 40	8. 13	·0964					
14. 10	53. 5	9. 32	·0960					
14. 28	52. 5	9. 50	·0962					
14. 56	52. 55	10. 9	·0957					
15. 15	49. 30	10. 24	·0958					
15. 33	49. 40	10. 43	·0955					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Mar.16		Mar.16						
h m	° ′ ″	h m		h m		h m	°	°
15. 59	20. 51. 10	10. 54	·0958					
16. 16	50. 30	11. 13	·0959					
16. 43	52. 0	11. 32	·0956					
17. 28	53. 5	12. 7	·0960					
17. 48	54. 45	12. 15	·0959					
18. 17	20. 58. 0	12. 36	·0955					
18. 47	21. 0. 10	13. 25	·0958					
19. 19	0. 50	14. 1	·0963					
19. 48	2. 40	14. 28	·0963					
20. 14	2. 45	14. 38	·0968					
22. 44	9. 10	14. 50	·0963					
23. 30	9. 30	15. 3	·0966					
23. 34	9. 55	15. 41	·0965					
23. 59	9. 25	16. 40	·0977					
		17. 7	·0976					
		18. 0	·0983					
		18. 12	·0984					
		18. 36	·0988					
		19. 3	·0988					
		19. 36	·0984					
		20. 23	·0985					
		20. 51	·0978					
		21. 17	·0981					
		21. 32	·0980					
		22. 4	·0972					
		22. 15	·0973					
		22. 25	·0971					
		22. 35	·0974					
		23. 25	·0961					
		23. 50	·0959					
		23. 59	·0958					
Mar.17		Mar.17		Mar.17		Mar.17		
0. 0	21. 9. 0	0. 0	·0958	0. 0	·02544	1. 0	49 ·0	50 ·2
0. 50	6. 30	0. 37	·0956	2. 14	·02282	3. 0	50 ·0	50 ·5
0. 59	5. 45	0. 41	·0961	3. 13	·02273	9. 0	47 ·5	48 ·5
1. 10	6. 40	0. 58	·0962	6. 23:	·02124	21. 0	44 ·0	45 ·3
1. 18	6. 25	1. 6	·0965	9. 47	·02173			
2. 14	7. 0	1. 48	·0965	15. 35	·02428			
2. 21	7. 50	2. 19	·0958	15. 42	·02417			
2. 27	7. 25	2. 26	·0958	16. 37	·02448			
2. 45	7. 20	2. 53	·0953	16. 43	·02426			
3. 0	7. 0	3. 15	·0961	18. 30	·02468			
3. 30	3. 30	3. 17	·0962	22. 15	{ ·02404			
3. 46	3. 10	3. 23	·0963		{ ·01555			
4. 22	21. 0. 40	4. 14:	·0942	23. 59	·01432			
6. 0	20. 58. 30	4. 50:	·0958					
8. 14	58. 5	6. 16	·0967					
8. 29	58. 5	7. 44	·0968					
8. 36	57. 45	8. 0	·0967					
8. 57	57. 45	8. 6	·0968					
9. 29	58. 10	8. 51	·0969					
10. 52	57. 50	9. 10	·0968					
11. 0	58. 20	9. 24	·0969					
11. 20	57. 50	9. 53	·0969					
11. 30	58. 15	10. 22	·0970					
11. 41	57. 50	12. 7	·0970					
14. 34	58. 50	12. 17	·0971					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Mar. 17		Mar. 17						
h m	° ′ ″	h m		h m		h m	°	°
16. 30	20. 58. 30	12. 31	·0970					
17. 32	57. 15	12. 53	·0972					
17. 44	57. 50	14. 32	·0972					
17. 53	56. 50	15. 6	·0974					
18. 7	58. 5	15. 42	·0973					
18. 14	20. 58. 0	16. 52	·0974					
18. 30	21. 0. 30	17. 22	·0988					
18. 47	20. 58. 30	17. 38	·0982					
19. 0	58. 20	17. 51	·0985					
19. 17	55. 5	18. 8	·0981					
19. 28	56. 15	18. 15	·0982					
19. 33	55. 55	18. 25	·0987					
19. 38	54. 45	18. 47	·0981					
19. 44	54. 40	19. 8:	·0977					
19. 49	56. 20	19. 29	·0982					
20. 5	54. 35	19. 45	·0975					
20. 16	54. 5	19. 50	·0976					
20. 28	54. 25	20. 21	·0967					
20. 33	55. 0	20. 48	·0972					
20. 44	53. 50	21. 3	·0966					
20. 53	55. 30	21. 23	·0967					
21. 8	54. 55	21. 37	·0968					
21. 13	56. 0	21. 53	·0964					
21. 29	55. 40	22. 1	·0966					
21. 45	57. 45	22. 8	·0962					
21. 52	57. 20	22. 30	·0965					
22. 6	58. 25	22. 53	·0954					
22. 17	20. 58. 25	23. 3	·0958					
22. 37	21. 0. 40	23. 12	·0959					
22. 52	0. 40	23. 24	·0967					
23. 0	0. 10	23. 35	·0962					
23. 26	1. 55	23. 49	·0962					
23. 30	3. 0	23. 59	·0958					
23. 59	4. 10							
Mar. 18		Mar. 18		Mar. 18		Mar. 18		
0. 0	21. 4. 10	0. 0	·0958	0. 0	·01432	1. 0	47 ·8	49 ·7
0. 13	4. 0	0. 15	·0959	2. 51	{ ·01294	3. 0	49 ·0	50 ·7
0. 20	6. 10	0. 30	·0961		·01375	9. 0	49 ·1	51 ·0
0. 29	7. 45	0. 44	·0957	4. 54	·01212	21. 0	43 ·3	46 ·0
0. 58	7. 45	0. 51	·0958	6. 9	·01220	22. 0	44 ·0	46 ·4
1. 3	7. 10	1. 11:	·0947	7. 1	·01265	23. 0	44 ·6	46 ·7
1. 29	7. 5	1. 56	·0968	11. 48	·01313			
1. 50	4. 10	2. 2	·0964	19. 37	·01625			
3. 45	1. 0	2. 22	·0970	21. 59	·01732			
4. 3	21. 0. 0	3. 51	·0969	23. 17	·01772			
4. 43	20. 59. 0	4. 10	·0965	23. 59	·01714			
5. 2	58. 10	4. 22	·0968					
5. 20	57. 45	4. 39	·0968					
5. 34	57. 45	5. 0	·0960					
6. 6	56. 40	5. 25	·0959					
6. 36	52. 10	5. 42	·0955					
6. 57	53. 30	6. 7	·0948					
7. 2	53. 15	6. 23	·0946					
7. 24	57. 0	6. 42	·0953					
7. 48	56. 15	6. 56	·0951					
8. 37	57. 50	7. 10	·0956					
9. 12	57. 45	7. 40	·0953					

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Mar. 18		Mar. 18						
h m	° ′ ″	h m		h m		h m	°	°
10. 0	20. 58. 15	8. 0	·0956					
11. 17	57. 50	9. 25	·0957					
11. 28	58. 10	10. 5	·0960					
11. 44	57. 50	10. 23	·0963					
12. 8	55. 0	10. 57	·0961					
12. 21	56. 15	11. 17	·0961					
12. 59	57. 30	11. 43	·0968					
13. 6	57. 20	12. 13	·0966					
13. 33	58. 10	12. 45	·0963					
13. 58	57. 50	13. 22	·0965					
14. 15	58. 35	13. 35	·0964					
14. 59	58. 0	14. 8	·0966					
15. 29	58. 30	15. 3	·0968					
17. 45	55. 15	17. 18	·0970					
18. 16	56. 0	17. 26	·0971					
18. 31	55. 45	18. 26	·0967					
18. 47	54. 20	18. 34	·0968					
19. 3	55. 0	18. 45	·0967					
19. 21	54. 50	18. 59	·0969					
19. 33	53. 15	20. 34	·0963					
19. 44	53. 35	20. 50	·0961					
19. 48	54. 35	21. 3	·0967					
20. 16	53. 30	21. 56	·0958					
20. 30	53. 30	22. 16	·0948					
20. 47	55. 10	22. 27	·0946					
20. 58	53. 45	22. 45	·0939					
21. 36	20. 56. 20	22. 53	·0941					
23. 0	21. 5. 50	23. 6	·0938					
23. 22	5. 5	23. 23	·0939					
	(†)		(†)					
Mar. 19		Mar. 19		Mar. 19		Mar. 19		
1. 0	21. 11. 8*	1. 0	·0969*	0. 0	·01714	0. 0	45 ·5	47 ·2
3. 0	21. 4. 25*	3. 0	·0956*	1. 19	·01697	1. 0	46 ·5	48 ·2
9. 0	20. 54. 50*	9. 0	·0932*	1. 54	·01725	2. 0	47 ·0	49 ·3
21. 0	54. 57*	21. 0	·0954*	3. 39	·01564	3. 0	47 ·8	50 ·7
				5. 46	·01283	9. 0	51 ·5	53 ·0
				6. 53	·01348	12. 0	47 ·0	48 ·0
					(†)	18. 0	40 ·0	41 ·8
				9. 0	·01537*	21. 0	42 ·0	44 ·0
				21. 0	·02462*	22. 0	42 ·5	44 ·0
						23. 0	42 ·7	44 ·2
Mar. 20		Mar. 20		Mar. 20		Mar. 20		
1. 0	21. 4. 12*	1. 0	·0952*	1. 0	·01690*	0. 0	43 ·2	44 ·3
3. 0	21. 2. 32*	3. 0	·0951*	3. 0	·01624*	1. 0	43 ·8	44 ·3
9. 35	20. 59. 5*	9. 35	·0964*	9. 35	·01418*	2. 0	44 ·3	44 ·7
21. 0	53. 21*	21. 0	·0961*	21. 0	·01700*	3. 0	44 ·6	45 ·2
						9. 35	44 ·0	44 ·0
						21. 0	39 ·0	39 ·7
Mar. 21		Mar. 21		Mar. 21		Mar. 21		
1. 0	21. 5. 38*	1. 0	·0961*	1. 0	·01624*	1. 0	41 ·3	42 ·6
3. 0	21. 4. 24*	3. 0	·0970*	3. 0	·01587*	3. 0	42 ·6	43 ·0
9. 0	20. 57. 53*	9. 0	·0973*	9. 0	·01429*	9. 0	41 ·5	42 ·2
21. 0	55. 19*	21. 0	·0982*	21. 0	·01750*	21. 0	38 2	39 ·3

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

March 19. The Photographic Traces for the Declination and Horizontal Force Magnets were too faint for use.

March 20 to 26. There were no Photographic Registers for the three Magnetometers, as the gas-pipes were undergoing repair.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Mar.22		Mar.22		Mar.22		Mar.22		
h m	° ′ ″	h m		h m		h m	°	°
1. 0	21. 3. 45*	1. 0	·0975*	1. 0	·01513*	1. 0	43·0	43·6
3. 0	21. 1. 13*	3. 0	·0989*	3. 0	·01307*	3. 0	45·6	45·5
9. 0	20. 57. 29*	9. 0	·0975*	9. 0	·01228*	9. 0	46·0	46·0
23. 0	21. 0. 25*	23. 0	·0950*	23. 0	·01671*	23. 0	40·1	41·0
Mar.23		Mar.23		Mar.23		Mar.23		
6. 50	20. 55. 44*	6. 50	·0969*	6. 50	·01679*	6. 50	43·8	44·0
21. 0	53. 7*	21. 0	·1000*	21. 0	·01885*	21. 0	48·0	48·6
Mar.24		Mar.24		Mar.24		Mar.24		
1. 0	21. 3. 30*	1. 0	·0993*	1. 0	·02209*	1. 0	51·2	51·8
3. 0	21. 1. 42*	3. 0	·0989*	3. 0	·02177*	3. 0	54·2	54·5
9. 0	20. 54. 43*	9. 0	·0987*	9. 0	·02114*	9. 0	57·2	57·5
21. 0	51. 17*	21. 0	·0977*	21. 0	·02557*	21. 0	52·8	53·7
Mar.25		Mar.25		Mar.25		Mar.25		
1. 0	21. 1. 11*	1. 0	·0979*	1. 0	·02589*	1. 0	54·7	54·5
3. 0	21. 1. 1*	3. 0	·0974*	3. 0	·02511*	3. 0	56·0	56·4
9. 0	20. 56. 31*	9. 0	·0995*	9. 0	·02051*	9. 0	56·0	55·5
21. 0	51. 12*	21. 0	·0981*	21. 0	·02605*	21. 0	50·2	51·5
						22. 0	50·2	50·7
						23. 0	50·8	51·0
Mar.26		Mar.26		Mar.26		Mar.26		
1. 0	21. 3. 5*		(†)		(†)	0. 0	51·2	51·7
3. 0	21. 1. 22*	1. 0	·0971*	1. 0	·02739*	1. 0	51·7	51·8
9. 10	20. 54. 48*	3. 0	·0976*	3. 0	·02707*	2. 0	52·3	52·6
21. 0	53. 30*	8. 4	·1006	7. 50	·02566	3. 0	53·2	53·6
		10. 22	·1006	10. 28	·02546	6. 0	53·3	53·0
		10. 52	·0999	13. 23	·02573	9. 10	53·0	52·7
		12. 37	·1004	19. 8	·02702	12. 0	52·0	52·4
		12. 56	·1006		(†)	18. 0	48·6	49·3
		13. 29	·1003	21. 0	·02731*	21. 0	50·0	50·7
		13. 58	·1002	23. 19	·02728	22. 0	50·2	50·8
		14. 31	·1004	23. 59	·02736	23. 0	50·6	51·6
		16. 38	·1009					
		17. 8	·1008					
		17. 34	·1009					
		18. 28	·1008					
		19. 53	·1002					
			(†)					
		20. 52	·0994					
		21. 17	·0991					
			(†)					
Mar.27		Mar.27		Mar.27		Mar.27		
	(†)		(†)	0. 0	·02736	0. 0	51·0	52·2
0. 38	21. 4. 45	1. 0	·0996*	2. 11	·02577	1. 0	52·2	53·7
2. 29	2. 0	1. 16	·0994	2. 27	·02595	2. 0	53·9	54·8
3. 23	21. 0. 10	2. 7	·0990	2. 47	·02572	3. 0	55·0	56·0
4. 10	20. 59. 50	3. 9	·0993	3. 0	{·02584	9. 0	57·3	58·2
5. 14	58. 0	4. 6	·0993		·02280}	21. 0	51·7	53·0
6. 13	57. 0	4. 53:	·0992	5. 34	·02363			
	(†)	5. 39	·0998	7. 46	·02373			
9. 0	57. 38*	6. 3	·0993	9. 40	·02365			
16. 45	55. 10	6. 34	·0993	11. 22	·02380			
17. 35	54. 0	6. 52	·0995	12. 15	·02431			
18. 45	20. 54. 50	7. 9	·0995	12. 51	·02417			

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Mar.27		Mar.27		Mar.27				
h m	° ′ ″	h m		h m		h m	°	°
20. 2	20. 59. 0	8. 15	·0993	13. 23	·02460			
21. 44	21. 5. 30	8. 25	·0994	20. 30	·02846			
	(†)	8. 39	·0992	22. 5	·02870			
		8. 58	·0993	23. 59	·02885			
		9. 4	·0995					
		9. 45	·0992					
		10. 7	·0997					
		10. 21	·0995					
		10. 41	·0998					
			***					
		11. 44	·0999					
		11. 56	·1001					
		12. 8	·1007					
		12. 15	·1007					
		12. 37:	·1015					
		13. 6	·0997					
		13. 15	·0996					
		13. 38:	·1009					
		14. 31:	·0994					
		16. 8	·0998					
		17. 0	·1002					
		18. 22	·1002					
		19. 11	·1000					
		19. 43	·0995					
		20. 2	·0993					
		21. 50	·0979					
		22. 8	·0981					
		22. 44	·0978					
		22. 54	·0981					
		23. 8	·0983					
		23. 19	·0987					
		23. 55	·0991					
		23. 59	·0991					
Mar.28		Mar.28		Mar.28		Mar.28		
1. 0	20. 59. 51*	0. 0	·0991	0. 0	·02885	1. 0	51·8	53·7
		1. 8	·1028	1. 25	·02917	3. 0	52·4	53·9
		1. 37	·1023	6. 43	·02835	9. 0	51·5	53·0
		2. 4	·1024	12. 52	·02880	21. 0	48·5	50·2
		2. 20	·1023	18. 45	·03066			
		2. 37	·1026	20. 9	·03037			
		4. 36	·1026	20. 40	·02998			
		4. 53	·1030	21. 47	{·02980			
		5. 24	·1028		·02945}			
		6. 2	·1032	23. 59	·02930			
		8. 13	·1033					
		8. 24	·1034					
		9. 12	·1033					
		9. 42	·1034					
		11. 10	·1034					
		11. 33	·1036					
		11. 44	·1035					
		11. 55	·1035					
		18. 15	·1037					
		20. 0	·1028					
		21. 32	·1015					
		21. 49	·1014					
		22. 20	·1007					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

March 28. After 1h the Declination Magnet was under adjustment.

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
Mar.29	
	(†)
1. 0	20. 59. 15*
2. 45	57. 50
4. 16	54. 35
5. 51	53. 0
7. 36	52. 30
11. 26	53. 0
12. 15	52. 20
12. 26	52. 10
15. 0	51. 50
15. 22	52. 55
16. 22	51. 45
17. 5	52. 0
17. 30	51. 10
18. 22	50. 25
19. 27	47. 10
20. 0	46. 15
20. 41	46. 50
21. 18	48. 10
	(†)
Mar.30	
8. 55	20. 54. 14*
21. 0	49. 23*
Mar.31	
	(†)
0. 38	20. 56. 55
1. 14	57. 0
1. 29	56. 20
2. 0	56. 10
3. 42	20. 52. 0
6. 10	48. 10
6. 32	48. 5
6. 58	47. 35
8. 48	48. 55
	(†)
9. 0	51. 0*
19. 15	42. 35
19. 47	43. 15
20. 45	46. 0
22. 30	54. 30
	(†)
Apr. 1	
1. 0	21. 2. 3*
3. 0	20. 58. 59*
9. 20	47. 56*
21. 0	48. 38*

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Mar.28	
h m	
23. 9	·1014
	***
23. 36	·1019
23. 43	·1018
	***
23. 59	·1023
Mar.29	
0. 0	·1023
0. 17	·1025
0. 25	·1019
0. 56	·1019
1. 51:	·1028
2. 15	·1027
3. 22	·1031
3. 49	·1031
4. 50:	·1027
5. 33	·1030
7. 34	·1034
8. 45	·1034
9. 31	·1033
11. 21	·1036
12. 16	·1036
12. 57	·1037
14. 0	·1037
15. 25	·1037
16. 11	·1039
16. 56	·1038
17. 29	·1039
18. 50	·1037
19. 21	·1035
20. 22	·1027
20. 58	·1020
21. 43	·1013
23. 0	·1013
23. 59	·1019
Mar.30	
0. 0	·1019
0. 26	·1023
2. 10	·1029
2. 29	·1027
2. 41	·1032
2. 48:	·1033
3. 7	·1032
3. 59	·1037
4. 54	·1037
5. 16	·1034
	(†)
8. 55	·1036*
21. 0	·1020*
Mar.31	
	(†)
1. 0	·1024*
1. 35	·1017
2. 20	·1022
4. 5	·1028
5. 8	·1028
6. 5	·1026
7. 8	·1028
7. 46	·1026
8. 43	·1027
9. 18	·1030
11. 38	·1032
14. 35	·1032
16. 23	·1033
18. 19	·1037
20. 0	·1029
21. 30	·1009
21. 34	·1009
21. 59	·1005
22. 14	·1005
22. 49	·1004
23. 22	·1009
23. 27	·1008
23. 36	·1010
23. 46	·1010
	(†)
Apr. 1	
	(†)
1. 0	·1021*
3. 0	·1029*
6. 21	·1031
6. 37	·1034
7. 0	·1032
7. 14	·1036
7. 20	·1036
7. 37	·1038
7. 53	·1029
8. 35	·1022
8. 45	·1024
9. 19	·1024
9. 30	·1026
9. 49	·1007
10. 25	·1028
11. 9	·1025
11. 32	·1027
11. 40	·1026
12. 6:	·1017
12. 32	·1025
13. 22	·1022
13. 37	·1023
14. 15	·1022
14. 40	·1025
15. 4:	·1031
15. 52	·1027
16. 13	·1029
17. 42	·1026
18. 5	·1022
19. 0	·1016
19. 6	·1017
19. 41	·1019
20. 10	·1016
20. 44	·1008

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
Mar.29	
0. 0	·02930
3. 2	·02942
8. 27:	·02744
13. 45	·02856
19. 55	·02930
23. 59	·02778
Mar.30	
0. 0	·02778
2. 42	·02796
5. 13	·02740
6. 9	·02720
	(†)
8. 55	·02684*
21. 0	·02937*
22. 24	·02768
23. 59	·02747
Mar.31	
0. 0	·02747
0. 47	{·02802 ·02593
4. 53	·02257
9. 0	·02298
16. 8	{·02314 ·02450
18. 2	·02503
22. 13	·02704
23. 59	·02680
Apr. 1	
0. 0	·02680
2. 31	·02663
8. 3	·02452
9. 5	·02450
10. 3	·02394
10. 37	·02426
11. 10	·02410
12. 28	·02403
16. 15	·02460
20. 56	·02521
23. 30	·02500
23. 37	·02515
23. 59	·02521

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Mar.29		
1. 0	49 ·0	50 ·2
3. 0	49 ·8	51 ·2
9. 0	49 ·5	51 ·0
20. 52	48 ·8	50 ·3
Mar.30		
8. 55	51 ·2	52 ·1
21. 0	48 ·3	49 ·2
Mar.31		
1. 0	51 ·0	52 ·0
3. 0	52 ·7	54 ·2
9. 0	54 ·0	55 ·0
21. 0	50 ·0	50 ·7
Apr. 1		
1. 0	51 ·3	51 ·7
3. 0	52 ·5	53 ·0
9. 20	53 ·8	53 ·9
21. 0	53 ·2	53 ·8
22. 0	53 ·7	54 ·2
23. 0	53 ·8	54 ·2

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

March 30 and April 1. The Photographic Traces for the Declination Magnet were too faint for use.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Apr. 1						
h m	° ′ ″	h m		h m		h m	°	°
		20. 49	·1009					
		20. 56	·1007					
		21. 16	·1009					
		21. 44	·1007					
			(†)					
Apr. 2		Apr. 2		Apr. 2		Apr. 2		
	(†)		(†)	0. 0	·02521	0. 0	54·2	54·7
0. 32	21. 6. 0	0. 46	·0994	4. 59	·02543	1. 0	55·0	55·0
0. 40	7. 40	1. 13	·1008	5. 6	·02570	2. 0	55·2	55·0
0. 53	5. 55	1. 27	·0994	5. 16	·02542	3. 0	55·6	55·8
0. 54	5. 45		(†)	5. 33	·02552	6. 0	55·8	56·0
1. 2	3. 30	1. 52	·1008	5. 36	·02521	9. 0	55·8	56·0
1. 9	5. 30	2. 9	·1011	5. 58	·02516	12. 0	55·0	55·8
1. 21	5. 0	2. 26	·1025	6. 5	·02525	18. 0	55·0	55·1
1. 38	7. 55	2. 41	·1013	6. 27	·02483	21. 0	55·0	55·3
1. 46	7. 45	2. 52	·1007	7. 11	·02462	22. 0	55·2	55·5
1. 55	12. 0	3. 5	·0995	8. 14	·02458	23. 0	55·6	55·6
2. 5	12. 0	3. 16:	·1009	8. 29	·02420			
2. 32	8. 0	3. 35	·1005	9. 20	·02403			
2. 46	1. 35	4. 8	·1025	9. 47	·02365			
2. 57	1. 30	4. 22	·1017	11. 6	·02392			
3. 2	2. 30	4. 40	·1024	11. 46	·02370			
3. 14	1. 45	5. 7	·1012	11. 58	·02338			
3. 22	3. 20	5. 16	·1017	12. 36	·02310			
3. 32	2. 35	5. 24	·1011	14. 26	·02394			
3. 35	3. 0	5. 32	·1010	19. 2	·02398			
3. 51	0. 0		(†)	23. 59	·02377			
4. 0	0. 5	7. 10	·0995					
4. 12	1. 45	7. 13	·0998					
4. 24	21. 1. 15	7. 22	·0995					
4. 36	20. 58. 0	7. 26	·0998					
4. 42	59. 45	7. 38	·0982					
4. 45	57. 0	7. 54	·0999					
4. 50	56. 40	8. 1	·0998					
5. 2	54. 35	8. 25:	·0987					
5. 4	54. 55	8. 41	·0994					
5. 13	53. 0	8. 52	·0993					
5. 19	57. 0	8. 54	·0996					
5. 28	45. 45	9. 11	·0984					
5. 31	46. 10	9. 30	·1000					
5. 33	45. 25	9. 37	·0991					
5. 45	49. 30	9. 45	·0998					
5. 48	45. 20	10. 1	·0982					
5. 51	46. 40	10. 25	·1009					
5. 56	46. 0	10. 40	·0994					
6. 11	36. 0	10. 48	·1003					
6. 28	45. 55	10. 56	·1006					
6. 38	48. 20	11. 10	·1000					
6. 46	48. 40	11. 21	·1007					
6. 49	45. 10	11. 27	·1006					
6. 56	46. 50	11. 40	·1000					
7. 1	45. 50	11. 48	·1002					
7. 9	50. 0	12. 10:	·1028					
7. 26	45. 0	12. 21	·1028					
7. 48	49. 50	12. 27	·1036					
8. 12	35. 30	12. 54	·1012					
8. 32	43. 0	13. 0	·1012					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Apr. 2		Apr. 2						
h m	° ′ ″	h m		h m		h m	°	°
8. 50	20. 38. 0	13. 8	·1006					
8. 54	39. 0	13. 19	·1006					
9. 1	36. 30	13. 34	·1001					
9. 10	36. 30	13. 55	·0997					
9. 18	41. 40	14. 5	·0997					
9. 33	37. 55	14. 38	·1003					
9. 39	37. 55	14. 55	·1002					
9. 51	33. 0	15. 8	·1003					
10. 3	31. 40	15. 55	·1002					
10. 22	45. 15	16. 13	·1006					
10. 32	44. 40	17. 8	·0998					
10. 39	45. 35	17. 26	·1001					
10. 47	47. 10	17. 39	·1007					
10. 50	47. 5	17. 46	·1006					
11. 2	44. 0	17. 54	·1009					
11. 13	46. 10	18. 7	·1007					
11. 28	44. 20	18. 39:	·1010					
11. 45	51. 50	18. 51	·1010					
11. 48	48. 25	19. 41	·1000					
12. 2	50. 20	19. 55	·0994					
12. 10	49. 15	20. 10	·0995					
12. 23	52. 5	20. 28	·0992					
12. 46	49. 10	20. 42	·0995					
12. 48	49. 40	21. 28	·0992					
12. 58	48. 0	21. 48	·0987					
13. 17	48. 55	21. 55	·0991					
13. 55	51. 10	22. 1	·0990					
14. 8	50. 50	22. 6	·0992					
14. 25	51. 55	22. 16	·0988					
14. 38	51. 5	22. 32	·0995					
15. 3	51. 10	22. 46	·0989					
15. 18	52. 30	22. 59	·0989					
15. 27	52. 15	23. 59	·0981					
15. 33	53. 0							
16. 13	52. 10							
16. 44	52. 35							
16. 51	54. 25							
17. 7	54. 10							
17. 25	53. 15							
17. 30	53. 40							
17. 34	53. 35							
17. 42	52. 15							
17. 50	52. 50							
18. 0	50. 50							
18. 49	49. 30							
19. 19	47. 50							
19. 33	48. 10							
19. 38	47. 0							
19. 50	47. 50							
19. 58	47. 40							
20. 0	46. 50							
20. 8	47. 20							
20. 41	46. 50							
21. 36	52. 50							
21. 55	52. 0							
22. 4	53. 30							
22. 19	54. 0							
22. 40	56. 10							

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Apr. 2								
h m	° ′ ″	h m		h m		h m	°	°
23. 2	20. 56. 45							
23. 12	58. 0							
23. 27	59. 35							
23. 40	20. 58. 10							
23. 54	21. 0. 10							
23. 59	0. 10							
Apr. 3		Apr. 3		Apr. 3		Apr. 3		
0. 0	21. 0. 10	0. 0	·0981	0. 0	·02377	0. 0	55 ·7	55 ·8
0. 31	0. 15	1. 1	·0991	1. 52	·02380	1. 0	56 ·0	56 ·3
1. 19	2. 45	1. 34	·1007	2. 33	·02363	3. 0	57 ·3	58 ·2
2. 8	21. 2. 0	2. 19	·1006	3. 5	{ ·02435	9. 0	58 ·7	58 ·6
2. 58	20. 56. 40	2. 57	·0999		{ ·02463	21. 0	51 ·5	52 ·1
3. 43	57. 10	3. 24	·1013	4. 23	·02434			
3. 56	55. 25	3. 34	·1009	4. 41	·02461			
4. 12	55. 10	3. 49	·1001	5. 10	·02432			
4. 24	53. 10	3. 57	·1002	5. 25	·02454			
5. 9	52. 15	4. 4	·1004	5. 46	·02440			
5. 27	47. 55	4. 24	·0995	6. 39	·02418			
5. 56	51. 15	4. 33	·0997	6. 51	·02456			
6. 29	51. 0	4. 36	·0996	7. 17	·02418			
6. 48:	48. 30	4. 57	·1004	7. 27	·02462			
6. 55	51. 0	5. 15	·0998	10. 49	·02544			
7. 5	52. 10	5. 20	·0998	11. 26	·02530			
7. 37	44. 10	5. 35	·0989	13. 4	·02635			
7. 52	45. 50	5. 46	·0992	13. 23	·02641			
7. 54	45. 25	6. 17	·0993	16. 42	·02863			
8. 15	49. 10	6. 45	·0988	16. 57	·02872			
8. 29	50. 35	6. 59	·0983	18. 49	·03020			
8. 41	50. 10	7. 12	·1004	19. 47	{ ·03040			
8. 52	51. 15	7. 44	·0966		{ ·03000			
9. 18	50. 40	7. 56	·0976	20. 57	{ ·03017			
9. 42	48. 50	8. 1	·0975		{ ·02912			
10. 22	51. 45	8. 9	·0972	21. 35	{ ·02855			
10. 42	48. 50	8. 21	·0972		{ ·02706			
10. 57	51. 10	8. 31	·0975	23. 59	·02742			
11. 26	52. 40	8. 51	·0968					
11. 47	48. 45	9. 7	·0967					
12. 53	47. 15	9. 39	·0971					
13. 15	53. 0	9. 50	·0968					
13. 30	50. 45	10. 0	·0969					
13. 55	51. 30	10. 11	·0966					
14. 49	49. 10	10. 26	·0978					
16. 33	53. 0	10. 52	·0970					
17. 6	50. 15	11. 19	·0989					
18. 0	50. 15	11. 31	·0989					
18. 30	50. 15	12. 3	·0975					
18. 41	49. 20	12. 39	·0979					
19. 11	50. 10	13. 13	·0969					
20. 12	48. 25	13. 32	·0974					
21. 14	49. 45	14. 27	·0980					
	***	15. 29	·0977					
21. 57	51. 50	15. 33	·0970					
	(†)	16. 29	·0975					
		17. 0	·0982					
		17. 15	·0979					
		18. 13	·0978					
		18. 23	·0979					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Apr. 3						
h m	° ′ ″	h m		h m		h m	°	°
		18. 38	·0976					
		19. 11	·0983					
		20. 19	·0971					
		20. 44	·0972					
		21. 14	·0970					
		21. 29	·0963					
		21. 47	·0957					
		21. 51	·0958					
		21. 58	·0956					
		22. 6	·0958					
		22. 16	·0956					
		22. 33	·0959					
		22. 49	·0955					
		22. 57	·0957					
		23. 7	·0950					
		23. 21	·0952					
		23. 32	·0951					
		23. 59	·0956					
Apr. 4		Apr. 4		Apr. 4		Apr. 4		
	(†)	0. 0	·0956	0. 0	·02742	1. 0	52 ·2	53 ·3
0. 15	20. 58. 55	1. 3	·0962	3. 11	·02716	3. 0	53 ·1	54 ·0
1. 22	59. 5	2. 11	·0969	9. 31	·02550	9. 0	53 ·0	54 ·0
1. 57	57. 30	2. 24	·0967	14. 45	·02590	21. 0	50 ·5	50 ·7
2. 44	57. 15	2. 53	·0973	17. 13	·02660			
3. 3	55. 55	3. 22	·0976	17. 45	·02673			
3. 23	56. 15	3. 39	·0973	20. 12	·02773			
3. 40	54. 50	4. 0	·0977	20. 56	·02766			
4. 45	52. 50	4. 22	·0973	22. 43	·02824			
5. 10	53. 10	5. 3	·0977	23. 59	·02833			
5. 24	51. 50		(†)					
6. 30	50. 50	9. 0	·0986*					
6. 52	51. 15	10. 48	·0979					
7. 12	50. 0	11. 34	·0980					
7. 16	50. 15	11. 54	·0986					
7. 28	49. 0	12. 9	·0981					
8. 19	49. 20	12. 34	·0979					
8. 35	50. 30	13. 35:	·0992					
8. 45	49. 50	14. 0	·0985					
9. 10	54. 0	14. 25	·0982					
9. 29	51. 20	14. 55	·0985					
9. 48	51. 35	15. 15:	·0980					
10. 31	50. 0	15. 37	·0980					
11. 33	49. 0	16. 11:	·0984					
11. 43	49. 35	17. 3	·0974					
11. 54	48. 25	17. 21	·0976					
12. 20	51. 10	17. 31	·0987					
13. 0	46. 10	17. 47	·0987					
13. 18	46. 0	18. 8	·0982					
13. 52	45. 20	18. 53	·0985					
14. 17	47. 40	19. 15	·0982					
14. 35	47. 10	19. 38	·0974					
15. 5	47. 45	20. 10	·0971					
15. 20	48. 55	20. 37	·0972					
16. 18	48. 0	21. 1	·0966					
16. 48	49. 50	21. 19	·0957					
17. 19	54. 25	21. 25	·0955					
17. 54	50. 30	22. 20	·0955					
	***							

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Apr. 4		Apr. 4						
h m	° ′ ″	h m		h m		h m	°	°
19.19	20.49.25	23.30	·0972					
	***	23.38	·0954					
20.30	47.50	23.52	·0968					
22.40	56.45	23.59	·0967					
23.37	57.20							
23.47	57.10							
23.59	57.30							
Apr. 5		Apr. 5		Apr. 5		Apr. 5		
0.0	20.57.45	0.0	·0967	0.0	·02833	1.0	52·8	52·7
0.19	59.50	0.19	·0965	1.38	·02780	3.0	54·5	54·2
0.29	59.0	0.35	·0967	3.14	·02668	9.0	54·8	54·2
0.36	59.50	0.51	·0965	3.28	·02597	22.20	53·3	53·2
1.3	20.59.15	1.9	·0968	5.53	·02470			
1.35	21.0.15	2.10	·0968	11.37	·02377			
3.26	20.57.0	2.49	·0971	14.30	·02380			
4.59	52.30	3.26	·0971	19.40	·02480			
5.30	52.10	4.3	·0969	23.59	·02484			
6.15	50.30	4.32	·0974					
6.44	50.20	4.46	·0973					
7.0	51.0	5.6	·0966					
7.22	46.20	5.31	·0970					
7.34	48.40	5.45	·0970					
7.45	48.5	5.58	·0974					
8.12	49.50	6.28	·0976					
8.18	49.20	6.35	·0974					
8.30	50.45	6.52	·0974					
9.0	49.0	7.7	·0969					
9.33	48.45	7.10	·0970					
9.45	50.0	7.22	·0967					
9.59	50.10	7.25	·0968					
10.15	48.55	7.41	·0964					
10.30	49.55	8.3	·0971					
11.3	47.25	8.22	·0971					
12.30	48.50	9.16	·0972					
12.52	49.0	9.37	·0965					
13.8	50.40	10.5	·0971					
13.24	50.25	10.36	·0970					
13.33	51.10	11.0	·0977					
13.45	55.0	11.24	·0967					
14.8	52.10	11.40	·0972					
14.24	51.15	11.53	·0970					
14.33	51.25	13.9	·0968					
15.34	49.40	13.36	·0971					
15.57	50.10	15.10	·0972					
17.3	49.20	15.22	·0971					
18.12	49.20	17.3	·0970					
18.26	50.10	17.40	·0971					
19.3	47.30	18.36	·0971					
19.37	46.10	20.23	·0965					
19.44	46.55	21.19	·0957					
20.27	45.50	21.38	·0957					
21.13	45.50	22.11	·0952					
21.42	48.0	23.7	·0956					
21.57	48.5	23.59	·0953					
22.34	50.30							
23.59	56.0							

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Apr. 6		Apr. 6		Apr. 6		Apr. 6		
h m	° ′ ″	h m		h m		h m	°	°
0.0	20.56.5	0.0	·0953	0.0	·02484	8.27	55·3	55·2
0.46	58.45	1.0:	·0959	0.45	·02500	21.0	54·3	55·2
	***	1.37	·0959	5.37	·02443			
1.29	59.0	1.56	·0965	10.19	·02304			
1.34	58.35	2.11:	·0968	13.7	·02297			
1.59	59.5	2.46	·0963	20.8	·02291			
3.2	55.25	3.4	·0964	23.59	·02224			
3.12	55.45	3.22	·0969					
5.27	50.40	3.42	·0969					
5.48	50.50	3.55	·0972					
6.1	50.0	4.16	·0973					
7.18	51.0	4.37	·0970					
7.56	48.55	4.53	·0971					
8.27	51.30	5.0	·0970					
9.58	53.0	5.15	·0972					
10.23	52.10	5.29	·0971					
11.44	51.10	6.10	·0973					
12.0	52.45	6.38	·0972					
12.15	51.50	7.0	·0973					
12.29	52.10	7.26	·0973					
12.59	51.20	8.1	·0980					
13.35	52.30	8.26	·0977					
14.25	50.50	8.37	·0975					
14.58	51.30	8.43	·0976					
16.25	50.50	9.19	·0973					
18.0	48.30	9.27	·0975					
18.14	47.20	9.41	·0974					
19.41	45.40	9.56	·0983					
20.12	46.50	10.41	·0975					
22.30	56.0	10.58	·0975					
22.59	59.0	12.23	·0972					
23.38	59.10	13.4	·0975					
	(†)	14.7	·0971					
		15.15	·0973					
		15.37	·0971					
		16.17	·0974					
		16.42	·0974					
		17.4	·0975					
		18.5	·0976					
		19.7	·0973					
		19.50	·0971					
		21.2	·0958					
		22.9	·0954					
		22.48	·0956					
		22.56	·0947					
		23.27	·0942					
		23.52	·0943					
			(†)					
Apr. 7		Apr. 7		Apr. 7		Apr. 7		
	(†)		(†)	0.0	·02224	1.0	55·0	55·2
0.30	20.58.50	0.15	·0943	1.57	{ ·02170	3.0	55·4	55·7
1.8	59.25	2.34	·0955		·02282	9.0	54·3	55·2
2.30	57.5	2.56	·0953	4.37	{ ·02248	21.0	50·3	52·1
4.46	52.0	3.0	·0965		·02292			
5.1	51.55	3.42	·0966	5.35	{ ·02283			
5.45	50.0	4.10	·0964		·02517			
6.4	50.20	5.9	·0969	10.53:	·02514			

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.
Apr. 7	
h m	° ′ ″
6. 40	20. 49. 20
7. 6	50. 40
7. 22	50. 10
8. 22	51. 30
8. 30	51. 10
9. 28	51. 55
17. 37	51. 0
20. 12	46. 20
20. 58	47. 45
23. 59	58. 15
Apr. 8	
0. 0	20. 58. 15
1. 8	58. 25
1. 27	58. 0
3. 46	51. 40
5. 25	51. 0
6. 13	51. 30
11. 45	51. 40
12. 14	51. 50
12. 50	50. 20
12. 59	51. 15
13. 14	50. 10
13. 30	50. 45
14. 5	49. 0
16. 29	50. 0
16. 40	51. 10
17. 29	50. 55
19. 46	46. 40
20. 26	46. 55
21. 23	49. 10
23. 48	59. 55
23. 59	59. 20
Apr. 9	
0. 0	20. 59. 20
0. 8	58. 40
0. 13	59. 15
0. 22	59. 10
0. 30	59. 50
1. 27	58. 30
Apr. 9	
h m	° ′ ″
1. 42	20. 58. 55
2. 15	57. 45
2. 17	58. 0
2. 52	56. 20
3. 2	55. 10
3. 11	55. 0
3. 16	55. 40
3. 45	54. 10
4. 32	53. 5
6. 18	52. 0
10. 15	52. 15
13. 17	52. 5
14. 8	51. 0
14. 37	51. 0
14. 56	51. 40
16. 29	49. 45
17. 7	50. 50
17. 18	50. 10
19. 14	47. 15
19. 25	45. 10
19. 39	46. 45
19. 57	45. 20
20. 51	47. 0
21. 43	51. 0
22. 2	55. 0
22. 21	55. 55
22. 29	57. 35
22. 42	58. 40
22. 56	20. 58. 45
23. 38	21. 3. 50
23. 51	3. 45
23. 59	4. 55
Apr. 10	
0. 0	21. 4. 55
0. 9	6. 45
0. 29	0. 25
0. 59	1. 45
1. 15	1. 10
1. 35	1. 50
1. 45	3. 10
2. 33	0. 45
2. 44	21. 3. 10
3. 12	20. 57. 10
3. 18	57. 15
3. 38	56. 55
3. 46	55. 20
4. 0	55. 0
4. 38	51. 40
5. 3	51. 10
5. 58	47. 55
6. 31	47. 0
6. 50	45. 50
7. 9:	43. 15
7. 17	44. 45

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Apr. 7	
h m	
5. 32	·0969
6. 13	·0973
6. 37	·0971
7. 15	·0974
7. 42	·0973
9. 47	·0974
12. 28	·0977
13. 47	·0976
17. 50	·0978
19. 47	·0974
21. 21	·0963
21. 32	·0960
22. 50	·0961
22. 55	·0956
23. 30	·0959
23. 59	·0965
Apr. 8	
0. 0	·0965
0. 18	·0964
1. 8	·0969
1. 35	·0967
2. 11	·0969
2. 38	·0973
3. 23	·0973
4. 20	·0973
5. 0:	·0976
5. 30:	·0972
6. 7	·0977
7. 8	·0978
7. 47	·0975
9. 43	·0978
10. 34	·0980
11. 16	·0981
11. 51	·0980
12. 15	·0982
12. 44	·0978
13. 8	·0984
14. 7	·0977
14. 42	·0979
16. 17	·0978
18. 8	·0981
19. 21	·0977
21. 38	·0963
22. 21	·0961
23. 17	·0965
23. 25	·0962
23. 37	·0964
23. 48	·0970
23. 59	·0966
Apr. 9	
0. 0	·0966
	(†)
0. 35	·0966
1. 23	·0968
1. 37	·0969
1. 48	·0968
Apr. 9	
h m	
2. 17	·0973
2. 25	·0972
2. 53	·0972
	(†)
5. 30	·0980
5. 45	·0980
6. 19	·0983
8. 52	·0984
9. 33	·0983
11. 51	·0982
12. 31	·0983
13. 22	·0982
14. 6	·0984
15. 19	·0981
15. 42	·0983
16. 57	·0982
17. 51	·0987
18. 0	·0987
18. 30	·0986
19. 38	·0984
19. 49	·0985
21. 7	·0971
21. 29	·0963
21. 35	·0960
22. 23	·0960
22. 33	·0956
22. 43	·0962
23. 8	·0958
23. 17	·0961
23. 28	·0959
23. 35	·0960
23. 44	·0958
23. 51	·0960
23. 59	·0957
Apr. 10	
0. 0	·0957
0. 6	·0957
0. 17	·0963
0. 29	·0960
1. 48	·0964
1. 56	·0966
2. 4	·0963
2. 8	·0965
2. 22	·0959
2. 28	·0963
2. 41	·0957
3. 23	·0963
3. 33	·0959
3. 52	·0970
4. 2	·0971
4. 22	·0976
5. 13	·0971
5. 30:	·0967
5. 56	·0976
6. 0	·0970
6. 19	·0977

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
Apr. 7	
h m	
15. 45	·02670
18. 29	·02811
18. 36	·02833
22. 10	·02947
22. 15	{·02922
	·02865
23. 59	·02900
Apr. 8	
0. 0	·02900
0. 57	·02908
4. 30	·02934
10. 11	·02950
14. 11	·03016
20. 0	{·03000
	·02917
23. 59	·02893
Apr. 9	
0. 0	·02893
3. 5	{·02976
	·03017
9. 23	·02840
13. 11:	·02811
17. 31	·02927
	(†)
Apr. 9	
h m	
21. 0	·02758*
Apr. 10	
	(†)
1. 0	·02805*
1. 44	·02615
2. 40	·02582
4. 39	·02574
7. 27	·02320
9. 45	·02330
10. 7	·02342
14. 34	·02277
14. 50	·02252
15. 5	·02266
15. 42	·02240
16. 3	·02235
	(†)
21. 0	·02505*
23. 38	·02758
23. 59	·02802

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Apr. 8		
1. 0	50·4	52·2
3. 0	51·0	52·6
9. 0	51·2	51·6
21. 0	48·2	49·8
22. 0	47·6	49·3
23. 0	48·0	49·5
Apr. 9		
0. 0	48·3	49·6
1. 0	48·4	49·2
2. 0	48·8	49·8
3. 0	49·3	50·2
6. 0	49·5	50·8
9. 0	49·2	51·0
Apr. 9		
h m	°	°
12. 0	48·5	50·4
18. 0	46·8	48·2
21. 0	47·3	48·7
22. 0	47·5	49·2
23. 0	47·8	49·5
Apr. 10		
0. 0	48·1	49·7
1. 0	48·2	49·8
2. 0	49·2	50·7
3. 0	50·2	51·5
9. 0	52·5	53·8
21. 0	48·2	49·8

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Apr. 10 — Western Declination

Greenwich Mean Solar Time (h m)	Western Declination (° ′ ″)
8. 48	20. 44. 45
9. 3	39. 40
9. 23	42. 0
9. 28	42. 5
9. 45	40. 50
9. 54	41. 0
10. 30	39. 15
11. 13	40. 10
	(†)
21. 0	51. 21*

Apr. 10 — Horizontal Force

Greenwich Mean Solar Time (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature
6. 26	·0974
6. 45	·0981
6. 53	·0974
7. 2	·0978
7. 15	·0976
7. 30	·0978
7. 41	·0976
7. 52	·0983
8. 5	·0976
8. 13	·0982
8. 23	·0978
8. 37	·0981
8. 55	·0975
9. 11	·0978
9. 34	·0972
10. 5	·0975
10. 15	·0973
10. 56	·0978
11. 37	·0975
11. 45	·0977
11. 55	·0975
12. 19	·0979
12. 41	·0975
13. 7	·0979
13. 17	·0975
13. 27	·0975
	(†)
23. 45	·0941
23. 59	·0942

Apr. 11 — Western Declination

Greenwich Mean Solar Time (h m)	Western Declination (° ′ ″)
0. 0	20. 59. 25
0. 13	20. 59. 40
0. 55	21. 2. 0
1. 28	1. 30
1. 36:	0. 40
1. 44	1. 30
1. 45	1. 0
1. 58	1. 50
2. 15	0. 0
2. 36	21. 1. 20
	(†)
3. 0	20. 59. 23*
9. 0	44. 4*
21. 0	45. 0*

Apr. 11 — Horizontal Force

Greenwich Mean Solar Time (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature
0. 0	·0942
0. 31	·0948
0. 39	·0946
1. 0	·0954
1. 23	·0954
1. 45	·0962
2. 7	·0964
2. 23	·0969
2. 37	·0968
2. 52	·0989
3. 6	·0971
3. 23	·0990
3. 40	·0970
4. 20	·0956
4. 37	·0970
4. 50	·0963
5. 6	·0970
5. 10	·0968
5. 20	·0971
5. 30	·0966
5. 38	·0968
6. 43	·0953
7. 7	·0951
7. 11	·0948
7. 30	·0966
7. 53	·0961
8. 4	·0967
8. 19	·0962
8. 34	·0965
9. 0	·0966
9. 39	·0971
9. 46	·0968
10. 7	·0972
10. 31	·0967
10. 57	·0970
11. 31	·0971
12. 5	·0987
12. 20	·0975
13. 41	·0970
17. 7:	·0986
18. 4	·0966
18. 8	·0968
18. 14	·0960
18. 54	·0977
19. 18	·0974
20. 19	·0970
21. 49	·0965
22. 1	·0962
22. 18	·0965
22. 53	·0964
23. 3	·0958
23. 59	·0961

Apr. 11 — Vertical Force

Greenwich Mean Solar Time (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature
0. 0	·02802
1. 36	·02920
2. 14	·02934
2. 51	·03017
3. 40	·02964
6. 32	·02908
7. 17	·02920
9. 50	·02852
11. 44	·02871
12. 26	·02830
14. 54	·02971
16. 14	·03012
16. 57	·02990
19. 56	{ ·03010 / ·02974 }
21. 5	{ ·03018 / ·02806 }
22. 5	{ ·02802 / ·02730 }
23. 59	·02732

Apr. 11 — Readings of Thermometers

Greenwich Mean Solar Time (h m)	Of H. F. Magnet (°)	Of V. F. Magnet (°)
1. 0	48 ·2	49 ·5
3. 0	48 ·9	50 ·5
9. 0	47 ·0	48 ·3
21. 0	42 ·2	44 ·5

Apr. 12 — Western Declination

Greenwich Mean Solar Time (h m)	Western Declination (° ′ ″)
	(†)
0. 31	20. 56. 10
0. 47	57. 5
1. 9	56. 10
1. 38	56. 15
	***
5. 43	45. 30
6. 44	45. 5
	(†)
9. 0	45. 52*
18. 30	43. 35
19. 6	42. 10
20. 52	46. 10
	(†)
21. 0	44. 41*
	(†)
22. 0	47. 50
23. 1	49. 10
23. 59	53. 50

Apr. 12 — Horizontal Force

Greenwich Mean Solar Time (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature
0. 0	·0961
0. 42	·0967
1. 10	·0967
1. 46	·0972
2. 9	·0972
2. 21	·0982
2. 38	·0982
2. 49	·0979
3. 1	·0984
3. 9	·0982
3. 51	·0987
4. 25	·0984
4. 38	·0985
5. 8	·0976
5. 25	·0976
5. 34	·0973
5. 53	·0978
6. 10	·0972
6. 51	·0974
7. 10	·0977
7. 33	·0974
8. 8	·0960
8. 38	·0969
9. 47	·0967
9. 56	·0969
10. 15	·0967
10. 32	·0969
12. 4	·0972
12. 16	·0971
12. 28	·0976

Apr. 12 — Vertical Force

Greenwich Mean Solar Time (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature
0. 0	·02732
1. 48	·02705
2. 7	·02654
2. 24	·02633
2. 45	·02550
5. 2	·02258
11. 57	·02280
13. 39	·02312
18. 0	·02610
20. 8	·02723
21. 15	·02820
21. 48	·02842
22. 46	·02882
23. 59	·02890

Apr. 12 — Readings of Thermometers

Greenwich Mean Solar Time (h m)	Of H. F. Magnet (°)	Of V. F. Magnet (°)
1. 0	45 ·0	45 ·3
3. 0	46 ·8	48 ·6
9. 0	47 ·3	49 ·0
21. 0	39 ·5	42 ·0

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
h m	° ′ ″	Apr. 12 h m		h m		h m	°	°
		12. 49	·0971					
		13. 8	·0976					
		13. 13	·0973					
		13. 20	·0976					
		13. 30	·0970					
		13. 43	·0972					
		13. 58	·0969					
		14. 46	·0973					
		15. 1	·0970					
		16. 33	·0971					
		17. 9	·0973					
		18. 4	·0973					
		18. 52	·0969					
		21. 8	·0950					
		21. 19	·0953					
		23. 0	·0952					
		23. 59	·0958					
Apr. 13		Apr. 13		Apr. 13		Apr. 13		
0. 0	20. 53. 50	0. 0	·0958	0. 0	·02890	8. 30	46·9	47·2
0. 14	54. 20	1. 43	·0971	2. 56:	·02877	21. 0	41·0	43·1
0. 56	55. 10	4. 30	·0976	6. 1	·02654			
1. 44	55. 0	4. 56	·0980	10. 4	·02260			
4. 21	48. 30	5. 35	·0979	16. 23	·02320			
5. 28	47. 0	6. 10	·0984	22. 26	·02500			
9. 35	46. 50	6. 33	·0982		·02583			
10. 52	47. 50	7. 31	·0983	23. 59	·02570			
11. 0	49. 0	7. 52	·0985					
14. 22	47. 50	8. 19	·0981					
16. 59	45. 15	9. 43	·0975					
18. 39	42. 30	9. 58	·0973					
19. 35	42. 20	10. 10	·0974					
22. 58	54. 40	11. 26	·0975					
23. 15	56. 40	11. 40	·0977					
	(†)	11. 55	·0974					
		13. 8	·0977					
		17. 52	·0977					
		20. 38	·0953					
		21. 39	·0953					
		22. 59	·0957					
			(†)					
Apr. 14		Apr. 14		Apr. 14		Apr. 14		
	(†)		(†)	0. 0	·02570	1. 0	43·4	44·0
0. 7	20. 54. 50	0. 9	·0964	2. 25	·02518	3. 0	45·0	45·7
0. 32	55. 0	1. 0	·0976	3. 39	·02410	9. 0	46·0	47·0
0. 39	56. 30	1. 22	·0972	4. 10	·02378	21. 0	41·2	44·0
1. 5	56. 50	1. 43	·0975		·02452			
1. 23	55. 55	1. 52	·0976	4. 33	·02415			
2. 5	55. 10	2. 16	·0981	6. 44	·02502			
2. 44	53. 20	2. 37	·0977	8. 37	·02466			
4. 39	49. 15	4. 3	·0996	8. 52	·02480			
4. 58	50. 0	4. 37	·0978	9. 37	·02438			
5. 3	49. 10	4. 52	·0982	12. 0	·02415			
5. 59	48. 50	5. 24:	·0964	12. 29	·02384			
6. 47	46. 35	5. 47	·0968	18. 11	·02552			
	(†)	6. 4	·0963	21. 1	·02693			
9. 0	42. 36*	6. 25	·0967	22. 35	·02746			

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Apr. 14 h m	° ′ ″	Apr. 14 h m		Apr. 14 h m		h m	°	°
17. 15	20. 49. 15	6. 47	·0958	23. 4	·02738			
17. 37	48. 10	6. 56	·0959		·02678			
18. 27	49. 50	7. 10	·0953	23. 59	·02684			
18. 34	47. 55	7. 37	·0963					
19. 13	46. 0	7. 53	·0960					
19. 30	44. 0	8. 26	·0962					
20. 17	44. 0	8. 34	·0960					
21. 5	45. 40	8. 53	·0969					
22. 28	52. 0	9. 6	·0964					
22. 34	52. 0	9. 15	·0972					
23. 12	56. 10	9. 28	·0967					
23. 18	54. 45	10. 40	·0972					
	(†)	11. 35	·0971					
		12. 8	·0982					
		12. 20	·0980					
		12. 33	·0980					
		13. 30	·0970					
		14. 0	·0972					
		14. 20	·0972					
		14. 37	·0976					
		14. 43	·0974					
		14. 52	·0977					
		15. 2	·0974					
		15. 17	·0979					
		15. 29	·0977					
		15. 38	·0978					
		15. 50	·0974					
		16. 4	·0978					
		16. 40	·0978					
		17. 25	·0994					
		18. 19	·0984					
		18. 43	·0976					
		18. 53	·0979					
		18. 59	·0976					
		19. 10	·0983					
		19. 40	·0978					
		19. 50	·0972					
		20. 2	·0971					
		20. 30	·0962					
		20. 38	·0967					
		21. 5	·0962					
		21. 17	·0955					
		21. 38	·0953					
		22. 3	·0956					
		22. 28	·0953					
		23. 7	·0955					
			***					
		23. 41	·0953					
			(†)					
Apr. 15		Apr. 15		Apr. 15		Apr. 15		
	(†)		(†)	0. 0	·02684	1. 0	43·6	45·2
0. 45	20. 55. 0	0. 33	·0954	2. 25	·02742	3. 0	45·7	46·8
1. 15	55. 0	1. 2	·0962	3. 55	·02660	9. 10	48·1	49·1
1. 30	56. 45	1. 12	·0962	7. 49	·02315	21. 0	42·6	43·5
1. 36	55. 10	1. 22	·0960	7. 52	·02332	22. 0	43·6	44·0
4. 26	50. 0	1. 37	·0967	8. 43	·02327	23. 0	44·2	45·0
6. 15	47. 5	2. 2	·0962		·02400			

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Western Declination

Greenwich Mean Solar Time.	Western Declination.
Apr. 15 h m	° ′ ″
7. 0	20. 45. 10
8. 32	46. 10
	(†)
9. 10	47. 17*
18. 35	49. 20
18. 47	50. 50
19. 2	47. 55
19. 16	47. 10
19. 37	43. 10
19. 44	45. 50
19. 59	47. 0
20. 0	49. 20
20. 10	50. 0
20. 15	49. 10
20. 18	49. 45
20. 30	49. 0
21. 5	51. 10
21. 30	50. 20
22. 15	55. 0
22. 45	53. 30
22. 59	54. 40
23. 20	54. 40
	(†)
23. 53	54. 20
23. 59	54. 20
Apr. 16	
0. 0	20. 54. 20
0. 17	54. 40
0. 38	58. 0
0. 47	56. 30
1. 12	59. 10
1. 45	57. 25
2. 0	58. 5
2. 15	57. 0
2. 40	57. 15
3. 15	20. 53. 0
3. 39	50. 40
4. 37	50. 40
6. 57	46. 30
	(†)
9. 0	42. 53*
15. 54	47. 0
16. 58	44. 20
17. 3	45. 0
17. 53	44. 40
18. 20	46. 50
19. 23	43. 40
21. 42	48. 30
22. 59	53. 25
	(†)
Apr. 17	
0. 0	20. 53. 55
1. 34	56. 55
3. 20	51. 0
5. 35	47. 25
	(†)
9. 13	46. 57*
21. 0	45. 6*
22. 0	47. 10
22. 40	47. 25
23. 59	49. 45

Horizontal Force in parts of the whole H. F. uncorrected for Temperature

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Apr. 15 h m	
2. 32	·0963
3. 25	·0962
4. 12	·0967
4. 26	·0963
4. 42	·0966
6. 20	·0965
6. 24	·0967
6. 41	·0967
6. 53	·0965
7. 26	·0973
7. 52	·0969
8. 26	·0973
8. 50	·0970
10. 30	·0973
10. 53	·0976
11. 26	·0970
12. 17	·0977
12. 34	·0974
12. 47	·0977
12. 57	·0974
13. 8	·0976
13. 30	·0972
13. 42	·0974
13. 56	·0971
14. 33	·0975
14. 48	·0968
15. 15	·0983
15. 30	·0975
16. 8	·0973
16. 52	·0985
17. 8	·0977
17. 48	·0978
19. 1	·0956
19. 28	·0954
19. 42	·0959
20. 1	·0953
20. 10	·0954
20. 23	·0949
20. 43	·0949
21. 7	·0957
21. 45	·0949
22. 5	·0946
22. 17	·0949
23. 8	·0924
23. 45	·0942
23. 59	·0950
Apr. 16	
0. 0	·0950
0. 34	·0967
0. 43	·0956
1. 12	·0972
1. 34	·0966
1. 51	·0965
2. 14	·0956
2. 35	·0973
3. 21	·0967
3. 38	·0973
3. 50	·0973
4. 12	·0978
4. 51	·0971
5. 1	·0973
5. 12	·0970
5. 56	·0973
6. 40	·0966
7. 2	·0968
7. 23	·0964
7. 45	·0969
9. 0	·0968
9. 39	·0978
10. 7	·0968
10. 32	·0970
10. 58	·0967
11. 7	·0971
11. 38	·0970
12. 3	·0983
12. 13	·0977
12. 35	·0987
12. 53	·0977
13. 7	·0981
14. 7	·0969
14. 36	·0977
14. 52	·0966
15. 3	·0967
15. 26:	·0958
16. 5	·0965
16. 47	·0975
17. 36	·0965
17. 50	·0971
18. 18	·0961
18. 23	·0965
19. 33	·0954
19. 38	·0955
20. 1	·0949
21. 8	·0948
21. 58	·0943
22. 49	·0942
23. 7	·0946
23. 19	·0943
23. 40	·0948
	(†)
Apr. 17	
1. 0	·0954*
3. 0	·0967*
9. 13	·0994*
21. 0	·0987*

Vertical Force in parts of the whole V. F. uncorrected for Temperature

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
Apr. 15 h m	
9. 53	·02364
14. 3	·02385
14. 34	·02362
14. 53	·02374
15. 24	·02363
20. 6	·02692
21. 57	·02828
23. 0	·02854
23. 59	·02810
Apr. 16	
0. 0	·02810
0. 44	·02802
0. 53	·02778
1. 7	·02776
1. 39	·02755
4. 38	·02460
4. 43	·02563
9. 0	·02532
11. 45	·02523
12. 20	·02480
12. 36	·02478
12. 51	·02458
14. 54	·02462
18. 47	·02553
19. 30	·02527
21. 58	·02502
22. 27	·02443
22. 38	·02445
23. 23	·02403
	(†)
Apr. 17	
1. 0	·02449*
3. 0	·02740*
9. 13	·02866*
21. 0	·03017*
	(†)
22. 30	·02970
23. 59	·02890

Readings of Thermometers

Greenwich Mean Solar Time.	Of H.F. Magnet.	Of V.F. Magnet.
Apr. 15 h m	°	°
Apr. 16		
0. 0	45 ·2	45 ·9
1. 0	46 ·2	46 ·8
2. 0	47 ·3	47 ·6
3. 0	47 ·9	48 ·1
6. 0	50 ·0	49 ·9
9. 0	50 ·5	51 ·0
12. 0	49 ·5	51 ·0
18. 0	48 ·3	49 ·5
21. 0	49 ·0	50 ·1
22. 0	49 ·6	50 ·8
23. 0	50 ·3	51 ·3
Apr. 17		
0. 0	51 ·4	52 ·1
1. 0	52 ·8	52 ·5
2. 0	53 ·5	53 ·6
3. 0	54 ·5	54 ·7
9. 13	54 ·6	55 ·1
21. 0	49 ·0	50 ·5

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

April 17 and 18. The Photographic Traces for the Horizontal Force Magnet were too faint for use.

Apr. 18

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
0. 0	20. 50. 0
1. 14	51. 50
3. 24	48. 15
5. 57	45. 30
17. 3	44. 10
17. 40	43. 25
19. 50	42. 50
20. 25	43. 40 (†)
21. 0	42. 42*
22. 29	50. 15
22. 58	56. 50 (†)

Greenwich Mean Solar Time. (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
7. 25	·0989*
21. 0	·0981*

Greenwich Mean Solar Time. (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
0. 0	·02890
2. 7	·02797
8. 23	{ ·02364 ·02446
13. 36	·02337
18. 13	·02385
20. 46	·02425 (†)
21. 0	·02439*
23. 17	·02356
23. 59	·02384

Greenwich Mean Solar Time. (h m)	Readings of Thermometers. Of H. F. Magnet. (°)	Of V. F. Magnet. (°)
7. 25	54 ·0	54 ·8
21. 0	52 ·1	53 ·4

Apr. 19

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
0. 0	20. 51. 55
1. 8	53. 30
5. 8	48. 10
7. 18	47. 0
11. 27	47. 0
11. 41	46. 0
12. 15	46. 0
12. 56	44. 35
13. 34	45. 20
14. 16	45. 30
14. 45	44. 40
19. 57	43. 40
21. 22	45. 10 (†)
22. 29	45. 20
23. 59	51. 20

Greenwich Mean Solar Time. (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
	(†)
1. 0	·0977*
1. 8	·0975
2. 46	·0989
3. 15	·0988
3. 36	·0992
5. 49	·0988
7. 2	·0990
7. 45	·0991
9. 7	·0988
9. 22	·0992
9. 41	·0990
10. 8	·0992
10. 46	·0991
11. 22	·0995
12. 4	·0989
12. 31	·0992
13. 19	·0988
15. 7	·0988
17. 0	·0992
17. 13	·0996
19. 32	·0996
21. 25	·0982
22. 0	·0977
23. 18	·0974
23. 59	·0977

Greenwich Mean Solar Time. (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
0. 0	·02384
2. 53	{ ·02262 ·02383
4. 0	·02338
4. 12	·02356
18. 9	·02392
21. 52	·02450
23. 59	·02432

Greenwich Mean Solar Time. (h m)	Readings of Thermometers. Of H. F. Magnet. (°)	Of V. F. Magnet. (°)
1. 0	54 ·3	54 ·7
3. 0	55 ·4	55 ·4
9. 0	55 ·8	57 ·0
21. 0	54 ·5	55 ·1

Apr. 20

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
0. 0	20. 51. 15
1. 22	53. 20
7. 0	47. 35
13. 14	48. 20
13. 29	47. 35
13. 50	49. 30
14. 17	48. 0
14. 28	48. 55
14. 38	48. 20
15. 40	43. 20
16. 40	44. 0 ***
18. 29	42. 50
20. 22	43. 40
21. 45	20. 47. 10
22. 3	49. 15
22. 18	49. 0
23. 30	54. 35
23. 55	53. 50
23. 59	54. 0

Greenwich Mean Solar Time. (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
0. 0	·0977
0. 40	·0980
2. 1	·0991
2. 20	·0991
2. 30	·0989
2. 41	·0993
3. 8	·0990
3. 36	·0995
5. 6	·0995
5. 38	·0998
6. 4	·0994
6. 53	·0994
7. 26	·0992
7. 48	·0995
8. 17	·0995
9. 7	·0997
9. 43	·0992
12. 13	·0998
12. 28	·0994
13. 20	·0998
13. 57	·0997
14. 15	·1001
14. 43	·0997
15. 25	·1000
16. 26	·0995
18. 16	·0997
19. 26	·0989
20. 46	·0983
21. 26	·0980
21. 40	·0982
22. 27	·0975
22. 55	·0980
23. 13	·0981
23. 43	·0992
23. 59	·0979

Greenwich Mean Solar Time. (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
0. 0	·02432
2. 51	·02384
5. 31	·02230
5. 47	·02231
5. 51	·02286
6. 37	·02264
6. 48	·02292
7. 29	·02288
7. 55	·02310
12. 50	·02355
13. 58	·02402
15. 8	·02440
20. 8	·02772
22. 34	·02830
23. 18	{ ·02792 ·02855
23. 59	·02818

Greenwich Mean Solar Time. (h m)	Readings of Thermometers. Of H. F. Magnet. (°)	Of V. F. Magnet. (°)
8. 30	58 ·0	58 ·1
21. 0	54 ·0	53 ·9

Apr. 21

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
0. 0	20. 54. 45
0. 15	54. 0
0. 29	53. 40
0. 59	55. 0
1. 9	54. 35
1. 29	55. 55
2. 12	53. 0
2. 30	53. 50
2. 45	52. 10
2. 59	53. 30
3. 14	52. 0
3. 20	53. 0
3. 40	51. 10
4. 0	52. 50
6. 16	49. 0
8. 40	43. 50
9. 59	47. 0
10. 57	46. 10
11. 12	43. 40
11. 30	45. 50
11. 56	39. 20
12. 10	41. 10
12. 29	36. 20
12. 39	38. 5
17. 11	43. 15
17. 24	43. 0
17. 41	44. 5
18. 0	42. 45
18. 22	44. 25
18. 42	42. 45
19. 12	46. 30
20. 2	45. 20
20. 50	46. 0
21. 39	48. 20
22. 30	53. 40

Greenwich Mean Solar Time. (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
0. 0	·0979
0. 8	·0974
0. 17	·0977
0. 33	·0972
0. 39	·0974
1. 19	·0987
1. 28	·0985 (†)
2. 35	·0968
2. 47	·0973
2. 55	·0969
3. 15	·0986
3. 38	·1000
3. 55	·0980
4. 22	·0990
5. 2	·0995
5. 23	·0983
5. 38	·0990
5. 52	·0988
6. 22	·0999
6. 38	·0990
6. 49	·0993
7. 1	·0990
7. 21	·0994
7. 53	·0991
8. 3	·0992
8. 32	·0985
8. 45	·0986
8. 54	·0982 ***
10. 22	·0998
10. 33	·0994
11. 0	·1004
11. 19	·0997
11. 37	·1003

Greenwich Mean Solar Time. (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
0. 0	·02818
0. 29	·02766 (†)
1. 0	·02741*
2. 3	·02640
4. 38	·02418
4. 45	·02512
5. 14	·02480
11. 46	·02564
12. 32	·02552
14. 3	·02690
18. 43	·03037
21. 9	{ ·03026 ·02958
23. 1	·02932
23. 59	·02864

Greenwich Mean Solar Time. (h m)	Readings of Thermometers. Of H. F. Magnet. (°)	Of V. F. Magnet. (°)
1. 0	56 ·5	57 ·5
3. 0	57 ·8	58 ·9
9. 0	59 ·0	60 ·0
21. 0	54 ·8	54 ·9

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Apr.21		Apr.21						
h m	° ′ ″	h m		h m		h m	°	°
22.35	20.53. 0	12. 8	·1030					
22.50	53.30	12.30	·1008					
22.59	54.30	12.37	·1014					
23. 3	53.10	13. 2	·0997					
23.15	54.35	13. 8	·1002					
23.46	55. 0	13.15	·0994					
23.57	54. 0	13.21	·0997					
23.59	55. 0	13.37	·0991					
		13.59	·0997					
		14.22	·0990					
		14.34	·0995					
		14.47	·0993					
		15.21	·1008					
		15.25	·1004					
		15.37	·1002					
		15.43	·1004					
		16.51	·0991					
		16.56	·0990					
		17.14	·0999					
		17.35	·0996					
		17.43	·0998					
		18.12	·0986					
		18.33	·0984					
		19. 4	·0970					
		20.14	·0979					
		21.40	·0975					
		21.55	·0979					
		22.34	·0968					
		23. 5	·0947					
		23.37	·0974					
		23.59	·0981					
Apr.22		Apr.22		Apr.22		Apr.22		
0. 0	20.55. 0	0. 0	·0981	0. 0	·02864	1. 0	57·6	57·2
1.40	54.50	0. 7	·0982	1.34	·02754	3. 0	58·0	57·9
2. 1	54. 0	0.31	·0981	2.52	·02750	9. 0	56·8	58·3
2.10	53.20	0.42	·0977	8.39:	·02533	21. 0	52·4	53·5
2.35	43.40	0.56	·0980	13. 2	·02698	22. 0	53·3	53·8
3. 0	50.40	1. 3	·0978	17.36	·03000	23. 0	54·0	54·2
3.33	49.35	1.34:	·0984	19.38	{ ·03003			
3.45	51.50	1.53	·0969		·02972			
4. 0	49.55	2. 8	·0977	21. 5	{ ·02957			
4. 6	50.20	2.23	·0971		·02904			
4.18	49. 0	3.18	·0982	22. 3	{ ·02926			
4.33	49.25	3.53	·0972		·02757			
5. 0	48. 0	4. 5	·0974	23.59	·02548			
5.15	48.55	4.15	·0962					
9.27	48. 0	4.25	·0970					
9.41	47. 5	4.35	·0966					
10.45	48. 0	5.10	·0979					
12.23	47.45	5.24	·0979					
	(†)	5.52	·0986					
15. 0	46. 0	6.30	·0987					
17. 6	45. 0	6.50	·0985					
17.33	42.55	8. 8	·0991					
17.52	43.40	9. 1	·0988					
18.15	43.10	9.30	·0991					
18.32	44.20	9.40	·0990					
			***					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Apr.22		Apr.22						
h m	° ′ ″	h m		h m		h m	°	°
18.43	20.44.20	11.52	·0992					
19.10	48.20	12.24	·0995					
19.45	49.10	12.48	·1000					
20. 2	47.10	13.55	·0985					
20.14	48.45	14.32	·0991					
20.29	48.10	15.13	·0988					
20.54	48.50	17.20	·0991					
21. 3	50.15	17.45	·0988					
21.38	49.40	17.57	·0981					
22. 3	51.55	18.31	·0978					
22.47	50.55	19.30	·0988					
22.54	51.10	19.38	·0984					
23.29	51.40	19.58	·0989					
	(†)	20.54	·0977					
		21. 4	·0976					
		21.11	·0968					
		21.22	·0968					
		21.47	·0977					
		22.34	·0981					
			(†)					
Apr.23		Apr.23		Apr.23		Apr.23		
	(†)		(†)	0. 0	·02548	0. 0	55·2	55·3
1. 0	20.54. 5	0.39	·0982	0.21	·02540	1. 0	55·4	55·7
2.44	50.40	1.45	·0987	0.43	·02500	2. 0	56·3	57·0
2.59	51. 0	2. 0	·0984	2. 7	·02412	3. 0	57·5	58·3
3.24	49.10	2.47	·0982	4.46	·02081	6. 0	59·4	60·3
3.32	49.40	3. 7	·0994	5.22	·02120	9. 0	59·0	59·8
5. 5	44.50	3.22	·0985	7.37	{ ·02166	12. 0	57·7	58·3
5.18	45.15	3.43	·0996		·02225	18. 0	53·2	54·5
6.50	43.40	4.10	·0974	8. 7	·02132	21. 0	52·9	54·0
9.55	47. 0	4.57	·0997	11.18	{ ·02196	22. 0	53·8	54·5
10.48	44.30	5.18	·0990		·02300	23. 0	54·0	54·6
11.24	45.10		***	12.37	·02290			
12. 0	37.10	5.58	·0996	15.43	·02463			
12.18	39.25	6. 8	·0993	18.52	·02758			
12.30	43. 0	6.25	·0992	21.14	·02864			
12.59	42.50	6.47	·0998		(†)			
13.25	45.15	7.12	·0990					
13.51	44.40	7.27	·0992					
14.55	46.15	7.37	·0996					
15.45	45.50	7.48	·0991					
16.15	45.50	9.39	·0991					
16.24	44.50	9.55	·0997					
16.44	45.10	10.17	·0994					
17.22	44.20	10.37	·1000					
17.40	44. 5	10.53	·1001					
18. 2	42.50	11.13	·0998					
	***	11.53	·1012					
20.44	43.10	12.13	·0999					
21. 3	44.20	12.56	·0986					
21.15	44. 0	13. 8	·0989					
	(†)	13.21	·0986					
			***					
		14. 2	·0990					
			***					
		15.22	·0997					
		15.50	·0992					
			***					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
Apr.24	
1. 0	21. 0. 30*
3. 0	20. 55. 53*
9. 0	53. 40*
21. 0	51. 54*
23. 44	58. 15
23. 55	57. 50
23. 59	58. 5
Apr.25	
0. 0	20. 58. 10
0. 29	21. 0. 20
0. 33	0. 0
0. 45	0. 50
1. 5	0. 25
1. 43	21. 0. 45
2. 59	20. 55. 10
3. 10	55. 30
3. 29	54. 50
3. 58	55. 50
4. 43	52. 15 ***
6. 35	50. 55 ***
9. 40	49. 50
10. 44	51. 0
11. 9	54. 40
12. 30	50. 15
14. 10	51. 0
14. 43	56. 50
19. 3	47. 50
19. 52	47. 55
20. 40	48. 40
21. 55	51. 50
22. 16	54. 10
22. 59	55. 45
23. 33	52. 50
23. 59	57. 45
Apr.26	
0. 0	20. 57. 45
0. 13	58. 10
3. 18	53. 45
6. 33	50. 40
9. 16	52. 30
10. 59	51. 15
16. 12	51. 0
16. 24	49. 20
16. 31	50. 30
16. 48	20. 49. 45
17. 30	49. 45
17. 50	48. 15
18. 8	49. 0
18. 18	46. 30
18. 30	47. 15
18. 35	46. 0 ***
19. 29	51. 5 ***
20. 45	50. 30 ***
22. 17	55. 20
22. 23	54. 50
22. 46	56. 50
23. 15	56. 45
23. 31	58. 10
23. 59	57. 35
Apr.27	
0. 0	20. 57. 15
0. 18	20. 59. 0
1. 15	21. 0. 25
1. 49	20. 58. 10
2. 4	58. 20 ***
4. 40	53. 15
4. 49	53. 30
6. 27	48. 50
6. 44	46. 5
7. 6	45. 55
7. 16	47. 20
7. 32	46. 5
8. 28	48. 0
8. 58	38. 15
9. 21	45. 15
9. 44	41. 55
10. 0	41. 0
10. 15	42. 50
10. 44	40. 20
11. 5	40. 50
12. 15	33. 15 ***
13. 13	43. 10
14. 0	38. 0
14. 12	40. 0
14. 16	39. 25
14. 28	40. 40
14. 34	40. 10
15. 27	43. 20
15. 32	43. 0
15. 45	43. 10
15. 57	46. 0
16. 3	45. 40
16. 39	53. 45
16. 59	50. 50 ***
17. 37	48. 50

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Apr.23	
h m	
18. 10	·0997 ***
20. 4	·0997
20. 21	·0994
20. 38	·0995
20. 53	·0993
21. 23	·0994 (†)
Apr.24	
1. 0	·0987*
3. 0	·0981*
9. 0	·0992*
21. 0	·0991*
Apr.25	
1. 0	·0991*
3. 0	·0990*
9. 0	·0998*
21. 0	·0985*
Apr.26	
1. 0	·0989*
3. 0	·0990*
9. 0	·1003*
22. 0	·0988*
Apr.27	
8. 0	·1026*
21. 0	·0993*

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
Apr.24	
1. 0	·02504*
3. 0	·02343*
9. 0	·02061*
21. 0	·02378* (†)
23. 40	·02532
23. 59	·02563
Apr.25	
0. 0	·02563
1. 13	·02578
3. 46	·02026
5. 13	·01924
6. 0	·01960
11. 3	·02055
13. 52	·02148
21. 0	·02624
23. 59	·02631
Apr.26	
0. 0	·02631
2. 6	·02700
3. 10	·02642
3. 51	{·02560 ·02406}
6. 58	·02020
7. 54	{·01917 ·01943}
8. 53	·01882
8. 57	·01967
13. 26	{·02175 ·02226}
17. 50	·02742
18. 1	·02725
19. 23	·02718
20. 14	·02698
23. 59	·02661
Apr.27	
0. 0	·02661
0. 44	·02658
2. 42	·02592
4. 26	·02333
7. 46	·01800
11. 50	·01823
12. 48	{·01857 ·01911}
14. 0	·01915
15. 59	·02092
17. 55	{·02303 ·02180}
20. 32	{·02402 ·02498}
21. 36	·02565
23. 59	·02446

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Apr.24		
0. 0	55·0	55·3
1. 0	56·0	56·3
2. 0	57·1	57·0
3. 0	58·0	57·8
9. 0	60·0	60·5
21. 0	55·9	56·0
Apr.25		
1. 0	59·3	60·1
3. 0	63·0	64·8
9. 0	67·2	67·2
21. 0	59·8	60·7
Apr.26		
1. 0	61·1	62·0
3. 0	63·3	65·0
9. 0	64·0	65·5
22. 0	56·0	57·0
Apr.27		
8. 0	63·5	64·3
21. 0	56·0	56·9

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

April 24. The photographic registration of the movements of the three Magnetometers was interrupted during this day, in consequence of the gas-pipes being under repair.

April 25, 26, 27. The Photographic Traces for the Horizontal Force Magnet were too faint for use.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Apr.27 h m	° ′ ″	h m		h m		h m	°	°
18. 7	20. 48. 50							
18. 14	49. 50							
18. 21	48. 45							
18. 32	50. 10							
19. 7	50. 20							
19. 33	54. 40							
20. 2	56. 20							
20. 43	20. 54. 0							
22. 28:	21. 5. 10							
23. 20	21. 0. 45							
23. 41	20. 56. 5							
23. 59	56. 45							
Apr.28		Apr.28		Apr.28		Apr.28		
0. 0	20. 56. 50		(†)	0. 0	·02446	1. 0	60 ·6	61 ·0
0. 3	20. 56. 50	1. 0	·1019*	0. 22	·02417	3. 0	65 ·0	65 ·2
0. 5	21. 1. 55	2. 8	·0953	0. 30	·02388	9. 0	65 ·4	65 ·4
0. 33	1. 50	3. 23	·0972	1. 31	·02279	21. 0	56 ·8	57 ·3
	(†)	4. 4	·0964	1. 43	·02240			
1. 0	0. 45*	4. 9	·0960	2. 14	·02231			
1. 59	0. 30	4. 22	·0972	4. 10	·01920			
2. 16	21. 0. 20	4. 36	·0975	4. 36	·01881			
3. 0	20. 59. 45	5. 2	·0959	5. 6	·01897			
3. 30	21. 0. 0	5. 17	·0965	7. 4	·01938			
4. 14	20. 57. 25	5. 23	·0960	9. 29	·01935			
4. 23	58. 0	5. 49	·0970	10. 23	·01946			
4. 51	57. 0	7. 1	·0968	10. 41	·01914			
5. 8	54. 10	7. 7	·0971	11. 24	·01920			
5. 32	53. 55	7. 20	·0963	12. 14	{ ·01962 ·02020			
5. 44	52. 0	7. 43	·0965					
5. 58	51. 50	8. 0	·0974	14. 5	·02138			
6. 5	52. 45	8. 15	·0971	15. 30	·02260			
6. 28	48. 50	8. 27	·0974	19. 22	·02762			
7. 13	51. 20	8. 56	·0960	22. 53	·02743			
7. 27	50. 0	9. 38	·0967	23. 59	·02625			
7. 38	51. 0	10. 7	·0961					
8. 26	49. 10	10. 20	·0969					
8. 51	52. 15	10. 29	·0962					
9. 5	50. 50	11. 5	·0974					
9. 47	52. 0	12. 21	·0958					
10. 15	47. 10	12. 38	·0962					
10. 30	57. 0	12. 52	·0961					
10. 51	50. 0	13. 31	·0968					
11. 12	45. 10	13. 52	·0962					
11. 30	43. 40	14. 48	·0971					
12. 30	52. 5	15. 34	·0969					
12. 59	52. 50	15. 53	·0972					
13. 45	54. 30	16. 30	·0970					
13. 58	55. 50	17. 4	·0974					
	***	17. 56	·0973					
15. 0	51. 50	18. 14	·0977					
16. 29	52. 0	18. 24	·0974					
16. 44	51. 0	18. 42	·0979					
17. 5	51. 0	19. 47	·0969					
17. 28	52. 15	20. 39	·0967					
17. 53	51. 55	21. 38	·0950					
18. 0	51. 0	22. 0	·0950					
18. 12	53. 5	22. 34	·0952					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Apr.28 h m	° ′ ″	Apr.28 h m		h m		h m	°	°
18. 27	20. 50. 45	23. 11	·0963					
18. 50	51. 10		(†)					
19. 0	50. 35							
19. 23	51. 50							
19. 55	49. 0							
20. 32	49. 20							
21. 32	55. 0							
21. 45	20. 58. 0							
22. 22	21. 0. 0							
22. 56	20. 59. 45							
23. 35	21. 1. 10							
23. 47	0. 40							
	(†)							
Apr.29				Apr.29		Apr.29		
	(†)			0. 0	·02625	1. 0	61 ·4	61 ·0
0. 30	21. 0. 10			1. 30	·02508	3. 0	64 ·0	64 ·5
1. 0	0. 30			2. 1	·02415	9. 0	63 ·3	63 ·2
1. 33	21. 1. 20			2. 50	·02333	21. 0	56 ·7	56 ·5
3. 9	20. 56. 15			5. 4	·01960	22. 0	57 ·6	57 ·3
4. 8	52. 0			6. 6	·01855	23. 0	58 ·8	58 ·3
6. 33	50. 50			6. 12	·01860			
9. 0	52. 55			6. 18	·01852			
	(†)			6. 28	·01876			
13. 29	45. 15			6. 50	·01860			
14. 14	45. 55			9. 54	·01890			
15. 25	48. 50			11. 37	·01962			
15. 40	47. 35			12. 48	·02058			
15. 59	47. 50			13. 17	·02077			
16. 29	51. 20			15. 53	·02363			
17. 15	51. 50			18. 47	·02732			
17. 58	50. 25			19. 30	{ ·02730 ·02681			
18. 14	48. 30							
18. 27	49. 10			22. 37	·02648			
18. 43	48. 25			23. 59	·02560			
18. 59	49. 25							
19. 15	49. 0							
20. 45	51. 35							
21. 45	57. 0							
22. 15	20. 57. 40							
23. 27	21. 1. 10							
23. 59	1. 0							
Apr.30		Apr.30		Apr.30		Apr.30		
0. 0	21. 1. 0		(†)	0. 0	·02560	0. 0	60 ·3	59 ·4
1. 30	21. 2. 0	2. 7	·1257	1. 22	·02444	1. 0	63 ·1	61 ·0
2. 15	20. 58. 30	2. 54	·1262	1. 27	·02420	2. 0	65 ·7	62 ·7
3. 8	56. 45	3. 13	·1263	2. 1	·02356	3. 0	66 ·0	64 ·0
3. 32	56. 40	3. 30	·1268	2. 16	·02350	6. 0	67 ·5	66 ·8
4. 13	55. 0	4. 10	·1270	6. 18	·01690	9. 0	64 ·0	65 ·8
4. 30	55. 55	4. 23	·1264	6. 43	·01731	12. 0	62 ·0	63 ·0
5. 39	53. 40	4. 33	·1268	8. 22	·01770	18. 0	58 ·0	58 ·7
5. 58	53. 45	4. 53	·1264	11. 8	·01928	21. 0	58 ·0	58 ·9
6. 2	53. 0	6. 4	·1268	13. 48	·02174	22. 0	59 ·1	59 ·8
6. 13	49. 50	6. 30	·1280	14. 16	·02195	23. 0	60 ·0	60 ·5
6. 28	48. 10	6. 52	·1268	19. 16	·02611			
6. 30	50. 40	7. 22	·1264	23. 3	·02664			
6. 38	49. 0	9. 16	·1270	23. 28	·02645			

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

April 29. The Horizontal Force Magnet was found in contact with the copper damper.

Greenwich Mean Solar Time.	Western Declination.
Apr. 30	
h m	° ′ ″
6. 55	20. 48. 35
7. 44	51. 0
8. 40	51. 40
	(†)
9. 0	55. 36*
9. 43	50. 30
10. 3	46. 45
10. 27	45. 50
10. 44	49. 0
10. 52	48. 20
11. 3	49. 10
11. 47	48. 0
12. 15	49. 40
13. 5	50. 10
13. 33	53. 0
14. 9	48. 55
15. 2	50. 0
19. 9	44. 50
19. 36	45. 40
19. 54	43. 45
20. 8	45. 5
20. 29	44. 45
20. 57	46. 0
21. 48	51. 10
23. 59	59. 50
May 1	
0. 0	20. 59. 50
0. 14	58. 15
0. 59	58. 15
1. 27	56. 30
2. 12	55. 10
4. 12	53. 50
4. 41	54. 10
5. 59	53. 40
	(†)
9. 0	50. 45*
18. 8	20. 52. 10
21. 0	21. 1. 20
	(†)
22. 8	21. 1. 5
23. 14	20. 59. 50
23. 20	21. 0. 15
	(†)
May 2	
	(†)
0. 3	20. 56. 40
0. 45	57. 50
0. 59	57. 20
1. 7	57. 50
5. 0	51. 50
5. 14	52. 0
6. 44	50. 50
7. 38	51. 45
8. 44	50. 10
10. 49	51. 5
	(†)
17. 47	50. 45
20. 58	49. 50
21. 57	52. 0
22. 2	53. 0
23. 43	58. 40
23. 59	59. 20

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Apr. 30	
h m	
9. 47	·1264
10. 5	·1268
11. 1	·1265
11. 53	·1270
12. 12	·1268
12. 49	·1273
13. 22	·1272
13. 53	·1284
	(†)
15. 46	·1280
18. 8	·1280
18. 56	·1277
19. 47	·1280
	(†)
21. 0	·1271*
23. 59	·1249
May 1	
0. 0	·1249
0. 17	·1257
0. 37	·1248
0. 47	·1253
1. 2	·1246
1. 52	·1248
2. 7	·1242
2. 25	·1249
2. 55	·1244
3. 10	·1245
4. 36	·1240
4. 49	·1240
5. 7	·1230
5. 22	·1238
5. 36	·1235
6. 9	·1236
6. 28	·1241
7. 15	·1239
7. 35	·1256
7. 46	·1244
8. 5	·1238
8. 11	·1240
8. 17	·1240
8. 47	·1240
9. 41	·1245
10. 45	·1245
11. 41	·1249
12. 41	·1251
13. 35	·1248
14. 8	·1254
14. 38	·1253
May 1	
h m	
15. 23	·1265
16. 47	·1255
17. 5	·1252
17. 38	·1253
18. 34	·1250
19. 14	·1248
19. 38	·1245
20. 7	·1243
20. 21	·1246
21. 31	·1248
	(†)
May 2	
	(†)
1. 0	·1251*
1. 22	·1251
2. 56	·1250
3. 7	·1253
3. 17	·1249
3. 23	·1250
3. 34	·1249
3. 46	·1252
4. 23	·1248
4. 48	·1252
5. 9	·1250
5. 25	·1257
5. 57	·1252
6. 24	·1254
7. 38	·1252
8. 25	·1255
9. 9	·1255
9. 17	·1253
9. 38	·1254
10. 11	·1252
10. 34	·1256
12. 35	·1260
14. 11	·1258
14. 37	·1257
15. 9	·1264
15. 54	·1265
17. 41	·1287
18. 34	·1268
	(†)
21. 0	·1261*
May 3	
	(†)
1. 0	·1263*
1. 22	·1267
1. 42	·1271
4. 53	·1276
5. 21	·1274
5. 54	·1277
7. 19	·1274
8. 35	·1273
9. 24	·1276
9. 53	·1274
10. 15	·1275

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
Apr. 30	
h m	
23. 45	·02648
23. 59	·02635
May 1	
0. 0	·02635
1. 1	·02523
1. 55	·02490
2. 29	·02418
5. 7	·01872
5. 57	·01761
6. 1	·01774
7. 2	·01768
7. 52	·01793
9. 30	·01800
9. 44	·01782
12. 46	·01945
16. 29	{ ·02457
	·02506
18. 15	{ ·02708
	·02683
21. 0	{ ·02633
	·02520
23. 59	·02530
May 2	
h m	
0. 0	·02530
0. 37	·02538
1. 44	·02372
7. 45:	·01926
10. 17	·02080
13. 29	·02372
14. 49	·02500
16. 3	·02478
21. 2	{ ·02386
	·02314
23. 59	·02270
May 3	
0. 0	·02270
2. 0	·02253
5. 24	·02182
10. 1	·02160
12. 15	·02177
12. 20	·02148
13. 57	·02179
14. 7	·02155
15. 17	·02180
15. 36	·02166
16. 46	·02172
17. 4	·02161

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
May 1		
0. 0	60·8	61·2
1. 0	62·8	63·5
2. 0	64·5	64·8
3. 0	66·4	66·0
9. 0	69·0	69·0
21. 0	58·8	60·0
May 2		
1. 0	60·6	61·4
3. 0	61·8	63·0
9. 0	61·5	62·0
21. 0	51·3	52·9
May 3		
1. 0	52·7	53·9
3. 0	53·7	54·8
9. 0	54·7	55·8
21. 35	55·0	55·7

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

April 30d. 2h. The Horizontal Force Magnet was readjusted, and its final position was about 0·0300 different from that preceding. To connect the preceding and following series of records it will be necessary to increase the numbers in the series ending April 28 by 0·03, or to diminish those in the series beginning this day by 0·03.

May 3 and 4. The suspension skein of the Declination Magnet gave way; it was restored on May 5.

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
May 3	
h m	
10. 57	·1272
11. 24	·1280
12. 7	·1276
12. 23	·1277
13. 7	·1272
13. 34	·1276
13. 56	·1273
14. 41	·1272
15. 4	·1275
15. 28	·1272
16. 20	·1277
17. 1	·1274
17. 31	·1279
17. 57	·1280
18. 43	·1274
19. 22	·1270
19. 38	·1265
20. 37	·1260
20. 49	·1261
21. 21	·1258
22. 44	·1255
23. 13	·1251
23. 35	·1252
23. 59	·1249
May 4	
0. 0	·1249
0. 48	·1250
1. 34	·1259
2. 10	·1259
2. 33	·1263
3. 13	·1260
3. 32	·1263
3. 37	·1262
4. 18	·1274
4. 36	·1271
4. 42	·1271
4. 57	·1268
5. 10	·1271
5. 32	·1268
5. 53	·1266
7. 3	·1266
7. 20	·1264
7. 37	·1268
8. 0	·1262
8. 34	·1266
9. 2	·1263
9. 22	·1266
9. 34	·1263
10. 52	·1269
11. 31	·1269
11. 49	·1285
12. 4	·1278
13. 14	·1266
14. 20	·1269
14. 33	·1269
14. 50	·1271
15. 30	·1268

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
May 3	
h m	
18. 1	·02170
18. 30	·02152
20. 27	·02140
23. 0	·02022
23. 59	·01937
May 4	
0. 0	·01937
1. 18	·01754
4. 54	·01313
5. 9	·01345
8. 9	·01480
10. 5	·01520
12. 29	·01500
13. 55	·01554
16. 52	·01618
	(†)
21. 0	·01751*
22. 30	·01717
23. 59	·01666

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
May 4		
9. 42	64·8	64·8
21. 0	60·8	61·2

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
May 5	
	(†)
1. 0	20. 52. 46*
1. 28	54. 35
1. 57	52. 45
2. 7	53. 40
2. 32	53. 50
3. 6	52. 10
3. 18	53. 15
3. 33	51. 10
4. 37	51. 50
5. 2	51. 0
5. 19	51. 40
5. 36	51. 10
5. 45	51. 30
7. 44	50. 10
8. 29	51. 30
9. 14	49. 50
10. 45	49. 50
	(†)
16. 0	44. 40
16. 30	46. 30
16. 49	46. 45
17. 9	47. 35
18. 9	48. 0
18. 23	47. 15
18. 36	48. 15
18. 58	48. 50
19. 2	47. 45
19. 30	47. 35
19. 45	46. 15
21. 5	49. 15
21. 29	50. 55
21. 40	50. 50
22. 8	52. 50
22. 44	53. 45
23. 19	55. 35
23. 47	58. 25
23. 59	58. 5

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
May 4	
h m	
15. 56	·1272
17. 6	·1272
17. 23	·1274
19. 45	·1269
	(†)
23. 59	·1246
May 5	
0. 0	·1246
0. 4	·1245
0. 28	·1238
0. 38	·1241
0. 55	·1241
1. 12	·1250
1. 45	·1240
2. 3	·1249
2. 13	·1245
2. 32	·1248
3. 7	·1242
3. 16	·1251
3. 30	·1240
3. 41	·1241
4. 25	·1250
4. 35	·1252
4. 48	·1248
4. 55	·1250
5. 0	·1242
5. 15	·1249
5. 29	·1246
6. 4	·1255
6. 17	·1251
6. 37	·1250
6. 54	·1246
7. 33	·1246
7. 40	·1260
8. 7	·1242
8. 22	·1245
8. 31	·1245
8. 47	·1250
8. 59	·1246
9. 19	·1247
9. 30	·1240
9. 41	·1248
9. 56	·1242
10. 5	·1248
10. 21	·1241
11. 2	·1247
11. 21	·1259
11. 38	·1252
12. 1	·1264
13. 8	·1244
13. 48	·1255
14. 2	·1254
14. 23:	·1261
14. 49	·1255
15. 24	·1263
15. 49	·1262
16. 17	·1257

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
May 5	
0. 0	·01666
1. 53	{ ·01448 ·01505
3. 46	·01614
5. 15	·01632
5. 26	·01660
5. 34	·01648
5. 59	·01641
6. 10	·01673
6. 27	·01646
6. 33	·01660
6. 50	·01638
6. 58	·01665
7. 15	·01638
7. 45	·01642
8. 4	·01617
10. 14	·01646
12. 11	·01738
14. 33	·02016
15. 50	·02132
18. 12:	·02458
20. 40	·02643
20. 47	·02620
21. 47	·02603
23. 59	·02336

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
May 5		
1. 0	65·8	66·0
3. 0	68·8	69·0
9. 0	69·5	72·0
21. 0	62·7	63·8

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
h m	° ′ ″	May 5 h m		h m		h m	°	°
		17. 5	·1252					
		17. 18	·1253					
		17. 52	·1249					
		19. 37	·1242					
		19. 55	·1246					
		20. 21	·1246					
		20. 45	·1242					
		21. 32	·1241					
		21. 55	·1236					
		22. 25	·1231					
		22. 36	·1233					
		23. 0	·1226					
		23. 28	·1228					
			(†)					
May 6		May 6		May 6		May 6		
0. 0	20. 57. 55	1. 0	·1230*	0. 0	·02336	1. 0	68 ·9	70 ·0
0. 31	59. 0	3. 0	·1104*	2. 30	·01925	3. 0	72 ·2	73 ·0
0. 44	57. 50	9. 0	·1114*	3. 53	·01594	9. 0	73 ·0	73 ·5
0. 48	58. 40	21. 0	·1090*	4. 5	·01575	21. 0	64 ·8	65 ·1
1. 25	51. 0			7. 1	·01694	22. 0	65 ·1	66 ·0
2. 45	57. 55			7. 42	·01680	23. 0	66 ·0	66 ·6
2. 57	57. 0			9. 34	·01698			
3. 15	56. 15			9. 48	·01741			
3. 26	57. 55			10. 31	·01752			
3. 44:	55. 0			12. 11	·01838			
3. 59	56. 0			14. 3	·01986			
4. 15	54. 30			14. 32	·02020			
4. 55	53. 20			17. 50	·02461			
5. 8	51. 30			17. 57	·02425			
5. 35	52. 50			19. 23	·02424			
6. 13	48. 30				·02358			
6. 26	47. 45			21. 29	·02410			
6. 45	43. 40			23. 52	·02375			
6. 59	43. 10				(†)			
7. 30	50. 40							
7. 45	49. 50							
8. 7	50. 0							
8. 59	46. 55							
9. 21	48. 30							
9. 58	38. 0							
10. 20	43. 30							
11. 40	50. 30							
12. 8	50. 50							
	(†)							
14. 28	45. 0							
14. 47	44. 20							
15. 15	44. 50							
15. 43	43. 10							
15. 47	43. 0							
16. 15	45. 10							
16. 21	44. 45							
16. 45	48. 20							
17. 14	44. 45							
17. 47	49. 25							
17. 57	49. 0							
18. 38	52. 0							
18. 57	51. 0							

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
May 6 h m	° ′ ″	h m		h m		h m	°	°
19. 8	20. 53. 15							
19. 28	50. 10							
19. 30	51. 0							
19. 46	50. 30							
19. 48	52. 10							
20. 5	52. 10							
20. 27:	55. 20							
21. 0	52. 5							
22. 3	54. 0							
22. 18	56. 10							
22. 33	55. 0							
23. 0	56. 55							
23. 23	56. 5							
23. 56	59. 0							
	(†)							
May 7		May 7		May 7		May 7		
1. 0	20. 56. 5*	1. 0	·1089*	1. 0	·02272*	0. 0	66 ·6	67 ·0
3. 0	54. 54*	3. 0	·1119*	3. 0	·02315*	1. 0	67 ·8	68 ·0
9. 0	53. 49*	9. 0	·1129*	9. 0	·02497*	2. 0	67 ·5	67 ·6
21. 0	51. 24*	21. 0	·1106*	21. 0	·02196*	3. 0	67 ·5	67 ·4
						6. 0	66 ·3	66 ·6
						9. 0	64 ·8	65 ·0
						12. 0	64 ·5	64 ·6
						18. 0	52 ·0	53 ·0
						21. 0	57 ·9	57 ·5
						22. 0	58 ·8	57 ·9
						23. 0	58 ·9	57 ·9
May 8		May 8	(†)	May 8	(†)	May 8		
1. 0	20. 52. 17*	1. 0	·1112*	1. 0	·02027*	0. 0	60 ·0	58 ·8
3. 0	49. 19*	3. 7	·1116	2. 58	·01842	1. 0	61 ·0	59 ·9
9. 0	47. 50*	4. 32	·1115	7. 38:	·01530	2. 0	61 ·9	61 ·0
21. 0	44. 46*	4. 59	·1117	11. 17	·01588	3. 0	62 ·7	62 ·0
		8. 38	·1118	11. 46	·01586	9. 0	62 ·2	62 ·0
		9. 11	·1123	15. 55	·01816	21. 0	56 ·8	58 ·0
		9. 47	·1118	20. 20	·02125			
		10. 25	·1124	21. 40	·02148			
		11. 0	·1122		·02099			
		11. 21:	·1133	22. 41	·02102			
		11. 58	·1120	22. 49	·02075			
		12. 21	·1122	23. 39	·02062			
		12. 47:	·1124		(†)			
		13. 15	·1117					
		14. 5	·1124					
		14. 51	·1123					
		15. 26	·1124					
		16. 1	·1123					
		18. 26	·1120					
		19. 29	·1120					
		21. 25	·1118					
		23. 40	·1116					
			(†)					
May 9		May 9		May 9	(†)	May 9		
1. 0	20. 55. 0*	1. 0	·1110*	0. 26	·02032	1. 0	59 ·0	59 ·3
3. 0	53. 24*	3. 0	·1127*			3. 0	61 ·0	60 ·9

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

May 6. Between the hours of 1 and 3 an unexplained change took place in the position of the Horizontal Force Magnet to the amount of about 0·012. To connect the series ending May 6^d. 1^h. with that beginning May 6^d. 3^h. it is necessary to apply 0·012 subtractively to the numbers of the former, or additively to those of the latter. May 6. The Photographic Trace for the Horizontal Force Magnet was too faint for use.

May 7. The Photographic Traces for the three Magnetometers were too faint for use.

May 8. The Photographic Trace for the Declination Magnet was too faint for use.

May 9. The Photographic Traces for the Declination and Horizontal Force Magnets were too faint for use.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
May 9		May 9		May 9		May 9		
h m	° ′ ″	h m		h m		h m	°	°
9. 0	20. 45. 4*	9. 0	·1133*	1. 37	·01994	9. 0	61 ·0	61 ·1
21. 0	45. 50*	21. 0	·1114*	5. 37	·01773	21. 0	55 ·2	55 ·0
				8. 8	·01692			
				11. 27	·01783			
					(†)			
				21. 0	·02153*			
				22. 58	·02013			
				23. 59	·01980			
May 10		May 10		May 10		May 10		
	(†)		(†)	0. 0	·01980	1. 0	58 ·3	58 ·1
0. 28	20. 54. 40	0. 45	·1129	2. 0	·01841	3. 0	60 ·6	61 ·0
1. 48	54. 45	1. 40	·1129	2. 45	·01720	9. 0	62 ·0	62 ·0
1. 59	56. 10	2. 19	·1157	4. 54	·01482	21. 0	55 ·5	56 ·5
2. 5	55. 0	2. 38	·1136	6. 27	·01404			
2. 15	56. 10	2. 45	·1136	9. 9:	·01217			
3. 4	51. 20	2. 58	·1130	11. 38	·01272			
4. 25	49. 40	3. 21	·1141		(†)			
4. 50	49. 20	3. 36	·1141	21. 0	·02023*			
5. 15	50. 0	3. 45	·1144					
7. 22	44. 0	4. 3	·1143					
7. 34	45. 30	4. 15	·1149					
7. 43	45. 20	4. 27	·1149					
7. 45	46. 10	4. 38	·1153					
7. 58	45. 10	4. 47	·1152					
9. 0	47. 0	5. 4	·1161					
9. 26	45. 50	6. 3	·1127					
10. 0	45. 50	6. 10	·1130					
	(†)	6. 30	·1121					
21. 0	45. 16*	6. 45	·1110					
		6. 53	·1114					
		7. 1	·1110					
		7. 15	·1118					
		8. 4	·1126					
		8. 16	·1130					
		8. 58	·1128					
		9. 7	·1028					
		10. 4	·1136					
		10. 16	·1134					
		10. 27	·1136					
		11 15	·1136					
		11. 27	·1135					
		12. 5	·1136					
			(†)					
		21. 0	·1119*					
May 11		May 11		May 11		May 11		
10. 0	20. 46. 42*	10. 0	·1136*	10. 0	·02134*	10. 0	55 ·0	56 ·0
21. 0	44. 20*	21. 0	·1121*	21. 0	·02158*	21. 0	52 ·8	52 ·0
23. 53	(†)							
23. 59	51. 0							
	51. 0							
May 12		May 12		May 12		May 12		
0. 0	20. 51. 0	0. 0	·1119		(†)	1. 0	55 ·2	55 ·4
0. 6	50. 50	0. 28	·1117	1. 0	·01928*	3. 0	56 ·8	57 ·0
0. 18	51. 45	1. 1	·1123	1. 7	·01878	9. 0	58 ·0	58 ·5
0. 28	51. 40	1. 23	·1119	4. 45	·01620	21. 0	52 ·0	51 ·8

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
May 12		May 12		May 12				
h m	° ′ ″	h m		h m		h m	°	°
0. 32	20. 52. 50	1. 45	·1130	4. 53	·01608			
1. 7	51. 30	2. 7	·1129	8. 35	·01394			
1. 37	52. 10	2. 31	·1136		(†)			
2. 15	50. 45	2. 38	·1134	9. 0	·01390*			
2. 28	51. 20	2. 49	·1136	21. 0	·02015*			
2. 36	50. 40	3. 7	·1130	21. 44	·01940			
2. 59	50. 55	3. 51	·1142	23. 59	·01877			
3. 45	49. 0	4. 37	·1140					
4. 14	49. 0	4. 47	·1142					
4. 40	47. 45	5. 13	·1161					
5. 3	44. 45	5. 49	·1147					
5. 38	45. 0	6. 17	·1142					
7. 0	44. 35	6. 47	·1142					
8. 0	44. 55	7. 24	·1132					
	(†)	8. 3	·1135					
9. 0	42. 23*		(†)					
21. 0	41. 40*	9. 0	·1132*					
21. 48	44. 50	21. 0	·1119*					
22. 6	45. 10	22. 53	·1119					
22. 18	47. 10	23. 59	·1132					
22. 30	47. 30							
22. 44	48. 45							
22. 56	48. 10							
23. 59	53. 30							
May 13		May 13		May 13		May 13		
0. 0	20. 53. 40	0. 0	·1132	0. 0	·01877	1. 0	54 ·0	54 ·4
0. 33	54. 55	0. 47	·1137	0. 47	·01863	3. 0	55 ·9	56 ·8
0. 37	54. 35	1. 41	·1133	2. 31	·01772	9. 0	57 ·6	59 ·3
1. 18	54. 55	1. 56	·1126	5. 0	·01510	21. 0	50 ·5	51 ·5
5. 8	46. 30	2. 21	·1135	5. 16	·01451	22. 0	51 ·0	52 ·2
7. 29	44. 45	2. 32	·1134	10. 18:	·01110	23. 0	51 ·8	52 ·7
8. 17	45. 10	2. 50	·1141	14. 19	·01372			
8. 55	46. 0	3. 11	·1134	19. 18	{ ·02073			
	(†)	3. 20	·1135		{ ·02037			
9. 0	42. 51*	3. 42	·1128	20. 49	·02141			
18. 29	37. 25	4. 3	·1136	23. 59	·01946			
19. 0	36. 15	5. 0	·1138					
19. 16	37. 40	5. 26	·1135					
19. 49	36. 15	6. 25	·1133					
20. 19	36. 45	7. 8	·1135					
20. 23	41. 15	7. 41	·1141					
20. 32	41. 0	8. 2	·1142					
20. 44	38. 35	8. 37	·1136					
20. 57	41. 35	9. 47	·1136					
21. 33	39. 45	10. 8	·1137					
21. 36	40. 40	10. 24	·1139					
21. 42	40. 0	14. 14	·1143					
21. 44	46. 30	14. 32	·1148					
22. 0	40. 30	15. 52	·1140					
22. 10	42. 30	16. 9	·1141					
22. 47	44. 15		(†)					
	(†)	18. 29	·1147					
		21. 21	·1134					
		22. 24	·1129					
		23. 59	·1136					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the readings will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

May 11. The Photographic Traces for the three Magnetometers were lost, owing to a failure in the supply of gas.

Greenwich Mean Solar Time.	Western Declination.
May 14 h m	° ′ ″
	(†)
0. 23	20. 57. 50
0. 36	58. 15
1. 7	57. 20
1. 32	57. 25
	(†)
2. 7	53. 30
2. 32	54. 0
	(†)
3. 0	50. 4*
5. 0	52. 35
5. 34	50. 40
5. 41	50. 40
6. 43	48. 35
7. 38	48. 5
7. 52	48. 35
8. 8	48. 20
8. 51	44. 20
9. 12	41. 25
9. 30	45. 50
10. 0	49. 20
10. 8	48. 40
10. 46	28. 50
	(†)
21. 0	48. 4*

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
May 14 h m	
0. 0	·1136
0. 10	·1115
0. 28	·1135
0. 54	·1135
1. 8	·1141
1. 28	·1139
2. 17	·1135
2. 33	·1137
2. 43	·1136
3. 7	·1138
5. 14	·1133
5. 42	·1141
6. 18	·1139
7. 0	·1146
7. 29	·1139
7. 52	·1145
8. 9	·1140
8. 30	·1140
	(†)
9. 0	·1171*
9. 47	·1164
9. 53	·1157
9. 58	·1160
10. 4	·1156
10. 8	·1160
10. 17	·1152
10. 22	·1152
11. 1	·1091
11. 8	·1107
	***
11. 28	·1106
11. 32	·1110
11. 35	·1099
11. 45	·1118
11. 47	·1114
11. 50	·1122
11. 53	·1112
12. 3	·1128
12. 14	·1134
12. 22	·1130
12. 29	·1134
12. 56	·1126
13. 8	·1131
13. 54	·1132
14. 9	·1134
14. 52	·1131
15. 0	·1136
15. 7	·1134
18. 32	·1136
	***
20. 29	·1136
21. 15	·1133
21. 39	·1134
21. 49	·1129
22. 4	·1131
	(†)

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
May 14 h m	
0. 0	·01946
0. 23	·01927
	(†)
1. 0	·02011*
3. 0	·01295*
9. 0	·01113*
21. 0	·01264*

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
May 14 h m	°	°
0. 0	52·7	53·4
1. 0	53·1	54·0
3. 0	54·2	55·0
6. 0	55·2	56·3
9. 0	54·5	56·0
12. 0	53·6	55·4
21. 0	49·6	51·1
22. 0	50·0	51·0
23. 0	50·2	50·8

Greenwich Mean Solar Time.	Western Declination.
May 15 h m	° ′ ″
	(†)
1. 0	20. 55. 0
1. 32	55. 45
1. 39	54. 45
2. 6	55. 45
2. 44	54. 50
2. 52	55. 10
	***
7. 29	47. 5
7. 49	48. 35
7. 59	48. 5
8. 15	48. 30
8. 41	48. 0
9. 16	49. 15
9. 36	48. 20
10. 25	48. 10
11. 0	49. 0
	(†)
18. 29	48. 20
19. 3	44. 25
19. 18	45. 20
19. 39	44. 10
19. 53	44. 35
20. 4	46. 0
20. 30	48. 5
20. 59	48. 10
21. 14	50. 20
21. 44	48. 20
22. 23	50. 50
22. 54	50. 50
23. 4	50. 10
23. 17	50. 20
23. 40	49. 40
23. 56	49. 50
23. 59	49. 40

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
May 15 h m	
	(†)
1. 0	·1120*
1. 50	·1122
2. 2	·1134
2. 11	·1127
2. 17	·1128
	***
2. 23	·1125
2. 30	·1132
2. 41	·1129
2. 51	·1135
2. 56	·1133
3. 9	·1127
3. 25	·1130
3. 35	·1135
3. 46	·1132
3. 58	·1137
4. 7	·1134
4. 14	·1137
4. 23	·1133
4. 34	·1140
4. 41	·1135
	***
5. 0	·1140
5. 34	·1136
6. 0	·1138
6. 11:	·1136
6. 28	·1138
6. 36	·1135
6. 45	·1142
6. 59	·1135
7. 7	·1144
7. 17	·1140
7. 30	·1156
7. 47	·1136
7. 53	·1143
8. 22	·1132
8. 40	·1136
8. 52	·1134
	***
9. 38	·1135
9. 47	·1137
10. 13	·1131
10. 37	·1157
10. 42	·1150
10. 47	·1152
11. 3	·1136
11. 12	·1150
11. 22	·1126
11. 33	·1140
11. 53	·1125
12. 7	·1149
12. 15	·1138
12. 25	·1141
12. 32	·1121
12. 39	·1126
12. 52	·1125
13. 8	·1127

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
May 15 h m	
	(†)
0. 38	·01256
2. 7	·01275
5. 25	{ ·01133
	·01480 }
8. 1	·01400
11. 1	·01368
11. 21	·01338
12. 53	·01325
15. 17	·01367
16. 46	·01374
17. 32	·01353
18. 22	{ ·01342
	·01394 }
20. 0	·01430
20. 44	·01419
20. 49	·01397
23. 59	·01381

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
May 15 h m	°	°
0. 0	50·4	51·3
1. 0	51·0	51·9
2. 0	51·5	52·4
3. 0	52·0	53·2
9. 0	54·0	55·5
21. 0	54·0	55·2

For the Horizontal and Vertical Forces, increasing Readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
h m	° ′ ″	May 15 h m		h m		h m	°	°
		13. 35	·1139					
		13. 38	·1130					
		13. 45	·1136					
		13. 51	·1132					
		13. 58	·1134					
		14. 7	·1139					
		14. 10	·1133					
		14. 16	·1137					
		14. 25	·1129 ***					
		14. 48	·1128					
		14. 55	·1132					
		15. 22	·1130					
		16. 28	·1134					
		16. 42	·1130					
		17. 10	·1143					
		17. 45	·1138					
		18. 4	·1142					
		18. 25	·1136 (†)					
		19. 34	·1110					
		19. 53	·1108					
		20. 19	·1088					
		20. 30	·1089					
		20. 44	·1103					
		20. 58	·1100					
		21. 13	·1101					
		21. 59	·1113					
		22. 2	·1122					
		22. 9	·1110					
		22. 22	·1115 ***					
		22. 58	·1110					
		23. 4	·1124 ***					
		23. 16	·1114					
		23. 30	·1123					
		23. 37	·1116					
		23. 59	·1124					
May 16		May 16		May 16		May 16		
0. 0	20. 49. 25	0. 0	·1124	0. 0	·01381	1. 0	57 ·2	58 ·0
0. 37	51. 0	1. 37	·1116	2. 24	{ ·01258 ·01557	3. 0	59 ·6	60 ·7
0. 45	51. 0	1. 59	·1116	3. 11	{ ·01592 ·01850	9. 0	62 ·0	63 ·0
0. 57	51. 10	2. 28	·1129	4. 47	·01577	21. 0	55 ·4	56 ·3
1. 0	52. 25	2. 37	·1123	5. 23	{ ·01482 ·01620			
1. 25	53. 40	3. 17	·1133	6. 36	·01476			
1. 53	52. 0	3. 38	·1124	7. 13	·01442			
1. 58	55. 45	3. 45	·1126	8. 4	{ ·01487 ·01590			
2. 0	53. 20	3. 53	·1122	9. 17	·01634			
2. 24	52. 40	4. 32	·1135	11. 56:	·01603			
2. 27	55. 0 ***	4. 53	·1133	14. 22	·01737			
2. 45	48. 30 ***	5. 17	·1145	14. 30	·01738			
3. 4	56. 0	5. 32	·1147					
3. 8	54. 45	5. 51	·1133					
		6. 9	·1135					
		6. 30	·1133					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
May 16 h m	° ′ ″	May 16 h m		May 16 h m		h m	°	°
3. 19	20. 54. 10	6. 44	·1141	18. 14	{ ·02126 ·02198			
3. 25	54. 50	6. 59	·1131	21. 14	·02311			
4. 37	52. 0	7. 25	·1137	19. 32	{ ·02314 ·01975			
5. 4	52. 20	7. 38	·1129	20. 42	{ ·01986 ·01793			
6. 30	50. 35	7. 47	·1132	22. 46	{ ·01853 ·01640			
7. 33	50. 0	8. 2	·1131	23. 30	·01610 (†)			
7. 45	50. 35	8. 8	·1133					
8. 12	50. 0	9. 3	·1127					
8. 30	47. 45	9. 37	·1132					
9. 30	51. 40	10. 8	·1125					
10. 27	50. 50	10. 20	·1127					
10. 43	48. 30	10. 35	·1124					
11. 3	48. 20	10. 57	·1136					
11. 27	48. 55	11. 37	·1128					
12. 2	50. 10	11. 54	·1132					
12. 12	49. 40	12. 7	·1130					
12. 34	49. 25	12. 20	·1134					
12. 42	51. 0	12. 34	·1128					
12. 56	49. 35	12. 45	·1134					
13. 3	51. 0	12. 55	·1128					
14. 8	51. 30	13. 5	·1131					
14. 29	54. 15	14. 7	·1132					
14. 53	50. 10	14. 34	·1148					
15. 7	48. 40	14. 58	·1135 ***					
15. 15	49. 15	15. 40	·1126 ***					
16. 8	49. 20	16. 4	·1130					
16. 25:	50. 15	16. 12	·1129 ***					
16. 41	48. 50	16. 50	·1135					
17. 3	48. 15	17. 8	·1133					
17. 30	49. 15	17. 35	·1133					
18. 22	47. 50	17. 47	·1129					
18. 30	44. 0	18. 17	·1130					
18. 40	46. 10	18. 23	·1133					
18. 46	45. 30	18. 41	·1117					
18. 56	41. 30	18. 55	·1135					
19. 5	45. 20	19. 32	·1125 ***					
19. 33	45. 10	20. 13	·1124 ***					
19. 40	45. 45	21. 47	·1118 ***					
19. 45	44. 40	22. 23	·1123					
19. 56	45. 20	22. 37	·1117					
20. 0	44. 25	22. 55	·1117					
20. 12	45. 0	23. 16	·1124					
20. 50	44. 25	23. 35	·1121					
21. 45	46. 45	23. 59	·1122					
22. 24	49. 50							
22. 45	50. 0							
23. 8	55. 0							
23. 15	48. 10							
23. 33	49. 10 (†)							
May 17	(†)	May 17		May 17	(†)	May 17		
0. 4	20. 56. 25	0. 0	·1122	1. 0	·01450*	1. 0	60 ·0	61 ·0
0. 25	56. 45	0. 14	·1128	1. 53	·01662	3. 0	62 ·2	63 ·0
0. 40	57. 40	0. 32	·1127	3. 9	{ ·01513 ·01725	9. 0	63 ·0	64 ·0
0. 50	56. 50	0. 51	·1133			21. 45	57 ·5	58 ·7
		1. 16	·1121					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
May 17		May 17		May 17				
h m	° ′ ″	h m		h m		h m	°	°
1.32	20. 56. 55	1.31	·1123	5.37	·01452			
1.41	56. 0	1.45	·1123	6.13	·01447			
1.58	56. 15	2.39	·1124	8.20	·01490			
2. 4	57. 15	2.53	·1126	11.14	·01442			
2.14	57. 0	3. 4	·1123	16. 1:	·01743			
2.15	57. 45	4. 6	·1138	21.14	·02275			
2.23	57. 5	4.17	·1134	22.15	·02369			
2.28	57. 50	4.23	·1139		(†)			
2.40	56. 30	5. 1	·1134					
3.30	56. 10	5.28	·1136					
3.54	55. 0	5.53	·1132					
3.58	55. 35	6.21	·1142					
4.25	54. 15	6.39	·1139					
4.35	54. 55	6.52	·1140					
5. 4	54. 5	7.12	·1134					
5.14	54. 15	7.30	·1133					
5.27	53. 55	7.40	·1138					
5.33	53. 55	8.10	·1134					
5.54	52. 10	8.37	·1139					
6. 4	52. 10	8.51	·1145					
6.22	49. 50	9. 5	·1136					
7.29	51. 10	9.30	·1137					
8.47	50. 50	9.47	·1137					
9. 2	46. 45	10.17	·1132					
9.15	47. 0	10.36	·1142					
9.22	45. 40	10.49	·1139					
9.49	49. 10	10.55	·1141					
10. 8	48. 35	11. 4	·1134					
10.24	44. 30	11.15	·1135					
10.37	46. 40	11.24	·1132					
10.48	46. 20	11.34	·1137					
10.59	48. 20	11.47	·1135					
11. 7	48. 0	12. 9	·1138					
11.17	48. 35	12.41	·1135					
11.27	50. 30	13. 1	·1138					
11.35	51. 0	13. 6	·1138					
11.47	49. 10	13.19	·1142					
12.23	48. 45	13.39	·1141					
12.49	50. 0	13.47	·1136					
12.59	51. 45	14.20	·1146					
13.20	51. 10	14.28	·1145					
13.45	52. 10	14.36	·1145					
14.24	48. 45	14.45	·1142					
14.38	48. 30	14.48	·1145					
14.51	47. 40	15. 0	·1140					
15.19	48. 0	15. 6	·1143					
	(†)	15.16	·1138					
16.28	47. 0	15.29	·1140					
16.35	48. 10	16.16	·1138					
16.45	48. 15	16.35	·1143					
17. 0	47. 20	16.40	·1137					
17.13	47. 50	16.45	·1143					
	(†)	16.51	·1138					
18.51	50. 35	16.55	·1145					
19. 6	58. 35	17. 0	·1139					
19.20	50. 45	17.15	·1146					
20.45	50. 50	18. 2	·1136					
20.58	51. 20	18.37	·1136					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
May 17		May 17						
h m	° ′ ″	h m		h m		h m	°	°
21.32	20. 54. 35	19. 5	·1132					
	(†)	19.15	·1133					
21.45	52. 20*	19.46	·1130					
		20. 2	·1133					
		20.53	·1123					
		22. 6	·1122					
			(†)					
May 18		May 18		May 18		May 18		
8.30	20. 54. 13*	8.30	·1131*	0. 0	·02342	8.30	65 ·0	66 ·5
21. 0	49. 36*	21. 0	·1121*	3. 1	·02186	21. 0	57 ·9	58 ·2
				5.43	·01882			
				8.19	·01501			
					·01530			
				12.38	·01523			
				14.22	·01581			
					(†)			
				21. 0	·02194*			
May 19		May 19		May 19		May 19		
	(†)		(†)		(†)	1. 0	63 ·4	64 ·5
0.26	21. 3. 30	1. 0	·1123*	1. 0	·01564*	3. 0	66 ·2	67 ·0
0.37	3. 10	1.15	·1125	3. 0	·01435*	9. 0	68 ·0	68 ·2
0.57	0. 0	1.34	·1123	4.19	·01761	21. 0	60 ·5	61 ·0
1.14	21. 0. 30	1.41	·1127	5.18	·01610			
1.15	20. 55. 10	1.54	·1121	8.15	·01602			
1.46	55. 0	1.55	·1127	9. 6	·01526			
2.34	53. 20	2. 2	·1103	9.23	·01548			
2.45	53. 45	2.15	·1102	9.35	·01507			
3.17	53. 0		(†)	9.39	·01515			
3.39	54. 10	3. 0	·1132*	9.46	·01494			
4. 7	47. 55	3. 2	·1142		·01560			
5. 0	50. 0	3.22	·1142	10.30	·01452			
5. 9	51. 30	3.37	·1161	11. 6	·01561			
5.34	50. 50	3.52	·1129	11.23	·01570			
5.44	52. 0	4. 0	·1134	12.29	·01698			
5.57	50. 35	4. 7	·1121	13. 1	·01680			
6.22	51. 40	4.22	·1142	16. 0	·01983			
7.48	50. 30	5. 0	·1123	20.31	·02384			
8. 0	57. 40	5. 8	·1130	21.30	·02395			
8.16	46. 55	5.45	·1120		(†)			
8.41	44. 0	5.53	·1133					
8.58	43. 35	6.10	·1126					
9. 3	43. 10		***					
9.13	46. 0	6.52	·1120					
9.29	44. 15	6.59	·1125					
9.35	45. 10	7. 2	·1116					
9.43	38. 30	7.14	·1122					
9.53	40. 10	7.22	·1115					
10. 2	36. 30	8. 2	·1122					
10.14	43. 40		(†)					
10.28	30. 50	9. 0	·1132*					
10.42	42. 10	9. 3	·1124					
10.57	35. 45	9.18	·1088					
11.13	42. 0	9.22	·1098					
11.23	41. 20	9.25	·1096					
11.33	43. 50	9.37	·1130					
11.45	42. 0	9.45	·1127					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

May 18. The traces for the Declination and Horizontal Force Magnets were lost, in consequence of defects in the photographic paper.

Western Declination

Greenwich Mean Solar Time	Western Declination
May 19	
h m	° ′ ″
11.55	20.43.45
12.14	45.20
12.29	51.15
12.45	46.55
13. 4	50. 0
13.22	49. 0
13.45	49.30
14.44	47.35
15.43	48.20
16. 0	50.10
16.32	47.35
16.41	48.25
16.46	44.30
16.59	48. 0
17.11	44. 0
17.23	45.15
17.40	44.40
17.45	46. 0 ***
17.52	42.50
17.54	44.30
18. 9	38.50
18.12	42. 0
18.18	41.50
18.21	46. 0
18.24	37.30
18.33	43.10
18.42	42. 0
19.12	45.10
19.19	43.10
19.37	44. 0
20.13	49.10
20.27	47. 0
20.30	53. 5
20.33	51.10
20.56	49. 0
21.21	49.50
21.25	50.40
21.33	49.35 (†)
May 20	(†)
1. 0	20.57.27*
3. 0	56.10*
3.41	53.25
5.21	49.55
5.30	50.15
7.15	48.25
7.36	47. 0
7.47	47.45
8. 6	20.45.55 ***
9. 2	48.55
9.43	49.10
9.58	50.30
10. 8	49.30
10.38	50.35 ***
13.28	50.55
13.29	50.10
15.14	49. 0
15.34	48.15
18.35	47. 0
18.39	47.55
18.47	46. 0
18.53	47.50
19.22	47.20
19.30	48.25
19.33	48. 0
20.33	49.50
21.45	53.50
22.10	56.30
22.56	55. 5
23.59	58.20
May 21	
0. 0	20.58.15
0.23	59. 0
0.37	59.15
2. 7	56.15
2.36	56.40
2.37	57. 0
2.45	54.50
2.54	56. 0
3. 7	57.45
3.32	57.15
3.38	55.10
3.45	56.45
4.57	50.50
5.23	52.45
5.45	50.45
6. 3	51. 0
6.41	49. 0
9.36	51.50
13.57	51. 0
14.58	48.30
15.41	49. 0
16. 0	53. 0
16.18	52.50
17. 2	46.40
17.25	47.10
18.34	45. 0
18.52	47. 0
19.10:	45.30
19.20	47. 5
19.30	47. 0
19.34	48.45
19.40	47.10

Horizontal Force in parts of the whole H. F. uncorrected for Temperature

Greenwich Mean Solar Time	Horizontal Force
May 19	
h m	
9.55	·1092
10. 0	·1096
10. 8	·1075
10.11	·1098
10.17	·1098
10.34	·1122
10.46	·1083
11. 8	·1126 ***
11.20	·1122
12. 2	·1097
12.12	·1102
12.29	·1097
12.37	·1112
12.49	·1112
13. 7	·1101
13.40	·1102
13.49	·1095
13.52	·1100 ***
14.25	·1098
14.32	·1102
14.35	·1099 ***
16.38	·1107
16.44	·1115
16.47	·1102
16.53	·1112
17. 2	·1117
17. 7	·1112
17.49	·1115
17.54	·1123
18. 4	·1114
18.16	·1123
18.23	·1115 ***
18.49	·1115 ***
19.37	·1105
20. 0	·1108 ***
20.25	·1104
20.34	·1117
20.55	·1093
21.28	·1088
21.34	·1078 (†)
May 20	(†)
1. 0	·1106*
3. 0	·1118*
3.53	·1115
4.34	·1097
4.52	·1102
5.17	·1099
5.36	·1111
6. 6	·1107 ***
6.46	·1106 ***
7.34	·1110
7.43	·1113
8. 3	·1112
8.23	·1115
9. 0	·1109 ***
11.20	·1111
11.37	·1114
12.11	·1113 ***
18.13	·1122 ***
19.10	·1121 ***
20. 0	·1114 ***
21.38	·1112
21.50	·1105 ***
23.11	·1121
23.59	·1120
May 21	
0. 0	·1121
0.17	·1120
0.38	·1096 (†)
1. 0	·1112*
1.45	·1108 ***
3. 3	·1123 ***
3.59	·1108
4. 9	·1114 ***
4.28	·1111
4.38	·1117
5. 1	·1115 ***
5.47	·1129 ***
6.31	·1128 ***
6.58	·1131
7.16	·1128
8.40	·1121
9.38	·1120
9.45	·1126
9.49	·1121
10. 0	·1122
10.43	·1118
10.54	·1122
11.19	·1119 ***
11.49	·1124

Vertical Force in parts of the whole V. F. uncorrected for Temperature

Greenwich Mean Solar Time	Vertical Force
May 19	
h m	
May 20	(†)
1. 0	·02393*
2.57	·02240
4.16	·02108
6.36	{·01821 ·01920}
7. 3	{·01837 ·01886}
8.25	·01834
8.30	·01868
11.37:	·01870
16.30	·02488
18.39	{·02490 ·02421}
19.53	{·02422 ·02318}
20.37	·02365
20.59	·02322
22.44	{·02314 ·02260}
23.59	·02306
May 21	
0. 0	·02306 (†)
1. 0	·02364*
1.51	·02038
4.57	·01961
6.33	·01882
9.57:	·01874
13. 3	·02094
13. 7	·02078
14.39	{·02180 ·02152}
15.51	·02248
18.25	{·02287 ·02241}
18.43	{·02252 ·02120}
20.37	{·02128 ·02086}
21.48	·02100
23.35	·01962
23.59	·01960

Readings of Thermometers

Greenwich Mean Solar Time	Of H. F. Magnet.	Of V. F. Magnet.
May 19		
h m	°	°
May 20		
1. 0	63·0	62·2
3. 0	63·8	63·2
9. 0	64·0	65·0
21. 0	54·4	55·1
22. 0	54·7	55·3
23. 0	54·5	55·5
May 21		
0. 0	55·8	56·0
1. 0	55·8	56·2
2. 0	56·4	57·0
3. 0	56·6	57·0
6. 0	58·0	58·0
9. 0	56·9	57·0
12. 0	54·5	54·5
18. 0	51·4	52·2
21. 0	52·7	52·0
22. 0	54·0	53·2
23. 0	55·0	54·1

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H.F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V.F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H.F. Magnet.	Of V.F. Magnet.
May 21		May 21						
h m	° ′ ″	h m		h m		h m	°	°
20. 3	20. 47. 25	12. 9	·1118					
20. 12	48. 45	12. 19	·1120					
20. 17	47. 5		***					
20. 24	49. 20	12. 56	·1123					
20. 29	48. 50	13. 45	·1118					
20. 48	51. 10	14. 11	·1118					
20. 54	50. 15	14. 47	·1112					
21. 5	51. 10	15. 10	·1116					
	(†)	15. 19	·1116					
23. 38	54. 30	15. 45	·1119					
23. 59	57. 0	16. 26:	·1128					
		17. 0	·1118					
		18. 2	·1121					
		18. 13	·1115					
		18. 21	·1122					
		18. 29	·1112					
		18. 32	·1122					
			***					
		19. 22	·1120					
		20. 10	·1118					
		20. 11	·1111					
		20. 22	·1114					
		20. 39	·1108					
			***					
		21. 7	·1111					
			***					
		21. 40	·1105					
			***					
		21. 56	·1084					
		22. 21	·1099					
		23. 3	·1108					
		23. 13	·1100					
		23. 25	·1101					
		23. 35	·1097					
		23. 43	·1104					
			(†)					
May 22		May 22		May 22		May 22		
0. 0	20. 56. 55	1. 0	·1123*	0. 0	·01960	0. 0	56·0	55·8
0. 9	55. 0	3. 0	·1121*	0. 58	·01877	1. 0	57·1	56·8
0. 23	55. 0	9. 0	·1102*	2. 15:	·01760	2. 0	58·4	58·3
0. 50	55. 0	21. 0	·1106*	3. 45	·01433	3. 0	59·7	60·0
3. 21	50. 50			4. 21	{·01342	9. 0	62·0	62·0
4. 46	49. 35				·01383	21. 0	56·9	56·8
	(†)				(†)			
8. 57	50. 5			9. 0	·01450*			
12. 6	50. 40			9. 9	·01447			
16. 13	48. 50			11. 46	·01480			
16. 58	47. 0			14. 22	·01613			
18. 19	46. 15			20. 41	·02038			
18. 37	47. 20			23. 0	·02083			
19. 6	46. 55				(†)			
21. 29	49. 45							
23. 59	55. 10							
May 23		May 23		May 23		May 23		
0. 0	20. 55. 0		(†)		(†)	1. 0	58·4	58·2
0. 57	55. 10	1. 0	·1105*	0. 23	·02122	3. 0	60·1	60·2

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H.F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V.F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H.F. Magnet.	Of V.F. Magnet.
May 23		May 23		May 23		May 23		
h m	° ′ ″	h m		h m		h m	°	°
1. 4	20. 56. 5	3. 0	·1100*	1. 32	·02174	9. 0	52·5	63·2
2. 6	55. 30	5. 24	·1106	2. 2	·02160	21. 0	58·1	58·8
2. 23	54. 15	6. 13	·1107		(†)			
	(†)	6. 32	·1105	3. 0	·02141*			
3. 0	52. 31*	6. 55	·1114	4. 22	·02015			
4. 8	51. 0	7. 6	·1115	5. 58	·01880			
4. 40	49. 45	7. 15	·1112	7. 49	·01720			
6. 34	50. 0	7. 22	·1115	10. 15	·01605			
9. 28	49. 5	7. 36	·1113	13. 1	·01570			
10. 0	45. 50	8. 3	·1115	14. 3	·01542			
10. 10	45. 50	8. 15	·1114	15. 31	·01674			
10. 19	44. 35	8. 29	·1120	16. 54	·01758			
10. 41	48. 10	8. 37	·1112	19. 40	·01951			
10. 57	49. 30	8. 50	·1118	21. 46	·01996			
12. 17	49. 45	9. 45	·1121	23. 32	·01835			
15. 7	47. 10	10. 2	·1113		(†)			
15. 22	49. 10	10. 7	·1116					
15. 35	48. 10	10. 15	·1109					
16. 3	53. 5	10. 19	·1114					
17. 3	46. 0	10. 22	·1109					
17. 42	47. 45		***					
17. 48	48. 50	10. 30	·1111					
17. 59	47. 25	10. 34	·1114					
18. 24	47. 30		***					
18. 57	51. 0	10. 40	·1115					
19. 3	50. 40	10. 49	·1108					
19. 10	51. 15	11. 0	·1113					
19. 21	50. 45	11. 10	·1107					
19. 45	52. 10	11. 19	·1114					
20. 8	52. 20	11. 22	·1108					
20. 25	53. 30	11. 32	·1096					
20. 45	53. 20	11. 38	·1111					
22. 22	20. 58. 45	11. 44	·1101					
23. 37	21. 0. 30	11. 48	·1109					
23. 59	0. 15	11. 52	·1104					
		12. 20	·1117					
		12. 37	·1110					
		12. 45	·1113					
		12. 53	·1105					
			***					
		13. 2	·1102					
		13. 17	·1114					
		13. 58	·1108					
		14. 18	·1101					
		14. 43	·1102					
		15. 11	·1108					
		15. 34	·1104					
		15. 49	·1106					
		16. 5	·1102					
		16. 32	·1106					
		17. 2	·1097					
		17. 38	·1103					
		18. 2	·1102					
		18. 8	·1103					
		18. 23	·1100					
		18. 53	·1107					
		19. 23	·1102					
		19. 49	·1102					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

May 22. The Photographic Trace for the Horizontal Force Magnet was too faint for use.

Western Declination

Greenwich Mean Solar Time	Western Declination
h m	° ′ ″
May 24	
0. 0	21. 0. 10
0. 14	21. 0. 5
0. 34	20. 59. 10
1. 12	59. 35
2. 51	53. 50
5. 2	50. 30
	***
7. 42	49. 45
8. 2	46. 0
10. 12	52. 0
10. 50	51. 0
11. 7	52. 40
11. 54	50. 45
12. 24	51. 10
13. 40	49. 0
14. 44	51. 15
17. 0	47. 15
17. 14	48. 15
17. 57	47. 0
	***
19. 0	47. 0
19. 12	47. 40
19. 53	46. 50
	***
20. 33	47. 20
21. 13	48. 30
22. 58	56. 5
	(†)
May 25	
9. 0	20. 48. 0*
21. 0	47. 44*
May 26	
	(†)
1. 0	20. 54. 19*
1. 17	56. 30
1. 33	58. 5
2. 3	55. 40
3. 15	52. 25
3. 28	52. 15
4. 24	49. 20
5. 13	47. 45
6. 44	46. 10
7. 11	47. 0
7. 32	39. 10
7. 50	43. 25
8. 18	45. 45
9. 3	45. 0
9. 36	47. 20
9. 57	47. 5
10. 19	47. 55
10. 38	45. 45
11. 0	48. 45
11. 23	47. 10
12. 16	49. 5
12. 39	48. 15
13. 34	48. 50
13. 45	49. 25
14. 43	48. 55

Horizontal Force in parts of the whole H. F. uncorrected for Temperature

Greenwich Mean Solar Time	Horizontal Force
May 23 h m	
20. 8	·1107
20. 35	·1102
22. 2	·1101
22. 23	·1104
22. 32	·1109
22. 53	·1095
23. 13	·1101
23. 59	·1103
May 24	
0. 0	·1103
0. 15	·1098
0. 30	·1104
1. 25	·1096
1. 45	·1092
2. 9	·1111
2. 30	·1103
2. 54	·1106
3. 11	·1100
3. 20	·1104
3. 51	·1097
4. 10	·1103
4. 20	·1098
4. 35	·1098
4. 49	·1103
5. 7	·1101
5. 26	·1107
5. 40	·1105
6. 15	·1107
6. 42	·1103
7. 4	·1104
7. 15	·1108
7. 26	·1106
7. 35	·1106
7. 47	·1103
7. 53	·1103
8. 7	·1110
8. 24	·1105
9. 15	·1103
9. 32	·1105
10. 15	·1106
10. 38	·1103
10. 53	·1107
11. 39	·1105
12. 0	·1109
12. 15	·1104
12. 32	·1108
13. 11	·1103
13. 45	·1103
14. 15	·1099
15. 15	·1110
15. 32	·1108
15. 52	·1109
	***
16. 36	·1107
17. 15	·1109
18. 23	·1103
18. 58	·1097
20. 23	·1094
20. 53	·1096
21. 25	·1092
21. 39	·1095
21. 52	·1095
22. 7	·1093
22. 30	·1112
22. 53	·1111
	(†)
May 25	
9. 0	·1106*
21. 0	·1096*
May 26	
	(†)
1. 0	·1111*
2. 0	·1104
2. 7	·1112
2. 24	·1100
2. 52	·1107
3. 15	·1102
3. 37	·1103
3. 47	·1108
4. 7	·1107
4. 21	·1097
4. 37	·1106
	***
5. 40	·1107
6. 16	·1114
6. 46	·1105
7. 2	·1109
7. 19	·1105
7. 20	·1108
7. 32	·1100
7. 50	·1121
8. 20	·1099
8. 50	·1098
9. 0	·1103
	***
10. 3	·1102

Vertical Force in parts of the whole V. F. uncorrected for Temperature

Greenwich Mean Solar Time	Vertical Force
h m	
May 24	(†)
0. 50	·01822
1. 21	·01800
3. 21	·01524
3. 45	·01586
3. 58	·01561
4. 8	·01577
4. 29	·01575
4. 33	·01622
4. 52	·01572
5. 5	·01600
5. 32	{·01580 ·01632
6. 11	·01582
6. 30	{·01594 ·01642
7. 23	·01588
7. 59	{·01609 ·01662
9. 44:	·01587
11. 34	·01655
13. 6	·01762
15. 25	·01978
19. 22	·02530
19. 30	·02506
22. 20	·02440
23. 59	·02372
May 25	
0. 0	·02372
0. 17	·02356
3. 17	·01925
4. 54	{·01734 ·01820
6. 40	·01798
6. 46	·01820
7. 0	·01801
7. 11	·01821
7. 25	·01799
7. 33	·01820
7. 48	·01800
7. 54	·01825
9. 28:	·01788
10. 51	·01816
13. 53	·02080
17. 32	{·02542 ·02494
22. 22	·02365
23. 59	·02261
May 26	
0. 0	·02261
1. 40	·02038
2. 54	·01822
4. 8	·01560
5. 33	·01378
7. 0	·01445
7. 24	·01432
7. 43	·01475
8. 32	{·01438 ·01492
10. 43	·01478
14. 38:	·01700
19. 53	·02102
23. 59	·02245

Readings of Thermometers

Greenwich Mean Solar Time	Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
May 24		
1. 0	61·1	61·8
3. 0	63·0	63·8
9. 0	64·0	64·8
22. 0	59·0	57·7
May 25		
9. 0	62·4	63·0
21. 0	55·3	55·8
May 26		
1. 0	60·2	61·0
3. 0	63·0	63·2
9. 0	64·5	65·5
21. 0	59·3	60·0

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

May 25. The traces of the Declination and Horizontal Force were lost on this day.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.	
							Of H. F. Magnet.	Of V. F. Magnet.
May 26		May 26						
h m	° ′ ″	h m		h m		h m	°	°
15. 9	20. 47. 25	10. 22	·1108					
15. 18	49. 15	10. 53	·1099					
15. 25	49. 10	11. 20	·1102					
15. 48	51. 15	11. 54	·1102					
16. 24	48. 10	12. 6	·1104					
16. 50	47. 40		***					
17. 0	46. 25	13. 41	·1102					
17. 30	46. 10	14. 20	·1105					
17. 39	47. 0	14. 37	·1108					
18. 12	45. 0	15. 21	·1104					
18. 23	46. 0	15. 34	·1107					
19. 7	44. 0	15. 47	·1105					
19. 29	44. 0	16. 7	·1106					
19. 44	46. 30	18. 44	·1093					
20. 25	46. 50	18. 58	·1093					
20. 53	49. 20	19. 8	·1090					
21. 4	49. 20	19. 57	·1091					
21. 57	54. 20	20. 6	·1092					
22. 6	54. 20	20. 20	·1091					
22. 52	56. 50	21. 18	·1096					
23. 15	59. 5	21. 34	·1095					
23. 59	59. 10	21. 58	·1100					
		22. 28	·1094					
		22. 36	·1097					
			***					
		22. 52	·1092					
		23. 4	·1097					
		23. 21	·1098					
		23. 31	·1096					
		23. 59	·1100					
May 27		May 27		May 27		May 27		
0. 0	20. 59. 10	0. 0	·1100	0. 0	·02245	1. 0	60·7	61·0
0. 15	59. 20	1. 1	·1099	2. 4	·02282	3. 0	61·8	62·0
	(†)	1. 20	·1098	4. 18	·02214	9. 0	63·0	63·5
1. 0	53. 55	1. 47	·1102	10. 10:	·01970	21. 0	60·0	60·8
1. 11	54. 20	2. 15	·1098	13. 15	·02060	22. 0	60·4	61·2
2. 8	54. 10	2. 25	·1097	19. 53	·02400	23. 0	60·8	61·4
3. 42	50. 10	2. 43	·1102	22. 18	·02378			
3. 48	50. 25	3. 30	·1095	23. 34	·02350			
4. 13	48. 50	3. 46	·1104		(†)			
5. 13	47. 50	4. 5	·1100					
5. 35	46. 15	5. 2	·1109					
6. 17	45. 30	5. 30	·1103					
8. 32	45. 50	6. 12	·1102					
8. 45	43. 50	6. 26	·1107					
9. 20	44. 55	7. 2	·1102					
9. 50	46. 30	8. 0	·1105					
10. 14	46. 55	8. 36	·1100					
10. 28	46. 0	8. 52	·1103					
13. 29	47. 10	9. 58	·1104					
15. 19	44. 55	10. 21	·1101					
16. 4	44. 55	10. 44	·1103					
17. 7	42. 20	11. 28	·1100					
17. 46	41. 30	15. 8	·1102					
18. 6	42. 50	16. 32	·1104					
18. 36	42. 0	18. 47	·1091					
19. 12	42. 25	19. 47	·1089					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.	
							Of H. F. Magnet.	Of V. F. Magnet.
May 27		May 27						
h m	° ′ ″	h m		h m		h m	°	°
19. 30	20. 41. 30	21. 9	·1088					
20. 0	42. 55		(†)					
20. 15	41. 50	22. 11	·1090					
21. 9	43. 50	22. 23	·1085					
23. 18	52. 35	23. 2	·1089					
	(†)	23. 17	·1089					
		23. 59	·1084					
May 28		May 28		May 28		May 28		
	(†)	0. 0	·1084		(†)	0. 0	61·1	61·6
0. 42	20. 54. 45		***	0. 16	·02324	1. 0	62·0	62·1
2. 46	53. 25	0. 30	·1089	1. 10	{ ·02347	2. 0	62·4	62·7
4. 40	50. 20	0. 52	·1090		·02264	3. 0	62·8	63·4
5. 35	47. 50	1. 2	·1093	4. 0	·02200	6. 0	64·0	64·8
6. 8	46. 40	1. 19	·1092	9. 33:	·01810	9. 0	66·0	66·2
8. 0	45. 45		***	15. 14	·01941	12. 0	64·6	65·0
10. 23	46. 20	2. 50	·1094	20. 15	·02220	18. 0	62·5	62·5
10. 50	47. 0	3. 2	·1105	22. 7	·02252	21. 0	62·0	62·1
13. 38	46. 10	3. 8	·1096	23. 24	·02228	22. 0	62·5	63·2
15. 5	46. 10	3. 40	·1105		(†)	23. 0	62·7	62·9
16. 26	45. 10	3. 55	·1103					
16. 56	45. 40	4. 2	·1108					
19. 5	43. 5	4. 10	·1104					
20. 8	43. 10	4. 30	·1104					
21. 12	45. 10	4. 44	·1099					
22. 33	52. 30	4. 51	·1105					
22. 45	54. 0	5. 3	·1095					
22. 58	53. 45	5. 28	·1094					
23. 33	55. 10	5. 36	·1101					
23. 36	54. 20	5. 52	·1099					
23. 59	54. 15	6. 8	·1101					
			***					
		10. 2	·1104					
		10. 10	·1106					
		10. 55	·1105					
		13. 32	·1107					
		14. 31	·1109					
		16. 32	·1109					
		17. 27	·1107					
		18. 13	·1107					
		19. 2	·1103					
		20. 1	·1098					
		21. 9	·1098					
		21. 22	·1099					
		21. 36	·1096					
		21. 40	·1099					
		22. 0	·1097					
		22. 23	·1101					
		22. 34	·1098					
		22. 47	·1107					
		23. 1	·1093					
		23. 21	·1105					
		23. 32	·1105					
			(†)					
May 29		May 29		May 29		May 29		
0. 0	20. 54. 15		(†)		(†)	0. 0	63·6	64·0
0. 22	55. 0	0. 45	·1102	1. 0	·02159*	1. 0	65·9	65·8
			***					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Western Declination

Greenwich Mean Solar Time.	Western Declination.
May 29 h m	° ′ ″
1. 14	20. 54. 0
1. 59	54. 50
2. 29	53. 50
3. 26	55. 0
3. 49	54. 45
5. 57	48. 35
7. 21	46. 50
12. 40	45. 50
15. 43	48. 50
	(†)
16. 7	48. 0
16. 39	43. 40
17. 33	42. 50
18. 51	46. 30
19. 13	48. 35
19. 32	47. 10
19. 50	48. 0
20. 0	46. 0
20. 14	47. 55
20. 34	47. 25
22. 0	53. 20
22. 23	52. 20
22. 45	54. 45
	(†)
May 30	
	(†)
0. 29	21. 0. 45
0. 55	21. 0. 55
1. 32	20. 57. 30
1. 43	55. 0
1. 52	55. 55
1. 57	55. 0
2. 20	56. 55
2. 49	56. 10
3. 12	57. 40
3. 55	57. 20
4. 19	54. 40
4. 27	55. 10
4. 35	54. 55
4. 45	55. 30
4. 54	20. 54. 40
4. 57	55. 0
5. 29	51. 20
5. 53	50. 40
6. 10	47. 10
6. 25	49. 0
6. 42	45. 10
6. 59	47. 0
7. 15	46. 10
7. 29	43. 0
7. 37	44. 10
7. 59	29. 20
8. 7	33. 0
8. 10	33. 20
8. 19	43. 45
8. 28	44. 45
8. 49	36. 40
9. 18	44. 20
9. 42	44. 15
10. 11	49. 0
10. 27	46. 0
10. 57	48. 35
11. 58	47. 5
12. 13	47. 30
13. 33	44. 30
13. 41	45. 45
13. 45	45. 10
13. 53	47. 40
13. 57	46. 55
14. 3	47. 55
14. 14	46. 40
14. 39	40. 10
15. 14	40. 10
15. 30	42. 45
15. 57	42. 10
16. 0	42. 55
16. 12	42. 15
16. 42	44. 55
17. 0	44. 10
17. 17	41. 55
17. 28	43. 5
17. 39	41. 45
17. 49	43. 0
18. 5	41. 55
18. 24	43. 5
18. 39	50. 50
18. 57	44. 50
19. 24	44. 0
20. 3	46. 35
20. 22	46. 50
20. 30	48. 20
20. 53	50. 0
21. 1	49. 30
21. 24	51. 0
21. 37	50. 45
22. 24	52. 0
23. 12	53. 55
23. 20	53. 15
	(†)

Horizontal Force in parts of the whole H. F. uncorrected for Temperature

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
May 29 h m	
1. 44	·1106
2. 13	·1122
2. 41	·1115
3. 13	·1104
3. 32	·1108
3. 47	·1104
4. 1	·1108
4. 28	·1101
5. 6	·1106
5. 51	·1100
6. 25	·1115
7. 52	·1113
8. 21	·1110
9. 9	·1112
9. 24	·1114
10. 19	·1111
11. 35	·1108
12. 2	·1110
13. 28	·1107
13. 48	·1110
15. 54	·1105
16. 52	·1106
17. 40	·1100
18. 1	·1102
18. 40	·1086
19. 1	·1084
19. 11	·1086
19. 35	·1078
20. 7	·1072
20. 58	·1078
21. 28	·1072
21. 39	·1075
22. 5	·1049
22. 39	·1081
22. 56	·1084
23. 12	·1074
23. 20	·1076
23. 36	·1066
23. 51	·1083
	(†)
May 30	
	(†)
0. 30	·1092
0. 50	·1109
1. 5	·1098
	***
1. 30	·1091
1. 37	·1098
1. 46	·1096
2. 1	·1102
2. 40	·1082
	***
3. 12	·1096
3. 34	·1093
4. 4	·1113
4. 11	·1104
	***
4. 53	·1114
4. 59	·1112
	***
5. 30	·1113
5. 53	·1120
6. 7	·1114
6. 21	·1126
6. 32	·1109
6. 58:	·1123
7. 20	·1107
7. 35	·1118
7. 45	·1113.
8. 0	·1133
8. 5	·1122
8. 11	·1126
8. 33	·1087
9. 0	·1102
9. 21	·1093
9. 32	·1092
9. 45	·1099
9. 54	·1097
10. 6	·1101
10. 17	·1098
10. 31	·1098
10. 40	·1102
11. 45	·1097
12. 2	·1102
12. 34	·1101
12. 40	·1101
12. 54	·1096
13. 8	·1102
13. 38	·1087
14. 4	·1095
14. 29	·1098
14. 47	·1109
14. 55	·1106
15. 4	·1113
15. 10	·1109
15. 16	·1122
	***
16. 20	·1104
16. 31	·1106
	***
17. 15	·1081
	***
18. 17	·1094
18. 32	·1093
	***
18. 50	·1101
19. 24	·1092
19. 50	·1103
20. 0	·1089
20. 47	·1086
21. 0	·1082
22. 12	·1088
22. 22	·1076
22. 41	·1087
23. 7	·1092

Vertical Force in parts of the whole V. F. uncorrected for Temperature

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
May 29 h m	
3. 0	·02032*
5. 7	·01808
9. 2:	·01547
13. 4	·01836
17. 36	·02214
19. 14	{ ·02297 ·02218
20. 56	·02262
21. 53	·02240
22. 26	·02248
	(†)
May 30	
	(†)
1. 0	·02277*
3. 0	·02364*
4. 28	·02350
6. 32	·02283
8. 37	·02124
9. 16	{ ·02128 ·02100
10. 50	·02127
13. 13	·02182
13. 37	·02167
15. 18	·02241
15. 41	·02236
16. 31	·02288
16. 53	·02300
17. 35	{ ·02343 ·02245
19. 58	{ ·02340 ·02264
23. 59	·02382

Readings of Thermometers

Greenwich Mean Solar Time.	Of H. F. Magnet.	Of V. F. Magnet.
May 29 h m	°	°
2. 0	66 ·0	65 ·9
3. 0	66 ·9	66 ·9
9. 0	66 ·1	66 ·5
21. 0	61 ·5	62 ·0
May 30		
1. 0	62 ·7	63 ·0
3. 0	63 ·7	64 ·0
9. 0	65 ·0	65 ·5
21. 0	59 ·9	61 ·0
h m	°	°

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Western Declination

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
May 31	
	(†)
0. 25	20. 54. 0
1. 27	56. 0
1. 58	54. 40
2. 12	55. 30
2. 30	54. 20
3. 12	54. 35
3. 43	53. 10
4. 28	52. 10
5. 29	48. 20
5. 47	42. 10
6. 3	46. 20
6. 15	47. 30
6. 33	45. 20
6. 45	46. 30
7. 22	45. 50
7. 57	47. 5
8. 22	46. 0
9. 19	47. 20
9. 29	49. 20
10. 22	45. 15
10. 33	45. 30
10. 40	46. 30
10. 51	46. 0
11. 0	44. 35
11. 42	45. 15
12. 14	43. 0
12. 56	47. 15
13. 20	47. 55
13. 35	50. 0
14. 32	46. 55
15. 12	43. 40
15. 40	44. 30
16. 17	43. 50
16. 41	44. 30
16. 55	44. 10
17. 12	44. 50
18. 15	43. 25
18. 24	44. 0
18. 42	42. 50
18. 46	43. 40
19. 8	42. 50
19. 15	43. 20
19. 30	42. 30
20. 6	43. 10
20. 33	44. 50
20. 44	44. 0
21. 17	44. 40
22. 1	46. 15
23. 6	52. 0
23. 28	52. 20
	(†)
June 1	
9. 0	20. 43. 58*
21. 0	43. 25*

Horizontal Force in parts of the whole H. F. uncorrected for Temperature.

Greenwich Mean Solar Time.	Horizontal Force
May 30 h m	
23. 21	·1092
23. 31	·1098
	***
23. 59	·1100
May 31	
0. 0	·1100
0. 17	·1093
0. 41	·1097
0. 55	·1099
1. 8	·1096
1. 32	·1096
2. 4	·1090
2. 20	·1098
2. 45	·1097
3. 5	·1103
	***
4. 4	·1100
4. 30	·1108
5. 11	·1115
5. 20	·1120
5. 46	·1109
6. 6	·1142
6. 43	·1118
6. 52	·1120
7. 5	·1110
7. 17	·1107
7. 32	·1112
8. 6	·1106
8. 23	·1101
8. 35	·1107
8. 44	·1100
9. 7	·1100
9. 25	·1108
9. 50	·1097
10. 7	·1096
10. 21	·1098
10. 39	·1103
11. 0	·1098
11. 31	·1104
11. 59	·1105
12. 11	·1104
12. 32	·1095
12. 41	·1098
12. 55	·1095
13. 19	·1108
13. 58	·1103
14. 22	·1105
14. 35	·1103
14. 45	·1105
15. 15	·1101
16. 7	·1102
16. 25	·1106
16. 45	·1106
17. 0	·1109
17. 35	·1108
18. 55	·1096
19. 5	·1096
19. 31	·1088
20. 2	·1084
20. 13	·1087
	***
20. 44	·1088
	***
21. 19	·1092
	***
21. 43	·1086
22. 22	·1084
22. 32	·1086
	***
22. 52	·1086
23. 22	·1083
23. 59	·1097
June 1	
0. 0	·1097
0. 32	·1090
0. 48	·1094
1. 8	·1090
1. 40	·1092
1. 56	·1087
2. 7	·1088
2. 33	·1084
3. 1	·1088
3. 20	·1084
3. 36	·1085
3. 59	·1082
4. 28	·1072
4. 48	·1084
5. 10	·1075
6. 20	·1082
6. 30	·1083
6. 53	·1092
7. 8	·1090
7. 33	·1093
8. 2	·1090
9. 2	·1084
9. 15	·1084
9. 28	·1096
9. 49	·1082
10. 7	·1085
10. 21	·1080
10. 51	·1080
11. 35	·1086
12. 24	·1099
12. 53	·1091
13. 15	·1092
14. 0	·1089
14. 22	·1090
15. 17	·1087
16. 59	·1097
17. 32	·1093
18. 33	·1079
19. 22	·1080
21. 19	·1071
21. 51	·1071

Vertical Force in parts of the whole V. F. uncorrected for Temperature.

Greenwich Mean Solar Time.	Vertical Force
h m	
May 31	
0. 0	·02382
2. 49	·02388
5. 44	·02294
10. 10	·02062
12. 4	·02040
13. 42	·02088
17. 9	·02354
19. 21	{ ·02457 ·02390
20. 58	·02422
22. 46	·02340
23. 30	·02262
	(†)
June 1	
	(†)
0. 29	·02198
3. 33	·01533
	(†)
8. 45	·01535
10. 23	·01683
12. 38	·01917
16. 25	·02540
18. 27	·02498
21. 10	{ ·02457 ·02355
23. 27	·02242
	(†)

Readings of Thermometers.

Greenwich Mean Solar Time.	Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
May 31		
1. 0	60·2	61·0
3. 0	61·0	61·8
9. 0	63·0	64·5
22. 50	63·7	62·5
June 1		
9. 0	67·2	68·0
21. 0	60·7	59·8

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

June 1. The Photographic Trace for the Declination Magnet was too faint for use.

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
June 2	
	(†)
0. 9	20. 52. 10
1. 54	55. 30
2. 48	55. 0
4. 3	51. 20
4. 15	51. 15
4. 40	48. 50
7. 14	44. 40
7. 19	45. 10
7. 42	44. 10
9. 23	45. 15
9. 30	43. 35
9. 49	44. 15
10. 14	41. 30
10. 44	43. 0
11. 3	41. 20
11. 29	42. 0
11. 51	40. 50
12. 30	42. 50
12. 33	43. 20
12. 52	44. 50
13. 42	42. 30
14. 30	43. 0
15. 22	41. 10
15. 45	41. 50
17. 14	40. 10
	(†)
18. 20	38. 55
18. 36	38. 50
18. 56	40. 0
19. 16	39. 45
19. 46	40. 35
20. 30	38. 30
22. 59	48. 0
23. 59	50. 0
June 3	
0. 0	20. 50. 0
0. 36	50. 30
0. 54	52. 15
1. 0	53. 0

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
June 1	
h m	
22. 28	·1069
23. 8	·1076
23. 30	·1079
23. 59	·1073
June 2	
0. 0	·1073
0. 15	·1072
	***
0. 47	·1079
1. 13	·1080
	***
2. 2	·1088
2. 17	·1086
2. 37	·1088
3. 11	·1088
3. 26	·1091
3. 57	·1090
4. 19	·1098
4. 56	·1092
5. 41	·1104
5. 53	·1104
6. 25	·1098
6. 45	·1097
7. 22	·1099
8. 18	·1096
8. 34	·1090
9. 7	·1094
9. 22	·1090
9. 35	·1104
10. 2	·1088
10. 25	·1090
10. 56	·1083
11. 25	·1086
12. 7	·1081
12. 56	·1082
13. 21	·1093
13. 37	·1094
14. 0	·1090
17. 3	·1081
17. 25	·1084
18. 22	·1081
18. 53	·1081
20. 20	·1072
21. 1	·1070
21. 15	·1068
22. 6	·1061
22. 9	·1062
22. 35	·1055
23. 4	·1059
23. 49	·1072
	(†)
June 3	
	(†)
0. 45	·1086
1. 20	·1075
1. 35	·1081

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
June 2	
	(†)
1. 0	·02049*
3. 0	·01760*
7. 50	·01555
9. 20	{ ·01550 ·01633
13. 47:	·01707
18. 17	·02202
21. 29:	·02435
23. 59	·02380
June 3	
0. 0	·02380
3. 15	·02176
6. 5	·02160
8. 23	·02081

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
June 2		
1. 0	64·7	64·8
3. 0	66·7	66·9
9. 0	69·0	69·5
21. 0	62·2	62·4
June 3		
1. 0	64·8	65·2
3. 0	66·1	66·2
9. 0	66·2	67·0
21. 0	60·9	59·4

Greenwich Mean Solar Time.	Western Declination.
June 3	
h m	° ′ ″
1. 29	20. 53. 5
3. 36	52. 55
4. 33	50. 15
5. 1	50. 25
5. 45	47. 15
6. 3	47. 20
6. 24	46. 15
6. 59	47. 0
7. 30	45. 10
8. 3	45. 20
8. 57	45. 40
9. 46	40. 30
10. 36	44. 35
12. 26	48. 10
13. 27	41. 15
14. 0	43. 0
15. 29	42. 35
15. 40	43. 30
17. 16	42. 40
17. 58	44. 5
18. 28	42. 10
20. 43	44. 55
21. 13	48. 50
	(†)
22. 0	54. 40
22. 43	58. 0
23. 47	20. 59. 15
23. 59	21. 0. 0
June 4	
0. 0	21. 0. 0
0. 14	0. 50
0. 24	1. 50
0. 40	2. 5
0. 45	3. 0
1. 36	21. 3. 30
2. 20	20. 59. 45
2. 35	21. 0. 55
3. 0	20. 59. 15
3. 33	58. 55

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
June 3	
h m	
1. 40	·1080
2. 0	·1089
2. 18	·1079
2. 46	·1099
3. 4	·1083
3. 10	·1085
3. 30	·1077
3. 49	·1091
4. 0	·1088
4. 41	·1102
4. 55	·1102
5. 27	·1117
6. 2	·1108
6. 10	·1109
6. 42	·1100
6. 58	·1103
7. 8	·1102
7. 30	·1110
7. 52	·1106
8. 23	·1098
8. 37	·1113
8. 52	·1103
9. 2	·1103
10. 0	·1081
10. 22	·1086
10. 47	·1084
11. 25	·1089
11. 35	·1086
11. 49	·1089
12. 8	·1087
12. 45	·1096
13. 15	·1099
15. 7	·1094
16. 41	·1095
17. 21	·1098
18. 45	·1083
19. 4	·1082
19. 26	·1074
19. 45	·1080
20. 2	·1078
21. 22	·1079
21. 39	·1080
21. 50	·1068
22. 35	·1065
23. 15	·1075
23. 59	·1091
June 4	
0. 0	·1091
0. 9	·1097
0. 22	·1095
0. 45	·1099
1. 10	·1096
1. 16	·1098
1. 32	·1097
1. 50	·1084
2. 30	·1099
2. 46	·1093

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
June 3	
h m	
8. 34	·02090
9. 38	·02025
11. 37	·02043
13. 42	·02160
16. 42	{ ·02596 ·02553
19. 36	·02506
23. 2	·02370
23. 59	·02317
June 4	
0. 0	·02317
1. 0	·02216
4. 14:	·01673
7. 8	{ ·01364 ·01455
8. 15	{ ·01418 ·01500
9. 28	·01505
13. 10	·01816
17. 13	·02238

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
June 3		
h m	°	°
22. 0	61·4	60·1
23. 0	62·3	61·1
June 4		
0. 0	63·0	62·5
1. 0	64·6	64·0
3. 0	66·5	66·6
6. 0	69·0	68·8
9. 0	66·3	66·2
12. 0	63·3	64·0
18. 0	57·0	58·0
21. 0	59·3	59·2
22. 0	59·8	60·0
23. 0	60·3	60·4

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
June 4		June 4		June 4				
h m	° ′ ″	h m		h m		h m	°	
4. 0	20. 59. 0	3. 0	·1096	20. 8	·02468			
6. 29	53. 10	3. 16	·1090	21. 4	·02446			
9. 36	54. 10	3. 41	·1098		(†)			
10. 14	55. 35	4. 32	·1104	23. 23	·02380			
12. 16	54. 35	4. 47	·1108	23. 59	·02372			
12. 57	55. 0	5. 1	·1105					
14. 21	54. 15	5. 7	·1105					
14. 39	54. 45	5. 26	·1093					
15. 44	53. 45	5. 40	·1096					
16. 14	52. 5	6. 7	·1089					
19. 49	50. 45	6. 30	·1095					
20. 42	54. 5	7. 8	·1089					
21. 15	55. 0	7. 41	·1091					
22. 19	59. 30	8. 26	·1085					
	(†)	10. 8	·1087					
		10. 28	·1085					
		12. 10	·1086					
		16. 41	·1087					
		17. 13	·1086					
		18. 10	·1087					
		19. 42	·1074					
		21. 0	·1066					
		22. 8	·1067					
			(†)					
June 5		June 5		June 5		June 5		
	(†)		(†)	0. 0	·02372	0. 0	61·2	61·1
0. 26	21. 2. 5	0. 45	·1083	0. 52	·02361	1. 0	61·7	61·8
0. 43	2. 45	1. 7	·1085	4. 2	·02242	2. 0	62·6	62·1
1. 31	21. 2. 35	1. 22	·1083	8. 58	·02150	3. 0	63·0	63·0
4. 14	20. 59. 10	1. 36	·1083	12. 37	·02183	9. 0	63·0	63·5
4. 56	56. 10	1. 52	·1082	14. 17	·02240	21. 0	61·4	61·3
6. 3	55. 10	2. 25	·1087	17. 40	·02424			
6. 10	55. 50	3. 36	·1086		·02355			
7. 3	54. 30	4. 22:	·1091	19. 31	·02394			
7. 32	50. 45	5. 7	·1079		·02340			
8. 47	56. 0	5. 24	·1083	20. 21	·02343			
9. 8	55. 10	5. 32	·1084		(†)			
9. 48	56. 45	5. 49	·1089	21. 0	·02340*			
10. 11	56. 20	7. 1	·1091					
11. 5	57. 5	7. 13	·1089					
12. 0	55. 10	7. 45	·1103					
13. 7	56. 5	8. 17	·1086					
13. 32	58. 55	8. 31	·1087					
14. 51	55. 5	9. 13	·1083					
15. 33	54. 50	9. 31	·1085					
16. 15	52. 5	11. 7	·1085					
17. 18	50. 0	11. 45	·1082					
17. 30	51. 5	12. 17	·1084					
17. 55	50. 55	12. 30	·1083					
18. 6	49. 40	12. 37	·1085					
18. 34	51. 55	13. 7	·1082					
18. 54	52. 10	13. 37	·1092					
19. 41	51. 0	14. 24	·1089					
21. 4	54. 40	15. 6	·1083					
21. 59	20. 59. 0	15. 48	·1088					
23. 25	21. 0. 50	17. 45	·1084					
23. 50	1. 45	18. 29	·1085					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
June 5		June 5						
h m	° ′ ″	h m		h m		h m	°	°
23. 59	21. 1. 35	19. 2	·1082					
		22. 30	·1064					
		23. 7	·1066					
		23. 41	·1073					
		23. 59	·1078					
June 6		June 6		June 6		June 6		
0. 0	21. 1. 40	0. 0	·1078	0. 0	·02280	1. 0	65·0	64·0
0. 37	1. 55	1. 37	·1087	6. 43	·01878	3. 0	66·4	65·0
	(†)		(†)	9. 28	·01810	9. 0	67·0	68·0
1. 0	2. 56*	3. 26	·1084*	13. 53	·01882	21. 0	64·5	64·0
3. 0	21. 0. 12*	9. 0	·1090*	21. 19	·02135			
9. 0	20. 55. 23*	21. 0	·1064*	22. 58	·02090			
21. 0	54. 15*				(†)			
June 7		June 7		June 7		June 7		
	(†)		(†)		(†)	1. 0	67·3	67·2
1. 0	21. 2. 40*	1. 0	·1033*	1. 0	·02002*	3. 0	69·0	68·0
3. 0	21. 0. 31*	3. 0	·1033*	3. 0	·01717*	9. 0	68·0	68·2
6. 18	20. 50. 40	5. 43	·1095	7. 31	·01353	22. 30	60·5	61·5
7. 40	48. 15	6. 7	·1090	10. 2	·01340			
9. 14	49. 50	6. 37	·1094	13. 22	·01506			
11. 39	50. 10	7. 7	·1094	16. 0	·01735			
12. 7	51. 20	7. 31	·1097	21. 16	·02288			
12. 45	50. 0	8. 51	·1095	23. 0	·02394			
13. 10	49. 0	9. 1	·1096	23. 59	·02380			
13. 36	49. 10	10. 2	·1092					
14. 20	48. 10	10. 37	·1094					
14. 50	48. 15	11. 55	·1097					
15. 3	48. 55	12. 12	·1104					
15. 39	48. 5	12. 25	·1100					
16. 2	49. 10	12. 37	·1100					
17. 2	47. 10	14. 35	·1103					
17. 14	46. 10	15. 2	·1101					
17. 36	45. 55	16. 3	·1101					
17. 49	47. 5	16. 28	·1100					
18. 55	45. 40	17. 2	·1101					
19. 0	46. 10	17. 25	·1097					
19. 41	45. 40	18. 51	·1103					
21. 9	48. 0	19. 23	·1104					
23. 30	56. 40	21. 8	·1103					
	(†)	22. 20	·1097					
		23. 2	·1100					
		23. 38	·1106					
		23. 59	·1104					
June 8		June 8		June 8		June 8		
	(†)	0. 0	·1104	0. 0	·02380	10. 40	63·0	64·0
4. 0	20. 53. 40		***	1. 21	·02314	21. 0	57·4	56·7
4. 18	53. 15	1. 13	·1106	2. 7	·02255			
4. 33	53. 45		***	7. 6	·01568			
6. 12	50. 20	2. 4	·1117		·01740			
8. 15	51. 10		***	8. 19	·01638			
9. 41	50. 20	2. 32	·1113		·01692			
13. 0	50. 0		***	11. 8:	·01777			
13. 58	51. 0	4. 38	·1124	13. 46	·02112			
16. 30	47. 10		***	15. 59	·02451			

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

June 6. The Photographic Traces for the Declination and Horizontal Force Magnets were too faint for use.

Greenwich Mean Solar Time.	Western Declination.
June 8	
h m	° ′ ″
17. 12	20. 47. 45
18. 0	49. 0
18. 58	49. 20
19. 41	49. 10
21. 7	51. 40
	(†)
23. 0	56. 10
23. 59	57. 45
June 9	
0. 0	20. 57. 40
0. 38	58. 15
1. 33	58. 55
6. 39	51. 30
10. 15	51. 0
11. 33	49. 45
13. 0	50. 50
13. 32	49. 40
13. 52	49. 55
16. 0	49. 0
18. 30	46. 10
19. 48	46. 40
21. 18	48. 50
21. 46	50. 0
21. 52	20. 51. 30
22. 5	51. 25
23. 46	59. 0
23. 59	59. 5
June 10	
0. 0	20. 59. 10
0. 30	21. 0. 0
1. 11	20. 59. 40
2. 58	57. 15
	(†)
3. 0	57. 24*
9. 0	49. 59*
21. 0	49. 59*

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
June 8	
h m	
4. 52	·1114 ***
5. 23	·1124
6. 37	·1115 ***
7. 59	·1123 ***
9. 43	·1122 ***
10. 58	·1124 ***
11. 20	·1129 ***
11. 37	·1127 ***
13. 5	·1132 ***
14. 37	·1130 ***
15. 16	·1125 ***
16. 52	·1132 ***
18. 0	·1129 ***
19. 0	·1129 ***
19. 52	·1119 ***
20. 41	·1115 ***
21. 26	·1116 ***
21. 34	·1123 ***
22. 7	·1122
	(†)
22. 52	·1124 ***
23. 38	·1126 ***
23. 59	·1128
June 9	
0. 0	·1128
0. 39	·1131
	(†)
1. 0	·1130*
3. 22	·1120
4. 46	·1108
5. 7	·1108
5. 44	·1112
7. 16	·1109
7. 36	·1110
7. 52	·1108
8. 46	·1108
9. 18	·1106
10. 15	·1112
11. 1	·1111
12. 39	·1116
13. 24	·1121
13. 46	·1120
14. 6	·1124
14. 55	·1121
15. 53	·1122
16. 22	·1123
17. 35	·1121
19. 33:	·1100
21. 7	·1102
21. 15	·1101
21. 53	·1100
22. 3	·1095
22. 17	·1100
22. 37	·1095
22. 57	·1097
23. 16	·1096
23. 46	·1097
	(†)
June 10	
	(†)
1. 0	·1107*
1. 55	·1113
2. 14	·1121 ***
2. 34	·1119 ***
2. 51	·1122 ***
3. 49	·1117
4. 18	·1117
4. 37	·1116
4. 47	·1110
4. 58	·1115
5. 7	·1110 ***
5. 37	·1116
5. 47	·1110
6. 3	·1117
6. 12	·1113
6. 32	·1118
6. 43	·1114
7. 0	·1118
7. 11	·1113
7. 32	·1124
7. 42	·1119
8. 5	·1127
8. 20	·1120
8. 46	·1115
9. 22	·1122
9. 26	·1120
9. 34	·1127
10. 37	·1123
10. 47	·1125
11. 42	·1126
11. 53	·1122

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
June 8	
h m	
16. 28	{ ·02428 ·02382
19. 31	·02227
20. 44	{ ·02183 ·02157
23. 59	·01982
June 9	
0. 0	·01982
3. 45	·01660
8. 49:	·01137
13. 31	·01348
17. 48	·01812
19. 45	·01977
21. 36	·02060
23. 2	·02022
	(†)
June 10	
	(†)
0. 15	·01941
2. 6	·01804
5. 4:	·01426
8. 6	{ ·01214 ·01250
11. 37:	·01272
14. 45	·01460
19. 40	·01852
21. 31	·01897
23. 59	·01874

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
June 9		
1. 0	61 ·4	60 ·4
3. 0	63 ·3	63 ·3
9. 0	65 ·0	64 ·5
21. 0	59 ·7	57 ·6
June 10		
1. 0	62 ·5	61 ·1
3. 0	64 ·6	63 ·2
9. 0	65 ·2	64 ·1
21. 0	60 ·5	60 ·0
22. 0	61 ·5	60 ·7
23. 0	62 ·0	61 ·0

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Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
h m	° ′ ″	June 10 h m		h m		h m	°	°
		12. 7	·1125					
		13. 30	·1131					
		14. 2	·1125					
		14. 33	·1125					
		15. 19	·1122					
		15. 51	·1122					
		16. 52	·1120					
		17. 53	·1121					
		18. 32	·1124					
		19. 30	·1123					
		19. 49	·1118					
		20. 26	·1116					
		20. 50	·1113					
		21. 7	·1110					
		21. 23	·1109					
		21. 37	·1114					
		21. 53	·1110					
			(†)					
		23. 30	·1109					
		23. 59	·1103					
June 11		June 11		June 11		June 11		
	(†)	0. 0	·1103	0. 0	·01874	0. 0	62·9	62·0
1. 0	20. 56. 21*	0. 7	·1115	2. 20	·01708	1. 0	63·8	63·0
1. 52	21. 0. 0	0. 29	·1115	4. 51	·01480	2. 0	64·8	63·9
2. 2	20. 58. 55	0. 47	·1118	7. 8	·01336	3. 0	65·9	64·6
3. 12	59. 0	1. 7	·1121	10. 13:	·01297	6. 0	67·2	66·0
4. 3	57. 10	1. 34	·1130	13. 50	·01474	9. 0	66·5	65·8
4. 56	54. 0	2. 4	·1128	19. 56	·01900	12. 0	65·2	65·6
5. 43	53. 20	2. 13	·1126	23. 59	·02065	21. 0	60·8	60·5
6. 28	51. 50	2. 22	·1128			22. 0	60·9	60·5
6. 53	52. 0	2. 52	·1120			23. 0	61·0	60·5
7. 15	50. 50	3. 17	·1132					
7. 53	50. 30	3. 51	·1131					
8. 36	47. 25	4. 7	·1125					
9. 16	47. 40	4. 14	·1125					
9. 49	51. 0	4. 32	·1119					
11. 5	53. 15	4. 47	·1128					
12. 5	52. 0	5. 4	·1127					
14. 0	51. 50	5. 20	·1133					
14. 22	50. 45	5. 34	·1131					
14. 58	51. 10	5. 51	·1140					
15. 26	53. 35		***					
15. 42:	51. 15	6. 15	·1141					
16. 13	54. 0	6. 36	·1135					
16. 32	55. 0	6. 44	·1135					
17. 12	53. 55	7. 0	·1124					
17. 42	56. 10	7. 15	·1125					
18. 7	54. 40	7. 30:	·1135					
18. 18	55. 0	7. 52	·1132					
18. 27	54. 0	8. 11:	·1136					
18. 32	54. 10	8. 41	·1128					
18. 42	52. 10	9. 2	·1127					
18. 52	53. 50	9. 30	·1136					
19. 9	51. 10	9. 55	·1133					
19. 16	51. 0	10. 32	·1137					
19. 30	48. 40	10. 45	·1138					
19. 55	48. 15	11. 0	·1141					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
June 11 h m	° ′ ″	June 11 h m		h m		h m	°	°
20. 4	20. 49. 0	11. 11	·1140					
20. 30	48. 45	11. 19	·1142					
20. 44	49. 50	11. 29	·1139					
20. 53	49. 0	11. 40	·1141					
21. 7	51. 0	12. 2	·1141					
21. 24	50. 0	12. 8	·1144					
21. 49	52. 40	12. 21	·1141					
22. 15	53. 30	12. 30	·1143					
22. 24	54. 50	12. 53	·1140					
22. 36	54. 45	13. 7	·1142					
	(†)	13. 22	·1145					
23. 46	48. 25	13. 32	·1136					
23. 59	49. 10	13. 42	·1140					
		13. 49	·1140					
		14. 3	·1144					
		14. 15	·1141					
		14. 54	·1141					
		15. 22	·1144					
		15. 38	·1138					
		16. 17	·1134					
		16. 30	·1136					
		16. 45	·1133					
		17. 10	·1135					
		17. 28	·1141					
		18. 5	·1125					
		18. 19	·1132					
		18. 45	·1136					
		19. 36	·1124					
		20. 0	·1126					
		20. 23	·1120					
		20. 44	·1123					
		20. 51	·1118					
		20. 56	·1121					
		21. 6	·1122					
		21. 40	·1116					
		21. 46	·1118					
		22. 5	·1109					
		22. 25	·1114					
		22. 45	·1108					
		23. 2	·1109					
		23. 11	·1114					
			(†)					
June 12		June 12		June 12		June 12		
0. 0	20. 49. 10		(†)	0. 0	·02065	0. 0	61·3	60·7
0. 33	51. 0	0. 56	·1110	0. 56	·02104	1. 0	61·7	61·5
1. 24	20. 59. 0		***		·02022	2. 0	61·6	61·0
2. 28	21. 0. 50	1. 20	·1110	2. 12	·02078	3. 0	62·1	61·3
2. 58	20. 57. 50		***		·02011	9. 0	62·7	62·1
3. 12	58. 10	1. 35	·1107	4. 29	·02055	21. 0	59·9	59·5
3. 22	57. 0	1. 53	·1117		·02006			
3. 30	57. 15	2. 4	·1109	8. 7	·02014			
3. 42	56. 15	2. 25	·1120	11. 14	·02032			
7. 24	51. 0	2. 37	·1116		·01948			
7. 39	51. 40	2. 57	·1131	12. 44	·01970			
8. 35	51. 0	3. 16	·1110	13. 5	·01945			
9. 29	47. 50	3. 36	·1126	14. 53	·02022			
9. 52	49. 5	3. 44	·1123		·01964			

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.
June 12 h m	° ′ ″
10. 10	20. 48. 30
11. 31	50. 10
11. 55	53. 0
12. 25	51. 10
12. 39	53. 20
12. 45	56. 10
13. 25	46. 0
13. 57	50. 20
14. 18	50. 0
14. 33	51. 10
14. 51	50. 0
15. 12	49. 45
15. 29	50. 50
16. 26	48. 15
16. 57	47. 55
17. 8	49. 0
17. 27	47. 50
17. 48	48. 40
18. 15	46. 10
18. 34	47. 50
18. 45	46. 10
19. 31	46. 10
20. 55	48. 5
21. 9	49. 30
21. 33	48. 55
22. 7	54. 40
22. 23	55. 30
22. 31	57. 30
22. 38	57. 40
22. 58	20. 59. 50
23. 55	21. 0. 0
	(†)
June 13	
	(†)
0. 5	21. 0. 10
0. 37	1. 45
1. 0	5. 0
2. 29	1. 0
3. 27	21. 0. 0
5. 34	20. 53. 50
6. 15	53. 45

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
June 12 h m	
3. 51	·1127
4. 3	·1125
4. 20	·1130
4. 30	·1128
4. 47	·1133
5. 21	·1126
5. 39	·1131
5. 51	·1128
6. 0	·1130
6. 7	·1127
6. 32	·1130
6. 42	·1128
7. 35	·1127
8. 0	·1138
8. 8	·1136
8. 22	·1138
9. 23	·1123
9. 43	·1128
10. 15	·1130
10. 53	·1123
11. 34	·1125
11. 45	·1122
11. 52	·1126
12. 25	·1127
12. 38	·1123
13. 8	·1140
13. 49	·1126
14. 33	·1123
14. 52	·1126
15. 34	·1126
16. 8	·1130
17. 34	·1122
18. 0	·1125
18. 22	·1122
18. 56	·1120
19. 39	·1119
21. 7	·1109
21. 49	·1110
22. 4	·1105
22. 18	·1104
22. 23	·1106
22. 37	·1101
22. 45	·1094
22. 50	·1099
23. 7	·1100
23. 32	·1111
23. 52	·1114
	(†)
June 13	
	(†)
0. 7	·1110
0. 52	·1124
0. 54	·1124
1. 6	·1134
1. 22	·1130
1. 38	·1118
2. 17	·1131

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
June 12 h m	
16. 40	{ ·02058
	{ ·02012
18. 1	{ ·02067
	{ ·02026
19. 23	{ ·02064
	{ ·02028
21. 0	·02052
22. 14	·02020
23. 59	·01957
June 13	
0. 0	·01957
1. 26	·01936
2. 56	·01822
3. 15	·01800
6. 41	·01548
8. 21	·01485
10. 8	·01496
10. 52	·01518

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
June 13		
1. 0	62·0	61·4
3. 0	63·7	62·9
9. 0	64·3	64·0
21. 0	57·9	58·1

Greenwich Mean Solar Time.	Western Declination.
June 13 h m	° ′ ″
6. 45	20. 50. 45
	***
8. 3	52. 50
	***
8. 45	50. 50
	***
9. 18	52. 10
	***
10. 10	46. 0
	***
10. 50	52. 35
	***
11. 16	46. 50
	***
12. 3	47. 35
	***
13. 10	51. 35
	***
16. 44	49. 0
	***
17. 9	50. 0
17. 30	46. 50
17. 40	47. 20
17. 45	46. 10
17. 52	48. 10
18. 0	47. 30
18. 19	49. 20
18. 32	48. 10
18. 45	49. 50
18. 57	49. 10
19. 43	50. 20
19. 49	49. 40
20. 3	50. 30
20. 10	50. 10
20. 20	51. 20
20. 34	51. 0
21. 0	52. 10
21. 21	50. 0
21. 41	53. 50
22. 14	54. 15
22. 33	57. 0
22. 51	56. 10
23. 19	59. 0
23. 29	20. 52. 55
23. 59	21. 0. 0

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
June 13 h m	
2. 22	·1124
2. 31	·1135
2. 38	·1124
	***
3. 2	·1119
3. 18	·1126
3. 29	·1123
3. 48	·1116
4. 15	·1125
4. 25	·1115
	***
5. 2	·1117
5. 15	·1122
5. 28	·1117
5. 45	·1119
6. 17	·1127
6. 30	·1127
6. 48	·1130
7. 21	·1127
7. 57	·1133
8. 30	·1126
8. 50	·1132
9. 22	·1125
9. 52	·1132
10. 12	·1124
10. 53	·1133
11. 8	·1124
	***
12. 23	·1124
12. 46	·1134
	***
13. 21	·1129
13. 43	·1128
14. 0	·1130
14. 19	·1128
	***
14. 56	·1129
	***
15. 17	·1133
15. 51	·1129
16. 16	·1132
16. 39	·1128
17. 14	·1131
17. 44	·1122
17. 55	·1126
18. 40	·1123
18. 55	·1120
	***
19. 0	·1119
19. 7	·1122
19. 43	·1122
19. 59	·1117
20. 21	·1120
20. 37	·1117
20. 48	·1118
21. 23	·1114
	***
22. 10	·1110

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
June 13 h m	
11. 8	·01517
13. 8	·01660
17. 56	·02062
20. 18	·02193
20. 46	{ ·02133
	{ ·02106
21. 30	·02094
21. 58	·02102
22. 16	·02086
22. 22	·02020
23. 59	·01972

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
June 14	
0. 0	21. 0. 0
0. 17	20. 58. 55
	***
1. 0	21. 1. 50
1. 20	1. 5
1. 28	21. 2. 0
	***
2. 31	20. 58. 50
	***
3. 34	59. 0
3. 51	56. 25
4. 14	59. 0
	***
5. 50	54. 0
6. 10	50. 50
	***
7. 12	51. 0
7. 35	52. 40
	***
8. 15	51. 10
8. 26	52. 50
	***
12. 35	52. 0
13. 9	58. 30
13. 33	57. 50
13. 58	51. 50
14. 19	52. 0
14. 47	56. 30
15. 14	55. 0
15. 20	57. 10
15. 25	54. 30
15. 58	50. 55
	***
17. 30	51. 10
	***
17. 49	53. 10
	***
18. 39	49. 10
19. 12	50. 30
19. 15	54. 0
19. 18	50. 0
19. 58	50. 0
20. 8	48. 30
20. 26	50. 20
21. 3	50. 0
22. 38	55. 10
	(†)

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
June 13	
h m	
22. 25	·1115
22. 56	·1112
23. 15	·1113
23. 22	·1103
23. 37	·1113
23. 59	·1109
June 14	
0. 0	·1109
0. 10	·1104
0. 44	·1115
1. 2	·1106
1. 9	·1107
1. 30	·1128
1. 52	·1099
2. 23	·1131
2. 30	·1129
2. 51	·1143
3. 18	·1130
3. 42	·1103
4. 0	·1115
4. 10	·1116
4. 16	·1108
4. 26	·1116
4. 37	·1112
4. 55	·1125
5. 6	·1121
5. 29	·1134
5. 47	·1128
5. 53	·1139
6. 2	·1125
6. 19	·1129
	***
6. 52	·1128
7. 21	·1137
8. 7	·1129
8. 20	·1132
8. 39	·1127
9. 2	·1128
9. 15	·1129
10. 45	·1126
11. 2	·1128
11. 20	·1126
11 38	·1131
12. 6	·1128
12. 21	·1132
12. 35	·1128
12. 54	·1129
13. 30	·1139
14. 2	·1131
14. 32	·1129
15. 7	·1137
15. 58	·1129
17. 33	·1126
17. 54	·1126
18. 33	·1118
18. 55	·1122
19. 19	·1117

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
June 14	
0. 0	·01972
1. 42	·01953
2. 2	·01930
3. 47	·01921
4. 16	·01932
6. 9	·01913
9. 43	·01894
11. 57	·01952
13. 49	{·02028 ·01962
15. 3	·02040
15. 12	·02002
15. 53	·02033
15. 58	·02020
17. 6	·02072
17. 16	·02053
17. 43	·02079
17. 52	·02066
18. 18	·02077
18. 27	·02068
19. 20	·02082
20. 17	·02060
22. 5	·02054
22. 23	·02035
22. 40	·02028
	(†)

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
June 14		
1. 0	60·4	60·1
3. 0	60·9	60·7
9. 0	60·6	60·4
21. 50	56·3	57·2

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
June 15	
8. 50	20. 52. 34*
21. 0	47. 54*
	(†)
23. 26	56. 5
23. 59	58. 0
June 16	
0. 0	20. 58. 5
1. 7	59. 0
1. 38	59. 0
3. 27	56. 10
6. 47	51. 0
7. 45	53. 0
7. 55	51. 40
8. 9	53. 0
9. 0	49. 10
9. 10	51. 20
9. 19	50. 10
9. 32	52. 10
9. 51	50. 45
10. 7	51. 0
10. 30	47. 30
11. 10	51. 0
11. 24	50. 0
11. 57	54. 20
13. 0	51. 0
13. 26	53. 0
13. 54	51. 30
14. 5	51. 50
14. 14	51. 0
14. 47	51. 10
15. 18	49. 50
15. 45	52. 20
15. 58	51. 30
16. 17	53. 50
16. 35	52. 5
	***
17. 6	58. 20
17. 19	56. 0
17. 30	57. 40
17. 38	56. 0
18. 5	54. 50
18. 38	55. 0
18. 46	53. 45
19. 0	54. 15
19. 18	52. 45
19. 25	50. 50
19. 40	51. 50
19. 49	50. 0
19. 59	51. 10
20. 8	50. 40
20. 18	51. 0

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
June 14	
h m	
21. 43	·1108
22. 21	·1106
22. 41	·1108
	(†)
June 15	
8. 50	·1123*
21. 0	·1105*
June 16	
0. 0	·1108
0. 43	·1112
1. 1	·1126
	***
1. 55	·1132
	***
2. 54	·1125
3. 39	·1133
3. 52	·1134
4. 0	·1129
4. 11	·1133
4. 32	·1130
4. 55	·1133
5. 14	·1140
5. 19	·1140
5. 46	·1149
6. 10	·1132
6. 17	·1139
6. 23	·1136
6. 37	·1156
6. 49	·1140
6. 57	·1138
7. 7	·1145
7. 14	·1139
7. 24	·1145
7. 47	·1136
8. 4	·1153
8. 19	·1137
8. 32	·1135
8. 37	·1138
8. 58	·1132
9. 24	·1144
9. 42	·1136
9. 50	·1138
10. 16	·1129
	***
11. 0	·1135
11. 16	·1130
11. 35	·1119
11. 49	·1133
	***
12. 7	·1135
	***
12. 49	·1131
13. 1	·1128

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
June 15	
8. 50	·01287*
21. 0	·01798*
June 16	
0. 0	·01796
0. 4	·01725
0. 40	·01723
2. 37	·01543
6. 16	·01276
9. 55	·01100
11. 29	·01114
11. 46	·01128
12. 15	·01132
16. 36	·01490
16. 54	·01484
18. 57	·01610
21. 51	·01692
23. 59	·01613

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
June 15		
8. 50	63·2	63·0
21. 0	57·9	57·9
June 16		
1. 0	59·5	59·7
3. 0	61·5	61·6
9. 0	62·9	63·1
21. 0	59·2	58·8

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

June 15. The Photographic Traces for the three Magnetometers were entirely lost in consequence of a stoppage in the gas-pipes.

Greenwich Mean Solar Time.	Western Declination.
June 16 h m	° ′ ″
20. 36	20. 49. 0
21. 35	51. 10
21. 56	50. 30
22. 15	52. 30
23. 27	56. 0
23. 46	59. 0
23. 59	58. 20
June 17	
0. 0	20. 58. 20
0. 7	58. 10
0. 42	59. 0
6. 17	52. 30
6. 30	53. 15
6. 43	53. 5
7. 12	49. 40
7. 41	48. 10
8. 23	52. 10 ***
9. 45	51. 30 ***
10. 30	52. 55 ***
10. 58	52. 0 ***
11. 30	55. 20
12. 6	51. 40
12. 15	53. 0

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
June 16 h m	
13. 10	·1135
13. 23	·1133 ***
14. 28	·1139 ***
15. 5	·1133
15. 33	·1136
15. 56	·1133
16. 13	·1127
16. 33	·1130 ***
17. 9	·1126
17. 35	·1131
17. 45	·1127
17. 49	·1132
18. 1	·1122
18. 14	·1126
18. 28	·1121
18. 35	·1122
18. 46	·1119
18. 59	·1121
19. 7	·1117
19. 17	·1120 ***
20. 42	·1119
21. 4	·1110
21. 7	·1136
21. 16	·1113
21. 19	·1123
21. 23	·1106 ***
22. 19	·1113 ***
23. 2	·1111
23. 35	·1106
23. 44	·1117
23. 59	·1112
June 17	
0. 0	·1112
0. 8	·1110
0. 56	·1117
1. 15	·1125
1. 30	·1117
1. 46	·1117
2. 15	·1128
	(†)
3. 0	·1128*
3. 2	·1128
3. 9	·1126
3. 33	·1131
3. 41	·1129
4. 22	·1128
4. 43	·1144
4. 52	·1134 ***
5. 28	·1143
5. 37	·1137 ***

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
June 17 h m	
0. 0	·01613
1. 26	·01552
4. 8	·01293
4. 40	·01222
6. 28	·01034
6. 43	·01026
7. 13	·00960
7. 39	·00988
8. 26	·01014
10. 2	·01020
12. 8	·01078
12. 41	·01104
16. 21	·01410
20. 7	·01637
22. 12	·01708
23. 30	{·01730 ·01638
23. 59	·01652

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
June 17 h m	°	°
1. 0	61 ·5	61 ·5
3. 0	63 ·5	63 ·6
9. 0	64 ·5	64 ·8
21. 0	58 ·4	58 ·9
22. 0	59 ·0	59 ·0
23. 0	59 ·0	59 ·3

Greenwich Mean Solar Time.	Western Declination.
June 17 h m	° ′ ″
12. 50	20. 45. 10
13. 28	49. 30 ***
15. 28	50. 0
15. 43	49. 0
16. 15	49. 0
16. 30	50. 0
17. 14	48. 45
17. 32	49. 50 ***
18. 19	47. 0
18. 34	48. 10 ***
19. 34	46. 30
21. 30	50. 45
22. 5	51. 0
23. 3	55. 0
23. 22	54. 40
23. 50	56. 50
23. 59	56. 20
June 18	
0. 0	20. 56. 30
1. 35	55. 50
2. 26	57. 0
3. 12	56. 30
4. 45	53. 20
10. 13	52. 40
13. 0	51. 20
14. 21	53. 0
15. 12	50. 45
16. 0	50. 50
18. 27	46. 0
19. 48	45. 30
21. 26	48. 15
23. 34	55. 55
23. 48	20. 56. 0
23. 59	21. 0. 55

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
June 17 h m	
6. 16	·1134
6. 28	·1152
6. 39	·1152
6. 58	·1141
7. 5	·1142
7. 26	·1134
7. 45	·1141
8. 0	·1142
9. 2	·1134
9. 56	·1134
10. 28	·1141
10. 58	·1139
11. 17	·1141
11. 54	·1149
12. 3	·1144
12. 10	·1145
13. 30	·1131
14. 5	·1135
15. 52	·1136
16. 40	·1133
17. 22	·1134
18. 19	·1128 ***
20. 13	·1120
20. 15	·1121
20. 47	·1118
21. 16	·1118
22. 7	·1117
22. 17	·1120
22. 41	·1114
23. 6	·1122
23. 27	·1117
23. 59	·1118
June 18	
0. 0	·1118
0. 7	·1118 ***
0. 34	·1126
1. 0	·1126
1. 30	·1130
1. 34	·1127 ***
2. 2	·1133
2. 12	·1132
2. 24	·1136 ***
3. 7	·1133 ***
3. 43	·1139 ***
4. 13	·1142 ***
4. 50	·1140 ***
5. 45	·1138 ***
6. 6	·1141

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
June 18	
0. 0	·01652
0. 52	·01660
1. 45	·01647
7. 42	·01313
9. 51	·01260
12. 39	·01338
15. 2	·01475
19. 44	·01812
22. 0	·01896
22. 18	·01907
23. 59	·01900

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
June 18		
0. 0	59 ·7	59 ·9
1. 0	60 ·3	60 ·4
2. 0	61 ·1	61 ·0
3. 0	61 ·8	62 ·0
6. 0	63 ·1	63 ·2
9. 0	63 ·0	63 ·2
12. 0	61 ·3	62 ·0
18. 0	57 ·1	58 ·0
21. 0	57 ·3	58 ·2
22. 0	57 ·3	58 ·2
23. 0	57 ·8	58 ·4

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Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
June 19	
0. 0	21. 0. 55
1. 23	3. 35
	***
2. 27	21. 0. 40
2. 45	20. 58. 5
	***
3. 18	59. 20
	***
4. 16	59. 20
4. 33	58. 15
	***
6. 12	56. 10
	***
11. 59	56. 10
12. 15	59. 0
12. 51	55. 0
12. 59	55. 45
13. 58	53. 30
16. 10	51. 0
17. 36	45. 55
18. 6	47. 50
18. 19	44. 45
18. 25	47. 0
	***
18. 54	44. 50
19. 10	47. 5
19. 30	54. 0
	***
20. 2	58. 20
20. 17	20. 55. 10
21. 1	21. 0. 20
21. 28	0. 10
21. 50	21. 3. 55
22. 29	20. 59. 0
23. 31	58. 20
	(†)

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
June 18	
h m	
6. 17	·1140
	***
9. 10	·1136
9. 50	·1135
10. 4	·1138
10. 22	·1136
11. 36	·1137
12. 23	·1140
12. 43	·1139
13. 52	·1140
14. 17	·1137
14. 45	·1140
15. 40	·1137
16. 52	·1138
17. 53	·1137
18. 37	·1133
19. 42	·1130
20. 40	·1130
21. 10	·1127
21. 25	·1128
22. 7	·1124
23. 38	·1122
	(†)
June 19	
	(†)
0. 4	·1123
	***
1. 7	·1132
1. 35	·1143
	***
2. 2	·1136
	***
2. 15	·1143
	***
2. 46	·1140
2. 56	·1146
3. 0	·1141
3. 15	·1152
3. 31	·1152
3. 37	·1148
3. 43	·1154
3. 50	·1146
4. 0	·1150
	***
4. 20	·1147
4. 32	·1150
	***
5. 7	·1148
5. 22	·1143
5. 35	·1147
5. 45	·1155
5. 53	·1152
6. 7	·1157
6. 11	·1153
6. 15	·1156
6. 16	·1141
6. 23	·1147
6. 31	·1146
6. 54	·1150
7. 2	·1159
7. 4	·1156
7. 10	·1158
7. 13	·1146
7. 17	·1161
7. 25	·1157
7. 32	·1149
7. 42	·1149
7. 52	·1154
8. 17	·1153
8. 32	·1148
9. 7	·1148
9. 33	·1153
9. 45	·1148
	***
10. 16	·1152
10. 22	·1149
10. 30	·1156
10. 37	·1152
	***
11. 35	·1154
11. 37	·1157
12. 9	·1155
12. 22	·1160
13. 0	·1151
13. 20	·1150
13. 38	·1147
14. 4	·1146
14. 22	·1144
	***
14. 44	·1140
	***
15. 8	·1142
	***
16. 3	·1143
16. 11	·1147
	***
16. 31	·1142
16. 37	·1148
16. 45	·1144
16. 48	·1146
	***
17. 30	·1145
17. 40	·1142
	***
18. 2	·1144
	***
18. 29	·1130
	***
18. 37	·1131
	***
19. 4	·1119
	***
19. 22	·1105
	***
20. 29	·1128
	***

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
June 19	
0. 0	·01900
0. 33	·01884
1. 8	·01888
1. 14	·01904
1. 32	{ ·01902 ·01713
5. 23	·01477
7. 13	·01380
7. 18	·01392
7. 34	·01363
8. 48	·01340
10. 0	·01331
12. 46	·01413
14. 44	·01510
15. 33	·01518
19. 11	·01778
19. 23	·01806
21. 37	·01855
22. 42	·01817
22. 48	·01823
23. 59	·01777

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
June 19		
0. 0	58 ·4	58 ·6
1. 0	58 ·9	58 ·9
2. 0	59 ·5	59 ·8
3. 0	60 ·0	60 ·3
9. 0	61 ·3	61 ·5
21. 0	57 ·0	57 ·2

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		June 19						
h m	° ′ ″	h m		h m		h m	°	°
		20. 51	·1120					
			***					
		21. 5	·1121					
		21. 26	·1117					
			***					
		21. 58	·1131					
			***					
		22. 34	·1130					
		22. 52	·1142					
			***					
		23. 7	·1133					
		23. 21	·1142					
		23. 34	·1131					
			(†)					
June 20		June 20		June 20		June 20		
	(†)		(†)	0. 0	·01777	1. 0	59·2	59·0
0. 11	21. 3. 0	0. 11	·1134	2. 47	·01654	3. 0	59·8	59·8
0. 40	2. 10	0. 23	·1143	3. 6	·01652	9. 0	58·9	59·0
0. 51	3. 20	0. 45	·1128	3. 27	·01633	21. 0	56·8	57·4
0. 59	2. 20	0. 52	·1133	4. 7	·01640			
1. 18	2. 10	1. 5	·1123	4. 45	·01612			
1. 26	3. 0	1. 24	·1120	4. 53	·01636			
1. 48	21. 1. 15	1. 35	·1128	4. 59	·01618			
2. 20	20. 59. 50	1. 45	·1128	5. 54	·01593			
2. 30	21. 1. 0		***	6. 29	·01614			
2. 59	20. 59. 0	2. 13	·1140	8. 0	·01595			
3. 15	21. 0. 0	2. 23	·1137	11. 51	·01658			
3. 37	20. 58. 20	2. 41	·1146	14. 56	·01740			
4. 12	59. 50	3. 2	·1131	15. 23	·01771			
4. 49	20. 58. 15	3. 22	·1140	15. 44	·01770			
5. 0	21. 0. 0	3. 42	·1119	20. 5	·01927			
	***	3. 56	·1119	21. 53	·01892			
5. 57	20. 57. 50	4. 22	·1144	23. 59	·01870			
6. 16	55. 0	4. 40	·1122					
6. 57	58. 0		(†)					
	***	9. 0	·1132*					
7. 23	49. 5	9. 2	·1133					
7. 51	57. 50	9. 58	·1133					
	***	10. 10	·1136					
13. 1	54. 40	10. 42	·1134					
13. 17	56. 0	12. 6	·1133					
13. 42	56. 55	12. 15	·1135					
14. 7	55. 50	12. 30	·1135					
14. 13	57. 5	12. 37	·1141					
14. 44	53. 10	12. 58	·1137					
14. 52	53. 30	13. 22	·1142					
15. 0	52. 0	13. 34	·1136					
15. 15	54. 0	13. 52	·1137					
15. 35:	58. 0	14. 1	·1141					
16. 30	53. 50	14. 13	·1136					
17. 48	51. 20		***					
17. 57	52. 10	14. 32	·1135					
18. 4	51. 50	14. 40	·1126					
18. 12	53. 0	14. 58	·1127					
18. 20	50. 40	15. 8	·1132					
18. 39	51. 10	15. 19	·1133					
18. 45	53. 30	15. 34	·1131					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
June 20		June 20						
h m	° ′ ″	h m		h m		h m	°	°
19. 3:	20. 49. 50	15. 56	·1134					
19. 20	52. 30	16. 13	·1133					
	***	16. 32	·1134					
20. 25	52. 10	17. 0	·1128					
20. 30	53. 10	17. 7	·1130					
20. 43	52. 10	17. 48	·1129					
23. 10	59. 10	18. 6	·1127					
23. 19	57. 45		***					
23. 59	58. 10	18. 22	·1132					
		18. 38	·1122					
			***					
		18. 56	·1126					
		20. 5	·1118					
		20. 12	·1120					
		20. 19	·1116					
			***					
		21. 25	·1118					
			***					
		21. 42	·1117					
			***					
		22. 0	·1110					
			***					
		22. 30	·1116					
		22. 40	·1122					
		22. 47	·1123					
		23. 20	·1113					
		23. 59	·1115					
June 21		June 21		June 21		June 21		
0. 0	20. 58. 10	0. 0	·1115	0. 0	·01870	1. 0	58·5	58·6
1. 53	21. 0. 0		***	1. 43	·01836	3. 0	59·9	60·0
5. 15	20. 53. 0	0. 38	·1127	5. 14	·01603	9. 0	61·2	61·2
6. 37	52. 0		***	8. 17	·01432	22. 15	58·0	59·0
	***	1. 0	·1124	10. 38	·01440			
12. 11	53. 10		***	13. 31	·01530			
13. 19	55. 40	2. 8	·1125	16. 27	·01677			
	***		***	20. 0:	·01846			
15. 33	53. 30	3. 23	·1125	21. 44	·01768			
15. 43	53. 50		***	23. 59	·01774			
	***	4. 7	·1126					
18. 30	50. 30		***					
	***	4. 36	·1132					
			***					
19. 43	51. 0	4. 52	·1130					
22. 26	20. 57. 5		***					
23. 3	21. 0. 10	5. 19	·1135					
23. 17	20. 58. 50		***					
23. 59	59. 45	5. 49	·1135					
			***					
		6. 1	·1138					
			***					
		6. 32	·1139					
		6. 48	·1140					
		7. 30	·1145					
		8. 37	·1144					
		9. 8	·1144					
		10. 2	·1141					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		June 21						
h m	° ′ ″	h m		h m		h m	°	°
		10. 38	·1141					
		11. 17	·1139					
			***					
		12. 27	·1138					
		13. 13	·1140					
		13. 38	·1138					
		14. 4	·1141					
		14. 10	·1138					
			***					
		15. 13	·1137					
			***					
		15. 26	·1135					
			***					
		16. 18	·1134					
			***					
		17. 22	·1132					
			***					
		17. 43	·1133					
			***					
		18. 38	·1132					
			***					
		21. 15	·1120					
			***					
		21. 22	·1122					
			***					
		22. 35	·1122					
			***					
		22. 59	·1140					
		23. 3	·1136					
		23. 8	·1132					
		23. 59	·1136					
June 22		June 22		June 22		June 22		
0. 0	20. 59. 40	0. 0	·1136	0. 0	·01774	8. 0	62 ·7	62 ·3
0. 59	21. 0. 10	1. 30	·1139	0. 48	·01788	21. 0	60 ·6	60 ·4
6. 5	20. 53. 55	1. 51	·1138	5. 7	·01642			
11. 27	53. 5	2. 11	·1141	6. 54	·01540			
11. 43	52. 40	2. 24	·1139	10. 38:	·01391			
	***	3. 7	·1142	14. 49	·01406			
14. 0	52. 0	3. 28	·1148	20. 0	·01555			
14. 15	53. 0	4. 13	·1141	20. 21	·01547			
14. 47	50. 35	4. 34	·1140	23. 59	·01580			
15. 8	51. 10	4. 50	·1142					
	***	5. 7	·1141					
16. 43	47. 0	5. 35	·1146					
17. 27	50. 20	5. 50	·1144					
	***	6. 4	·1146					
18. 52	48. 30	6. 49	·1145					
19. 5	49. 20	7. 0	·1148					
19. 36	47. 40	7. 10	·1146					
21. 7	51. 5	8. 24	·1146					
21. 25	51. 25	8. 46	·1144					
23. 18	56. 10	9. 4	·1147					
23. 30	58. 0	9. 32	·1144					
23. 59	58. 0	10. 15	·1148					
		10. 44	·1144					
		11. 1	·1148					
		11. 8	·1146					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Reading of Thermometers. Of H. F. Magnet.	Reading of Thermometers. Of V. F. Magnet.
		June 22						
h m	° ′ ″	h m		h m		h m	°	°
		11. 19	·1147					
		11. 31	·1143					
		12. 43	·1143					
		12. 49	·1145					
		13. 30	·1143					
		14. 3	·1146					
		14. 13	·1150					
		14. 34	·1148					
		14. 40	·1142					
		14. 46	·1145					
		15. 25	·1142					
		16. 4	·1140					
		16. 10	·1141					
		16. 39	·1134					
		17. 20	·1138					
		17. 37	·1138					
		18. 2	·1141					
		18. 30	·1137					
			***					
		18. 49	·1140					
			***					
		19. 9	·1135					
		19. 34	·1135					
		20. 4	·1138					
		21. 0	·1132					
		21. 11	·1132					
		21. 37	·1127					
		21. 52	·1128					
		21. 57	·1132					
		22. 7	·1125					
		22. 22	·1123					
		22. 31	·1128					
		22. 51	·1121					
		23. 12	·1121					
		23. 47	·1110					
		23. 59	·1115					
June 23		June 23		June 23		June 23		
0. 0	20. 58. 0	0. 0	·1115	0. 0	·01580	1. 0	61 ·3	61 ·2
0. 11	58. 50	0. 7	·1115	2. 3	·01582	3. 0	62 ·7	63 ·0
0. 27	58. 5	1. 14	·1117	4. 25	·01377	9. 5	65 ·8	66 ·1
0. 35	59. 50	1. 52	·1112	7. 37	·01018	21. 0	59 ·4	59 ·1
0. 53	20. 59. 50	2. 26	·1146	10. 38	·01044			
1. 18	21. 1. 10	2. 44	·1132	13. 18:	·01146			
2. 3	0. 25	2. 59	·1141	16. 6	·01494			
2. 23	2. 30	3. 29	·1134	19. 46:	·01850			
2. 45	0. 15	3. 47	·1126	22. 28	·01908			
3. 6	21. 1. 15	4. 4	·1142	23. 59	·01852			
5. 48	20. 53. 10	4. 9	·1142					
6. 12	53. 50	4. 20	·1150					
7. 8	52. 30	4. 47	·1146					
7. 44	53. 0	4. 59	·1152					
9. 34	52. 0	5. 22	·1137					
9. 55	52. 30	5. 30	·1138					
10. 35	50. 0	5. 35	·1135					
10. 55	51. 45	5. 43	·1136					
11. 25	51. 35	5. 53	·1129					
11. 43	57. 35	6. 10	·1140					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.
June 23 h m	° ′ ″
12.12	20.47.45
12.44	53. 5
13. 7	51.25
15. 0	51. 0
15.15	52.30
16. 0	49.50
16.59	52.10
17.46	49. 0
19.10	47. 0
20.21	47.30
21.43	50.45
23.50	58.50
23.59	58.50
June 24	
0. 0	20.58.50
0.33	21. 0.10
1. 0	20.59.55
1.38	21. 1.50
2.35	1.30
2.48	1. 0
3.21	1.30
3.52	21. 0.40
5.21	20.56. 0
5.44	56.45
8.33	53.50
8.54	50.10
	***
10.43	54. 0

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
June 23 h m	
6.36	·1141
7. 2	·1131
7.39	·1141
	***
8.30	·1133
8.37	·1134
9. 7	·1129
9.30	·1130
9.56	·1127
10.19	·1122
10.26	·1123
10.37	·1121
10.45	·1123
10.52	·1120
11. 2	·1126
11.22	·1125
11.34	·1131
11.41	·1130
11.47	·1133
11.52	·1132
12.17	·1142
12.42	·1137
12.58	·1130
13.21	·1131
13.32	·1128
14. 8	·1124
15. 0	·1130
15.40	·1127
16. 8	·1129
16.42	·1125
17.39	·1126
18.30	·1123
19.22	·1115
20. 7	·1111
22. 0	·1106
22.15	·1106
22.23	·1104
22.35	·1107
22.45	·1107
23. 5	·1110
23.17	·1110
	(†)
June 24	
	(†)
1. 1	·1120
1.28	·1125
1.48	·1137
2.22	·1130
2.34	·1134
2.55	·1130
3.11	·1136
3.51	·1136
4.14	·1126
5. 0	·1132
5.38	·1127
5.54	·1136
6. 5	·1133

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
June 24 h m	
0. 0	·01852
3.50	·01578
9.26:	·01010
14.59	·01320
17.14	·01608
20.50:	·01936
23.59	·01945

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
June 24 h m	°	°
1. 0	62·1	62·0
3. 0	63·9	64·0
9. 0	66·8	67·5
21. 0	59·7	60·0
22. 0	60·0	60·1
23. 0	60·4	60·6

Greenwich Mean Solar Time.	Western Declination.
June 24 h m	° ′ ″
11.36	20.54. 0
12.21	52.30
12.57	53.50
14.26	51. 0
19.43	48.10
19.49	47.40
20.42	48.20
21. 1	49.10
23.28	20.59.40
23.42	21. 0.30
23.59	1.10
June 25	
0. 0	21. 1.10
0.45	1.55
2.54	0.50
3.18	21. 1. 0
6.15	20.54.10
7.40	53.30
8.12	54. 5
9. 6	53. 0
9.24	53.20
10.37	52.40
10.46	53.10
11.10	51.25
	***
12.30	52.55
13.13	52.30
14. 3	53. 0
14.30	54.20
16. 3	51.10
19.24	47.50
21. 3	50.50
22.25	57.15
22.35	56.45
23. 3	59.10
23.13	20.58.50
23.59	21. 1.10

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
June 24 h m	
6.20	·1136
7. 4	·1130
7.22	·1136
7.29	·1136
7.42	·1138
8.46	·1130
9.22	·1134
9.52	·1126
10.19	·1121
11. 0	·1116
11.35	·1122
12.17	·1118
12.44	·1122
13.19	·1122
14.10	·1124
15. 6	·1120
16. 5	·1124
16.27	·1125
17.15	·1126
17.54	·1122
18. 9	·1116
18.22	·1114
18.39	·1115
19. 0	·1116
20. 2	·1109
20.41	·1110
22. 2	·1110
22.30	·1108
22.50	·1110
23.34	·1110
23.59	·1110
June 25	
0. 0	·1110
1. 6	·1117
1.20	·1121
1.36	·1123
1.52	·1120
2.33	·1122
2.45	·1126
2.54	·1124
3.44	·1126
3.56	·1130
4.53	·1127
5.53	·1138
6.21	·1138
6.41	·1141
7.42	·1136
8.13	·1136
8.24	·1133
8.35	·1136
9.11	·1133
9.52	·1134
10.35	·1130
11.12	·1137
12. 4	·1132
13.30	·1133
14.14	·1135

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
June 25 h m	
0. 0	·01945
1.28	·01922
6. 1	·01644
6.24	·01628
9. 8:	·01455
12. 1	·01586
16.27	·02037
18.13	·02179
20. 4	{·02254 ·02223
21.59	·02142
23.41	·02030
23.59	·02022

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
June 25 h m	°	°
0. 0	61·0	61·1
1. 0	61·3	61·5
2. 0	62·0	62·2
3. 0	62·6	63·0
6. 0	64·0	64·8
9. 0	63·5	64·0
12. 0	62·8	63·5
18. 0	59·4	59·0
21. 0	60·8	59·7
22. 0	61·4	60·1
23. 0	62·3	61·0

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
h m	° ′ ″	June25 h m		h m		h m	°	°
		14. 54	·1138					
		14. 55	·1132					
		15. 23	·1133					
		16. 22	·1131					
		17. 31	·1125					
		17. 53	·1123					
		18. 32	·1112					
		19. 30	·1110					
		20. 57	·1100					
		21. 46	·1096					
		22. 17	·1098					
		23. 12	·1118					
		23. 59	·1113					
June26		June26		June26		June26		
0. 0	21. 1. 20	0. 0	·1113	0. 0	·02022	0. 0	63·0	62·0
1. 13	2. 0	0. 53	·1122	2. 40	·01640	1. 0	63·9	63·4
2. 45	21. 0. 0	2. 18	·1128	5. 22:	·01228	2. 0	65·1	64·9
4. 26	20. 55. 20	2. 52	·1127	8. 10	·01022	3. 0	66·1	66·0
6. 52	51. 50	3. 25	·1124	8. 22	·01047	9. 0	67·6	67·4
10. 56	52. 30	4. 37	·1127	10. 27	·01060	21. 0	59·6	59·9
14. 42	51. 15	5. 20	·1127	13. 2	·01132			
17. 47	48. 0	5. 55	·1132	15. 19	·01290			
19. 10	47. 10 ***	6. 15	·1133	17. 47	·01578			
20. 32	45. 0	6. 22	·1136	19. 23	·01730			
21. 23	46. 0	6. 37	·1133	20. 53	·01763			
23. 59	58. 35	6. 51	·1135	22. 21	·01852			
		7. 7	·1132	23. 59	·01902			
		7. 53	·1128					
		8. 7	·1128					
		9. 0	·1124 ***					
		9. 34	·1126					
		10. 4	·1124					
		11. 10	·1124					
		11. 27	·1128					
		11. 55	·1124					
		12. 52	·1125					
		13. 29	·1127					
		14. 45	·1127					
		15. 3	·1128					
		16. 40	·1128					
		17. 26	·1126					
		18. 15	·1122					
		19. 10	·1115					
		19. 38	·1110					
		21. 8	·1111					
		22. 11:	·1107					
		23. 17	·1112 (†)					
June27		June27		June27		June27		
0. 0	20. 58. 40		(†)	0. 0	·01902	1. 0	60·4	60·2
1. 33	21. 1. 50 ***	0. 32	·1128 ***	0. 53	·01926	3. 0	61·3	61·1
2. 56	21. 1. 50 ***	1. 28	·1132 ***	2. 45	·01827	9. 0	61·5	62·0
5. 27	20. 55. 10 ***	2. 13	·1138 ***	4. 44	{ ·01668 ·01716	21. 0	55·7	55·7
				7. 47	·01640			

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
June27 h m	° ′ ″	June27 h m		June27 h m		h m	°	°
8. 9	20. 51. 0 ***	2. 46	·1140 ***	11. 30:	·01737			
12. 12	52. 20	3. 10	·1137 ***	14. 42	·01988			
12. 15	54. 10 ***	4. 22	·1138 ***	17. 1	{ ·02266 ·02225			
15. 15	52. 0	4. 37	·1136 ***	18. 24	·02194			
19. 3	44. 10	5. 26	·1136	19. 21	·02097			
20. 12	45. 0	5. 42	·1133	22. 11	·01880			
23. 13	56. 40	5. 52	·1136 ***	22. 56	·01818			
23. 58	57. 30 (†)	6. 49	·1130 ***	23. 59	·01780			
		8. 43	·1128 ***					
		10. 45	·1132 ***					
		11. 5	·1134 ***					
		11. 45	·1133 ***					
		12. 59	·1137 ***					
		14. 40	·1138 ***					
		15. 36	·1142 ***					
		16. 50	·1139 ***					
		17. 45	·1137 ***					
		19. 0	·1125 ***					
		19. 53	·1122 ***					
		21. 15	·1109 ***					
		22. 0	·1106 ***					
		23. 3	·1112 ***					
		23. 59	·1126					
June28	(†)	June28		June28		June 8		
0. 3	20. 57. 30	0. 0	·1126	0. 0	·01780	1. 0	58·3	58·1
0. 58	20. 58. 0	0. 32	·1133	1. 28	·01733	3. 0	59·9	59·9
1. 51	21. 0. 50	0. 48	·1131	4. 47	·01468	9. 0	61·5	62·0
2. 49	1. 0	1. 2	·1137	7. 19	·01294	22. 17	57·6	57·2
3. 10	21. 1. 45	1. 56	·1143	10. 31:	·01165			
3. 56	20. 59. 50	2. 16	·1148	14. 19	·01330			
4. 27	21. 0. 10	2. 38	·1145	16. 56	·01570			
7. 5	20. 56. 10	3. 8	·1153	18. 58	·01786			
7. 55	57. 50 ***	3. 38	·1149 ***	20. 29	·01871			
10. 30	56. 15	4. 15	·1150	21. 32	·01888			
11. 49	53. 25	4. 29	·1154 ***	23. 59	·01744			

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Western Declination

Greenwich Mean Solar Time.	Western Declination.
June 28 h m	° ′ ″
12. 25	20. 53. 10
13. 34	51. 0
13. 44	52. 10
14. 15	50. 50
14. 22	51. 30
	***
15. 24	47. 15
15. 51	47. 0
15. 57	43. 10
	***
16. 36	44. 10
16. 58	42. 50
17. 10	40. 25
18. 8	42. 10
18. 35	38. 10
19. 12	39. 50
19. 15	41. 50
19. 45	38. 15
20. 3	41. 0
20. 12	39. 0
	***
20. 24	40. 25
20. 49	40. 0
22. 28	44. 10
22. 52	47. 0
22. 57	46. 20
23. 18	48. 45
23. 29	51. 0
23. 47	51. 20
23. 55	54. 40
23. 59	54. 55
June 29	
0. 0	20. 54. 55
0. 20	56. 10
June 29 h m	° ′ ″
0. 32	20. 55. 15
1. 23	56. 40
1. 56	56. 30
2. 20	54. 35
2. 56	55. 15
3. 12	54. 50
3. 35	55. 40
5. 9	51. 20
6. 32	50. 0
8. 0	47. 0
10. 10	46. 55
11. 40	45. 55
12. 3	47. 40
13. 2	45. 45
14. 19	47. 5
15. 6	46. 20
15. 53	44. 0
16. 25	45. 30
17. 5	44. 40
17. 39	46. 0
18. 20	43. 0
18. 35	43. 0
19. 42	39. 0
20. 42	41. 15
21. 21	40. 0
21. 47	43. 10
22. 59	46. 20
23. 17	48. 10
23. 28	47. 35
	(†)
June 30	
	(†)
1. 0	20. 51. 28*
1. 46	51. 20

Horizontal Force in parts of the whole H. F. uncorrected for Temperature

Greenwich Mean Solar Time.	Horizontal Force
June 28 h m	
5. 12	·1152
5. 30	·1154
5. 52	·1151
6. 17	·1156
6. 30	·1152
	***
8. 30	·1158
8. 38	·1165
8. 49	·1159
9. 8	·1165
9. 19	·1159
	***
10. 33	·1164
10. 57	·1157
11. 13	·1156
11. 23	·1159
11. 39	·1154
12. 11	·1166
	***
12. 30	·1160
	***
12. 50	·1159
13. 23	·1149
	***
14. 2	·1152
14. 40	·1138
15. 54	·1135
	***
16. 47	·1140
17. 10	·1136
	***
17. 34	·1138
	***
18. 29	·1129
18. 51	·1133
	***
19. 37	·1127
19. 50	·1129
	***
20. 19	·1126
20. 30	·1128
21. 15	·1118
21. 35	·1120
21. 55	·1119
22. 16	·1123
22. 17	·1111
22. 34	·1108
22. 53	·1113
23. 0	·1115
23. 17	·1124
23. 22	·1119
23. 27	·1126
23. 32	·1120
23. 47	·1119
23. 59	·1122
June 29	
0. 0	·1122
0. 5	·1126
June 29 h m	
0. 15	·1119
0. 24	·1131
0. 35	·1111
0. 52	·1119
1. 16	·1117
1. 31	·1127
1. 37	·1126
1. 45	·1128
2. 0	·1124
2. 17	·1106
3. 2	·1127
3. 19	·1124
3. 51	·1127
	***
4. 38	·1118
4. 49	·1121
5. 7	·1115
5. 17	·1115
5. 24	·1122
5. 38	·1119
6. 0	·1123
6. 13	·1122
6. 37	·1125
6. 54	·1121
7. 8	·1121
7. 40	·1127
8. 7	·1121
8. 45	·1120
8. 53	·1121
10. 46	·1117
11. 36:	·1136
12. 25	·1118
12. 35	·1118
13. 26	·1115
14. 1	·1115
14. 47	·1119
15. 16	·1119
16. 26	·1115
16. 45	·1115
17. 0	·1112
17. 15	·1114
17. 45:	·1123
18. 10	·1116
18. 45	·1114
19. 24	·1108
19. 44	·1106
20. 28	·1097
21. 10	·1092
21. 45	·1091
22. 7	·1088
22. 29	·1092
23. 47	·1118
23. 59	·1114
June 30	
0. 0	·1114
0. 19	·1109
0. 32	·1109

Vertical Force in parts of the whole V. F. uncorrected for Temperature

Greenwich Mean Solar Time.	Vertical Force
h m	
June 29	
0. 0	·01744
1. 26	·01590
June 29 h m	
4. 40:	·01208
8. 2	·01053
10. 41	·01040
11. 9	·01058
12. 22	·01050
16. 45	·01272
18. 30	·01304
21. 23	·01430
22. 39	·01424
	(†)
June 30	
0. 0	·01442
1. 50	·01417
3. 6	·01286

Readings of Thermometers

Greenwich Mean Solar Time.	Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
June 29		
9. 0	64 ·7	64 ·4
21. 0	60 ·3	60 ·5
June 30		
1. 0	61 ·0	61 ·0
3. 0	62 ·1	62 ·1
9. 0	64 ·0	64 ·0

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

June 30

Western Declination

Greenwich Mean Solar Time (h m)	Western Declination (° ′ ″)
2. 23	20. 53. 0
3. 33	51. 30
4. 12	52. 0
5. 23	50. 35
8. 10	49. 30
8. 43	51. 10
	(†)
9. 0	51. 15*
10. 49	52. 10
12. 22	52. 15
	(†)
15. 44	50. 20
16. 30	48. 10
16. 59	49. 30
18. 48	45. 15
19. 0	46. 45
19. 29	46. 0
19. 45	46. 30
20. 16	45. 30
21. 30	47. 0
22. 27	46. 35
22. 48	47. 30
	(†)
23. 56	49. 0
23. 59	49. 10

Horizontal Force in parts of the whole H. F. uncorrected for Temperature

Greenwich Mean Solar Time (h m)	Horizontal Force
0. 49	·1122
2. 14	·1138
2. 40	·1140
3. 0	·1132
	(†)
5. 48	·1110
6. 15	·1118
6. 37	·1121
7. 25	·1110
7. 39	·1113
	(†)
9. 0	·1109*
9. 27	·1106
10. 33	·1106
11. 4:	·1116
11. 42	·1105
12. 4	·1109
12. 33	·1107
12. 44	·1108
	(†)
16. 22	·1104
16. 57	·1109
18. 2	·1104
19. 8	·1095
20. 17	·1086
	(†)
21. 0	·1088*
21. 56	·1088
22. 15	·1078
22. 49	·1092
	(†)

Vertical Force in parts of the whole V. F. uncorrected for Temperature

Greenwich Mean Solar Time (h m)	Vertical Force
6. 19	·01050 / ·01098
6. 51	·01057 / ·01104
7. 21	·01062 / ·01103
7. 58	·01064 / ·01102
8. 34	·01060 / ·01100
10. 12	·01066
11. 47	·01107
13. 17	·01222
17. 12:	·01694
20. 21	·01832
20. 29	·01818
20. 42	·01816 / ·01397
22. 47	·01300
	(†)

Readings of Thermometers

Greenwich Mean Solar Time (h m)	Of H. F. Magnet (°)	Of V. F. Magnet (°)
21. 0	58 ·9	59 ·0

July 1

Western Declination

Greenwich Mean Solar Time (h m)	Western Declination (° ′ ″)
0. 0	20. 49. 15
0. 25	51. 0
0. 50	51. 10
1. 5	52. 0
1. 30	51. 10
1. 52	51. 50
3. 3	51. 0
4. 3	51. 30
	***
6. 25	46. 10
	***
7. 11	48. 0
	***
9. 0	45. 30
	***
10. 13	47. 0
	***
10. 27	45. 0
	***
10. 58	45. 15
11. 11	42. 50
	***
12. 0	44. 10
12. 57	44. 30
	(†)
14. 30	20. 45. 0
14. 52	46. 10
	***
15. 26	44. 0
	***
16. 1	44. 15
16. 31	41. 40
16. 55	43. 10
17. 58	41. 50
18. 42	42. 0
18. 55	40. 40
19. 52	42. 0
20. 7	41. 10
21. 23	43. 50
21. 45	47. 5
22. 17	47. 45
23. 44	53. 0
23. 45	52. 10
23. 59	53. 30

Horizontal Force in parts of the whole H. F. uncorrected for Temperature

Greenwich Mean Solar Time (h m)	Horizontal Force
	(†)
0. 20	·1085
0. 32	·1080
0. 49	·1085
1. 13	·1084
1. 41	·1100
2. 2	·1105
2. 19	·1102
	***
2. 38	·1104
2. 50	·1099
3. 18	·1100
	***
3. 53	·1110
4. 55	·1112
5. 8	·1108
5. 18	·1112
5. 45	·1098
6. 23	·1104
6. 47	·1100
	***
7. 52	·1124
	***
8. 32	·1110
	***
9. 35	·1098
9. 47	·1103
	***
10. 13	·1106
10. 22	·1102
10. 30	·1108
11. 2	·1099
11. 25	·1114
12. 7	·1104
13. 4	·1101
13. 21	·1106
13. 54	·1094
14. 13	·1105
14. 45	·1104
15. 26	·1099
15. 57	·1089
16. 30	·1096
16. 58	·1098
17. 27	·1094
18. 22	·1094
19. 0	·1088
20. 25	·1088
21. 5	·1083
21. 30	·1083
22. 1	·1076
22. 40	·1084
22. 57	·1080
23. 48	·1084
	(†)

Vertical Force in parts of the whole V. F. uncorrected for Temperature

Greenwich Mean Solar Time (h m)	Vertical Force
0. 0	·01272
1. 20	·01217
2. 37	·01205
7. 48	·00826
10. 14	·00770
11. 55	·00794
13. 53	·00898
14. 8	·00930
15. 40	·01000
18. 9	·01216
20. 37	·01335
22. 0	·01264 / ·01238
23. 59	·01210

Readings of Thermometers

Greenwich Mean Solar Time (h m)	Of H. F. Magnet (°)	Of V. F. Magnet (°)
1. 0	61 ·5	62 ·0
3. 0	63 ·0	63 ·5
9. 0	65 ·5	65 ·7
21. 0	60 ·9	60 ·1
22. 0	61 ·4	61 ·5
23. 0	61 ·9	62 ·0

July 2

Western Declination

Greenwich Mean Solar Time (h m)	Western Declination (° ′ ″)
0. 0	20. 53. 35
0. 43	53. 20
1. 0	54. 10
1. 26	53. 15
1. 45	56. 0
2. 3	54. 50
2. 30	57. 25
3. 35	57. 10
4. 55	53. 0
5. 18	48. 35
5. 51	53. 10
	***
6. 52	52. 10
7. 30	53. 10
8. 0	51. 55
	***
8. 37	52. 55
9. 3	52. 5
9. 45	54. 50
10. 6	52. 50
11. 27	51. 0
11. 50	53. 0
12. 15	50. 45
12. 59	54. 0
13. 29	52. 30
15. 15	52. 10
15. 57	49. 40

Horizontal Force in parts of the whole H. F. uncorrected for Temperature

Greenwich Mean Solar Time (h m)	Horizontal Force
	(†)
0. 17	·1086
0. 30	·1086
1. 0	·1077
1. 17	·1089
1. 37	·1090
2. 12	·1106
2. 30	·1102
	(†)
3. 0	·1124*
3. 12	·1124
3. 23	·1128
3. 42	·1118
4. 10	·1128
4. 23	·1124
4. 37	·1130
5. 11	·1126
5. 39	·1158
6. 7	·1126
6. 32	·1120
7. 29	·1125
	***
8. 17	·1108
8. 28	·1120
	***
8. 53	·1108
9. 4	·1110

Vertical Force in parts of the whole V. F. uncorrected for Temperature

Greenwich Mean Solar Time (h m)	Vertical Force
0. 0	·01210
0. 39	·01218 / ·01187
1. 40	·01140
2. 55	·01022
5. 16	·00910
5. 44	·00843
9. 50:	·00762
14. 2	·01078
16. 23	·01308
19. 13	·01527
21. 8	·01537 / ·01055
23. 9	·01010
	(†)

Readings of Thermometers

Greenwich Mean Solar Time (h m)	Of H. F. Magnet (°)	Of V. F. Magnet (°)
0. 0	62 ·3	62 ·2
1. 0	62 ·7	63 ·0
2. 0	63 ·5	63 ·9
3. 0	64 ·1	64 ·4
6. 0	64 ·7	65 ·0
9. 0	63 ·1	64 ·0
12. 0	61 ·5	62 ·5
18. 0	56 ·5	57 ·0
21. 0	58 ·2	58 ·0
22. 0	58 ·5	58 ·2
23. 0	59 ·1	59 ·0

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
July 2		July 2						
h m	° ′ ″	h m		h m		h m	°	°
16.57	20.51.35	9.23	·1105					
18.37	46.10	9.40	·1110					
20.28	47. 0	10. 4	·1108					
23.30	57.10	10.19	·1112					
23.53	56.55	10.32	·1108					
23.59	56. 0	11.51	·1107					
		12.19	·1116					
		13. 0	·1114					
			***					
		15.10	·1113					
		15.45	·1115					
		16.24	·1110					
		17.37	·1115					
		18.22	·1107					
		19.30	·1102					
		20.55	·1093					
		22.40	·1095					
		22.54	·1093					
		23.52	·1100					
		23.59	·1098					
July 3		July 3		July 3		July 3		
0. 0	20.56. 0	0. 0	·1098	0. 0	·00918	0. 0	59·5	59·3
0.32	56.10	0.36	·1102	4.35	·00720	1. 0	60·0	60·2
0.37	57.55	1.23	·1105	10. 6:	·00580	2. 0	61·0	60·9
1.33	57.35	1.50	·1111	16.59	{ ·00922	3. 0	62·0	61·6
2.13	56.10	2. 7	·1110		·00866 }	9. 0	63·5	64·0
3. 9	55.10	2.30	·1116	17.45	·00890	21. 0	57·5	57·8
3.50	57. 0	3.13	·1115	17.59	·00868			
5. 0	54.10	3.30	·1118	18.30	·00902			
5.14	54.20	3.58:	·1134	18.42	·00885			
6.28	52. 0	4.15	·1124	19.13	·00907			
7.28	51.10	4.22	·1124	19.24	·00890			
8.20	52.10	4.40	·1109	19.52	·00906			
8.30	51.40	5. 2	·1116	20. 5	·00878			
15.43	49.45	5. 8	·1112	20.40	·00892			
17.37	47. 0	5.28	·1116	20.50	·00862			
17.50	47.50	5.33	·1116	21.37	·00874			
18. 8	46.50	6.48	·1123	21.48	·00855			
20.30	46.10		***	22.23	·00838			
21. 4	45.10	7.23	·1120	22.55	·00762			
23. 5	46. 5	7.34	·1123	23.59	·00720			
23.53	48.20		***					
23.59	47.50	8.47	·1118					
		10.34	·1118					
		11.10	·1125					
		13.24	·1122					
		14.25	·1120					
		16.11	·1123					
		16.56	·1123					
		17.33	·1119					
		18.37	·1110					
		19.40	·1108					
		21. 0	·1114					
		21.56	·1112					
		22.30	·1108					
		22.52	·1108					
			(†)					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
July 4		July 4		July 4		July 4		
h m	° ′ ″	h m		h m		h m	°	°
0. 0	20.47.50		(†)	0. 0	·00720	1. 0	61·5	61·2
0.30	48.40	0. 4	·1098	0.22	{ ·00710	3. 0	63·8	64·0
1.52	54.40	0.41	·1103		·00676 }	9. 0	66·2	66·0
3.22	57. 0	0.50	·1106	1. 6	·00628	21. 0	60·7	61·0
3.30	56.10	1. 9	·1111	3.12	·00342			
4.46	56.50	2. 3	·1114	4.38	·00164			
5. 0	56. 0	2.17	·1112	5.31	·00298			
5.15	56.10	2.45	·1116		***			
	***	3.20	·1117	8.13	·00597			
6.30	54.30	3.49	·1110	12.22:	·00700			
7. 3	55.10	4.39	·1118	16. 1	·00938			
11.45	54.30	5. 9	·1110	19.53:	·01177			
12.12	53.10	5.21	·1116	23.13	·01220			
12.45	56. 0	5.30	·1112		(†)			
12.53	55. 0	5.36	·1118					
13. 0	55. 0	5.45	·1115					
13.30	53. 0	6. 6	·1117					
15. 3	52.45	6.31	·1112					
17.20	52. 0	6.45	·1116					
19.26	48. 0	7. 7	·1115					
20.28	47.40	7.15	·1110					
20.42	48.10	7.31	·1111					
21.36	48. 0	8.19	·1106					
22.43	51.25		***					
23.54	52.15	9. 9	·1106					
	(†)	9.30	·1109					
		10.30	·1108					
		10.49	·1112					
		11. 0	·1109					
		11.32	·1110					
		12.15	·1108					
		13. 4	·1113					
		13.37	·1111					
		14.45	·1108					
		16.23	·1111					
		17.15	·1110					
		17.53	·1107					
		19.40	·1100					
		21. 5	·1092					
		22.49	·1095					
		23. 0	·1111					
		23.47	·1100					
			(†)					
July 5		July 5		July 5		July 5		
	(†)		(†)		(†)	1. 0	63·4	63·0
0. 4	20.52. 0	0. 8	·1095	0.15	·01203	3. 0	65·4	65·0
0.26	52.10	0.39	·1095	1.28	·01180	9. 0	68·7	68·5
0.37	52.50	0.45	·1109	3.31	·01066	22.27	63·5	64·0
0.57	52.50		***	3.59	·01057			
1. 8	53.45	1. 2	·1107	5.31	·00920			
1.41	53. 0	1. 5	·1116	5.56	·00917			
1.50	53.30	1.22	·1097	6.13	·00865			
3.28	51.50		***	6.21	·00863			
3.47	53.10	2. 4	·1098	6.26	·00840			
4.27	53.30		***	7. 0	·00837			
4.37	52.45	2.13	·1106	7.17	·00798			
4.57	53.50	2.16	·1095	7.35	·00814			

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
July 5		July 5		July 5				
h m	° ′ ″	h m		h m		h m	°	°
5. 13	20. 53. 20	2. 22	·1108	7. 46	·00712			
5. 26	54. 10	2. 23	·1096	8. 0	·00638			
5. 48	58. 10	2. 30	·1102	8. 14	·00762			
5. 53	57. 30	2. 48	·1115	8. 22	·00486			
5. 59	57. 40	2. 58	·1115 ***	8. 27	·00470			
6. 30:	52. 10	3. 15	·1142	8. 34	·00438			
6. 45	55. 0	3. 33	·1114 ***	8. 40	·00487			
7. 7	39. 25	4. 17	·1129	8. 46	·00483			
7. 28	55. 20	5. 15	·1126	8. 49	·00524			
7. 44	37. 40	5. 25	·1154	8. 57	·00492			
7. 48	41. 0	5. 32	·1154	9. 1	·00520			
7. 57	40. 20	5. 45	·1205	9. 15	{ ·00502			
8. 15	57. 30	5. 55	·1209		{ ·00563			
8. 37	44. 0	6. 0	·1196	9. 44	·00542			
8. 44	49. 5	6. 6	·1206	10. 8	·00635			
8. 52	47. 45	6. 16	·1174	10. 29	·00657			
9. 8	51. 0	6. 25	·1157	10. 37	·00698			
9. 20	48. 0	6. 33	·1157	10. 54	·00692			
9. 26	48. 55	6. 40	·1146	11. 16	·00365			
9. 34	47. 10	6. 44	·1180	11. 19	·00382			
9. 44	50. 40	7. 8	·1147	11. 23	·00344			
10. 8	44. 15	7. 20	·1193	11. 30	·00583			
10. 14	44. 30	7. 41	·1105	11. 39	·00690			
10. 21	43. 15	7. 47	·1162	11. 57	·00688			
10. 29	46. 20	7. 55	·1117	12. 8	·00776			
10. 48	37. 0	8. 10	·1148	12. 12	·00798			
11. 0	23. 0	8. 12	·1141	16. 51	·01254			
11. 15	48. 15	8. 17	·1148	18. 14	·01268			
11. 30	34. 50	8. 24	·1123	18. 23	·01287			
11. 42	44. 20	8. 25	·1130	21. 49	·01443			
11. 55	48. 25	8. 37	·1110	22. 15	·01492			
12. 4	45. 10	8. 43	·1135	22. 42	·01498			
12. 13	48. 45	8. 48	·1120	23. 59	·01539			
12. 22	47. 0	8. 58	·1125					
12. 34	49. 20	9. 17	·1087					
12. 44	46. 30	9. 24	·1089					
12. 53	50. 30	9. 30	·1063					
12. 57	47. 45	9. 38	·1084					
13. 33	48. 50	9. 52	·1075					
13. 54	48. 30	9. 56	·1076					
14. 3	46. 0	10. 3	·1071					
14. 16	48. 0	10. 9	·1073					
14. 34	46. 10	10. 20	·1062					
14. 45	48. 0 ***	10. 25	·1067					
16. 58	46. 0 ***	10. 38	·1030					
17. 45	51. 30 ***	10. 45	·1036					
18. 15	47. 15	10. 52	·1007					
18. 27	50. 0 ***	11. 0	·1082					
18. 47	51. 0 ***	11. 11	·1129					
19. 22	50. 0	11. 24	·1064					
19. 37	51. 10 ***	11. 38	·1102					
20. 56	46. 0 ***	11. 40	·1099					
		11. 48	·1100					
		12. 3	·1078					
		12. 14	·1099					
		12. 23	·1087					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
July 5		July 5						
h m	° ′ ″	h m		h m		h m	°	°
21. 27	20. 47. 5	12. 31	·1096					
21. 41	49. 30 ***	12. 48	·1083					
23. 11	52. 45	12. 56	·1095					
23. 15	52. 30	13. 4	·1080					
23. 59	52. 50	13. 18	·1086 ***					
		13. 47	·1080 ***					
		14. 0	·1082 ***					
		14. 22	·1081 ***					
		14. 35	·1086 ***					
		16. 14	·1089 ***					
		16. 32	·1079 ***					
		17. 14	·1067 ***					
		17. 32	·1077 ***					
		17. 45	·1074 ***					
		18. 22	·1088 ***					
		18. 58	·1060 ***					
		19. 21	·1053 ***					
		19. 58	·1054 ***					
		20. 59	·1043 ***					
		21. 34	·1054 ***					
		21. 50	·1050 ***					
		22. 17	·1065 ***					
		22. 29	·1063 ***					
		22. 52	·1065					
		23. 1	·1077					
		23. 10	·1080					
		23. 45	·1081 ***					
		23. 59	·1080					
July 6		July 6		July 6		July 6		
0. 0	20. 52. 50	0. 0	·1080	0. 0	·01539	9. 0	67·0	66·4
0. 35	53. 50	0. 6	·1080	0. 47	·01540	21. 0	61·4	61·1
0. 44	54. 50	0. 13	·1084 ***	2. 26	·01500			
1. 19	54. 25	0. 30	·1083 ***	8. 39:	·01084			
1. 35	56. 10	1. 15	·1077	14. 28	·01412			
1. 45	55. 0	1. 39	·1081	20. 8	·01760			
1. 56	55. 5			20. 16	·01775			
2. 21	52. 30			22. 41	·01802			

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Western Declination

Greenwich Mean Solar Time.	Western Declination.
July 6	
h m	° ′ ″
3. 55	20. 53. 10
4. 57	52. 45
5. 52	53. 5
6. 2	53. 50
9. 39	55. 0
9. 45	54. 20
9. 56	55. 0
11. 54	52. 30
14. 48	51. 5
15. 23	53. 30
17. 22	47. 45
17. 33	48. 0
17. 52	47. 15
18. 42	50. 50
19. 3	48. 50
20. 12	48. 55
20. 30	50. 10
21. 21	47. 0
21. 48	46. 55
22. 8	49. 15
22. 14	49. 10
22. 45	54. 5
23. 14	53. 15
23. 59	57. 0
July 7	
0. 0	20. 57. 0
0. 15	54. 50
1. 1	56. 45
1. 23	56. 55
1. 32	59. 50
1. 51	59. 50
2. 5	58. 20
2. 21	58. 50
2. 43	56. 50
2. 57	57. 50
3. 17	55. 10
3. 21	55. 50
4. 3	55. 5
4. 15	58. 35
4. 28	58. 30
5. 0	54. 50
5. 3	56. 55
5. 16	54. 45
5. 27	54. 45
5. 36	54. 10
5. 43	55. 5
6. 7	51. 45
6. 13	51. 40
6. 36	47. 50
6. 47	48. 30
7. 0	48. 10
7. 15	50. 0
7. 20	51. 40
7. 42	53. 15 ***
9. 47	53. 10
10. 3	51. 45
10. 21	20. 40. 0
10. 49	21. 2. 10
11. 23	20. 40. 10
11. 41	35. 5
11. 52	36. 55
11. 59	35. 50
12. 34	44. 50
12. 52	42. 30
13. 34	58. 35
14. 50	40. 50
15. 11	40. 30
15. 34	44. 30
15. 45	43. 55

Horizontal Force in parts of the whole H. F. uncorrected for Temperature

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
July 6	
h m	
1. 52	·1071
2. 11	·1082 ***
2. 26	·1080 ***
2. 55	·1084 ***
3. 33	·1077 ***
4. 1	·1089 ***
4. 13	·1086 ***
5. 3	·1102 ***
5. 44	·1100 ***
6. 9	·1109 ***
6. 25	·1107 ***
6. 58	·1110 ***
7. 37	·1104 ***
8. 4	·1109 ***
8. 46	·1104
9. 1	·1107 ***
9. 30	·1109 ***
9. 45	·1105 ***
10. 23	·1098 ***
10. 51	·1103 ***
11. 4	·1099 ***
11. 30	·1099 ***
11. 48	·1103 ***
13. 30	·1099 ***
14. 54	·1104 ***
15. 22	·1097 ***
17. 13:	·1105 ***
19. 0	·1087 ***
19. 11	·1087 ***
20. 11	·1065
20. 28	·1078
20. 32	·1076
20. 51	·1101
20. 59	·1098
21. 38	·1102
21. 58	·1094
22. 22	·1087 ***
22. 50	·1104
22. 59	·1098
23. 47	·1121
23. 59	·1117
July 7	
0. 0	·1117
0. 15	·1116
0. 24	·1126
1. 20	·1108
1. 22	·1114
1. 23	·1102
1. 51	·1116 ***
2. 7	·1111 ***
2. 28	·1117 ***
2. 45	·1116
3. 4	·1128
3. 15	·1115
3. 32	·1132
3. 37	·1128
4. 13	·1127
4. 22	·1157
4. 33	·1145
4. 41	·1157 ***
4. 59	·1160
5. 6	·1156
5. 10	·1163
5. 20	·1153
5. 23	·1163
5. 31	·1156
5. 39	·1164
5. 46	·1154
5. 54	·1155
6. 0	·1160
6. 17	·1138
6. 22	·1144
6. 41	·1126
6. 47	·1128
7. 1	·1114 ***
7. 12	·1112
7. 30	·1119
7. 41	·1112
7. 55	·1116
9. 4	·1111
10. 0	·1125
10. 15	·1100

Vertical Force in parts of the whole V. F. uncorrected for Temperature

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
July 6	
h m	
23. 59	·01754
July 7	
0. 0	·01754
1. 31	{·01740 ·01678
2. 31	·01680
3. 13	·01738
4. 1	·01733
4. 6	·01756
4. 14	·01730
5. 18	·01722
6. 54	·01654
8. 7	·01554
11. 50	·01520
13. 25	·01588
14. 8	·01533
14. 48	·01517
15. 24	{·01552 ·01503
16. 37	{·01596 ·01550
17. 54	{·01658 ·01611
19. 31	{·01704 ·01658
21. 40	{·01677 ·01628
23. 5	·01597
23. 59	·01540

Readings of Thermometers

Greenwich Mean Solar Time.	Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
July 7		
1. 0	63 ·9	63 ·3
3. 0	64 ·5	63 ·7
9. 0	65 ·0	65 ·0
21. 0	61 ·9	61 ·1

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Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
July 7		July 7						
h m	° ′ ″	h m		h m		h m	°	°
15. 57	20. 44. 40	10. 25	·1116					
16. 15	48. 0	10. 32	·1099					
16. 27	47. 30		***					
16. 38	49. 20	10. 40	·1098					
17. 52	43. 15	11. 5	·1046					
19. 31	42. 50	11. 33	·1091					
20. 25	44. 20	11. 35	·1088					
21. 9	44. 10	11. 47	·1103					
21. 20	43. 15	12. 2	·1092					
21. 50	43. 50	12. 25	·1103					
23. 50	49. 20	12. 42	·1114					
23. 58	48. 10	12. 48	·1108					
23. 59	48. 25	13. 3	·1108					
		13. 10	·1111					
		13. 34	·1089					
		13. 58	·1116					
		13. 59	·1113					
		14. 13	·1122					
		14. 22	·1120					
		14. 37	·1108					
		15. 7	·1112					
		15. 34	·1131					
		16. 32	·1100					
		16. 37	·1100					
		16. 52	·1088					
		17. 9	·1087					
		17. 26	·1097					
		17. 32	·1094					
		17. 46	·1102					
		18. 20	·1099					
		18. 49	·1088					
		19. 11	·1090					
		20. 14	·1085					
		20. 40	·1080					
		21. 39	·1080					
		22. 39	·1103					
		22. 56	·1103					
		23. 5	·1106					
		23. 52	·1113					
			(†)					
July 8		July 8		July 8		July 8		
0. 0	20. 48. 30		(†)	0. 0	·01540	1. 0	65·0	64·9
0. 51	49. 30	0. 12	·1111	0. 45	·01426	3. 0	67·5	67·4
1. 22	51. 15	0. 40	·1116	0. 51	·01428	9. 5	69·6	69·0
2. 0	51. 0	0. 58	·1112	0. 58	·01406	21. 0	62·4	61·9
2. 16	52. 20	1. 22	·1114	3. 34	·01020	22. 0	62·6	62·0
2. 27	51. 5	1. 52	·1110	3. 42	·01022	23. 0	62·9	62·7
2. 33	53. 20	1. 59	·1114	5. 6	{ ·00818			
2. 49	51. 30	2. 2	·1106		·00915			
3. 3	52. 10	2. 7	·1122	5. 38	·00920			
3. 12	51. 50	2. 14	·1116	7. 8	·01130			
4. 32	54. 50	2. 20	·1121	8. 12	·01228			
5. 3	54. 20	2. 30	·1116	10. 28	·01226			
5. 13	55. 0	2. 38	·1150	11. 56	·01321			
5. 22	54. 10	2. 56	·1108	12. 18	·01308			
	***	3. 25	·1097	13. 2	·01402			
7. 49	54. 15	3. 40	·1110	13. 25	·01428			

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
July 8		July 8		July 8				
h m	° ′ ″	h m		h m		h m	°	°
8. 0	20. 53. 0	3. 45	·1102	16. 39	·01876			
8. 9	54. 30	3. 51	·1116	18. 45	·02130			
8. 18	54. 10	4. 10	·1114	21. 30	·02228			
8. 29	55. 10	4. 18	·1128	21. 36	·02178			
8. 42	54. 0	4. 23	·1112	22. 7	·02192			
8. 48	54. 50	4. 40	·1121	22. 57	·02150			
9. 22	51. 0	4. 56	·1114		(†)			
9. 56	53. 0		***					
10. 30	49. 45	5. 17	·1126					
10. 57	51. 30	5. 30	·1111					
11. 34	51. 30	5. 52	·1116					
11. 44	49. 40	5. 56	·1130					
12. 3	54. 10	6. 5	·1102					
12. 44	45. 30	6. 14	·1108					
13. 0	49. 0	6. 17	·1104					
13. 35	49. 0	6. 30	·1114					
13. 43	47. 25	6. 42	·1110					
14. 20	47. 50	7. 2	·1106					
14. 27	48. 45	7. 30	·1110					
15. 20	48. 45	7. 44	·1108					
15. 38	47. 50	8. 10	·1120					
15. 49	47. 50	8. 54	·1103					
16. 18	49. 0	9. 8	·1109					
16. 29	48. 0	9. 18	·1105					
16. 40	49. 40	9. 38	·1111					
16. 54	48. 35	10. 6	·1110					
17. 16	48. 30	10. 26	·1105					
17. 30	49. 20	10. 44	·1109					
17. 42	47. 10	11. 2	·1105					
17. 48	48. 40	11. 21	·1107					
18. 15	46. 50	11. 33	·1102					
18. 25	47. 10	11. 55	·1129					
18. 36	45. 25	12. 18	·1112					
18. 49	50. 20	12. 37	·1122					
19. 17	51. 30	12. 48	·1116					
19. 30	55. 0	12. 57	·1123					
19. 58	52. 45	13. 28	·1103					
20. 7	53. 50		***					
20. 15	53. 0	14. 13	·1111					
20. 30	53. 10		***					
20. 45	54. 30	16. 21	·1113					
21. 39	49. 0		***					
21. 54	49. 0	16. 51	·1102					
22. 0	48. 0		***					
22. 12	49. 35	17. 40	·1098					
22. 20	48. 55		***					
23. 0	52. 0	18. 3	·1091					
23. 38	51. 15		***					
23. 45	52. 10	18. 32	·1088					
23. 59	51. 15		***					
		18. 47	·1094					
		19. 0	·1086					
		19. 23	·1058					
		19. 38	·1054					
		19. 49	·1060					
		20. 11	·1091					
		20. 20	·1092					
		20. 33	·1088					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
July 9	
0. 0	20. 51. 20
0. 12	51. 10
0. 30	52. 0
0. 45	50. 35
0. 56	52. 5
1. 6	50. 30
1. 18	52. 15
2. 2	52. 10
2. 24	53. 0
2. 54	52. 30
3. 3	53. 30
3. 52	52. 10
4. 6	53. 0
4. 22	50. 35
4. 28	50. 20
4. 36	47. 0
5. 8	50. 40
5. 37	49. 50
5. 45	50. 50
6. 4	48. 50
6. 30	49. 50
7. 3	46. 15
7. 6	46. 40
7. 29	45. 30
7. 41	46. 45
8. 27	47. 40
8. 35	46. 30
9. 12	47. 55
9. 38	45. 30
9. 59	46. 20
10. 18	45. 0
10. 58	49. 0
11. 15	49. 25
11. 28	48. 40
11. 41	48. 50
11. 50	45. 50
12. 11	46. 50
12. 23	46. 0
13. 0	48. 5
14. 24	44. 15
14. 40	46. 0
15. 5	44. 10
15. 44	46. 10
16. 15	46. 10
16. 37	44. 30
	***
18. 7	45. 0

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
July 8	
h m	
20. 50	·1096
	***
22. 0	·1100
22. 8	·1106
22. 18	·1102
22. 24	·1104
23. 16	·1081
23. 25	·1083
	(†)
July 9	
	(†)
0. 26	·1103
0. 32	·1102
	***
0. 55	·1102
1. 2	·1097
1. 11	·1112
1. 20	·1092
1. 34	·1110
2. 3	·1101
2. 24	·1110
2. 47	·1108
	***
3. 28	·1128
3. 33	·1120
3. 40	·1124
3. 54	·1103
4. 22	·1128
4. 37	·1112
5. 0	·1148
	***
5. 47	·1120
6. 1	·1126
6. 10	·1114
6. 52	·1134
7. 30	·1119
7. 37	·1128
7. 50	·1124
8. 15	·1124
8. 28	·1120
8. 49	·1124
9. 17	·1116
9. 37	·1120
10. 4	·1118
11. 12	·1123
12. 4	·1120
12. 30	·1129
13. 8	·1113
13. 22	·1113
13. 43	·1122
	***
14. 18	·1106
14. 52	·1126
	***
15. 30	·1110
16. 6	·1114
	***

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
July 9	
0. 0	·01281
2. 7	·01272
3. 44	·01200
4. 21	·01198
4. 40	·01236
5. 34	·01203
5. 46	·01217
5. 59	·01188
9. 20	·01170
11. 18	·01185
12. 30	·01153
12. 43	·01122
13. 21	·01117
13. 38	·01125
14. 25	·01121
14. 47	·01140
15. 3	·01127
17. 58	{ ·01328 ·01230
19. 50	·01292
21. 6	{ ·01305 ·01337
22. 19	·01332
23. 8	·01298
	(†)

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
July 9		
0. 0	63·4	63·1
1. 0	63·9	63·7
2. 0	64·4	64·0
3. 0	64·9	64·5
6. 0	65·3	64·9
9. 0	65·0	64·5
12. 0	64·7	64·8
21. 0	64·0	62·6
22. 0	64·2	62·9
23. 0	64·5	63·3

Greenwich Mean Solar Time.	Western Declination.
July 9	
h m	° ′ ″
18. 31	20. 45. 55
19. 25	43. 0
19. 33	43. 20
19. 51	43. 5
20. 35	47. 10
20. 44	48. 10
20. 57	47. 30
21. 8	48. 45
21. 32	49. 0
22. 3	47. 20
22. 30	49. 15
22. 43	49. 10
23. 0	52. 0
23. 16	51. 10
23. 46	52. 50
23. 59	52. 0
July 10	
0. 0	20. 52. 0
0. 28	50. 0
1. 16	53. 10
2. 16	53. 40
2. 30	52. 35
2. 43	53. 10
3. 14	52. 0
4. 14	54. 35
4. 44	54. 15
4. 55	55. 0
5. 11	53. 40
5. 35	54. 10
6. 0	52. 0
6. 43	51. 15
6. 57	52. 40
7. 30	52. 50
8. 27	53. 5
8. 56	51. 40
9. 34	53. 15
9. 57	51. 0
10. 32	52. 10
11. 42	47. 10
11. 53	58. 15
12. 11	46. 10
12. 30	48. 30
14. 0	50. 0
14. 30	46. 40
14. 53	49. 15
	(†)
16. 25	50. 45
17. 1	48. 15
17. 18	48. 25
17. 42	46. 20

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
July 9	
h m	
16. 33	·1108
	***
16. 49	·1106
	***
17. 44	·1106
	***
18. 7	·1109
	***
19. 15	·1086
19. 24	·1086
20. 7	·1066
20. 37	·1056
20. 59	·1058
21. 32	·1084
	***
22. 0	·1086
22. 20	·1094
	***
22. 41	·1096
22. 55	·1103
23. 7	·1097
	***
23. 59	·1114
July 10	
0. 0	·1114
0. 11	·1116
0. 20	·1116
0. 32	·1113
0. 53	·1124
1. 37	·1101
	***
2. 2	·1107
2. 17	·1090
2. 43	·1109
3. 2	·1108
3. 13	·1119
3. 27	·1111
	***
3. 58	·1126
4. 7	·1114
	***
4. 47	·1132
	***
5. 0	·1120
5. 3	·1128
5. 15	·1116
5. 35	·1125
5. 45	·1120
5. 54	·1134
6. 1	·1124
6. 31	·1146
6. 47	·1130
6. 54	·1137
7. 23	·1126
	***
8. 3	·1132
8. 27	·1132

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
July 10	
	(†)
0. 50	·01262
1. 37	·01236
5. 4	·00980
6. 33	·00963
7. 33	·00940
8. 4	·00905
9. 53	·00977
12. 5	·01132
16. 1	·01557
18. 33	·01582
22. 7	·01643
	(†)

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
July 10		
0. 0	64·5	63·4
1. 0	64·6	63·8
2. 0	64·9	64·3
3. 0	65·3	64·7
9. 0	62·7	63·8
21. 0	53·5	54·4

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
July 10		July 10						
h m	° ′ ″	h m		h m		h m	°	°
17.50	20.47. 0	8.37	·1138					
18. 3	46. 0	8.52	·1128					
18.10	46.10	9.15	·1136					
18.27	44.40	9.37	·1136					
19. 0	44. 0	9.51	·1131					
19.12	44.55	10. 5	·1136					
21. 8	44.40	10.19	·1133					
21.48	44.10	10.39	·1136					
23.59	51. 5	11. 4	·1127					
		11.19	·1134					
		11.31	·1129					
		11.37	·1132					
		11.57	·1125					
		12.15	·1141 ***					
		12.46	·1128					
		13. 0	·1134 ***					
		13.36	·1130 ***					
		14. 2	·1133					
		14.37	·1124					
		15.30	·1130 ***					
		16.39	·1127 ***					
		17.32	·1122 ***					
		19. 2	·1119 ***					
		19.24	·1113 ***					
		19.41	·1115 ***					
		19.58	·1111 ***					
		20. 7	·1115 ***					
		20.19	·1104					
		21. 7	·1100					
		21.37	·1104					
		22. 2	·1115 ***					
		22.25	·1114					
		22.43	·1116					
		22.58	·1126					
		23.19	·1116					
		23.34	·1126 (†)					

July 11		July 11		July 11		July 11		
0. 0	20.51.10		(†)		(†)	1. 0	56·9	56·8
1.29	51. 5	0. 4	·1125	0.44	·01488	3. 0	59·3	59·2
1.48	48.55	0.21	·1126	2.12	·01386	9. 0	62·5	62·5
2. 0	49.50	0.42	·1136	4.14	·01170	21. 0	58·5	58·5
2.25	49.10	0.56	·1125	6. 4	·00926			
2.35	51. 0	1.17	·1125	6.23	{ ·00898 ·00866			
2.52	51.10	1.23	·1128					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
July 11		July 11		July 11				
h m	° ′ ″	h m		h m		h m	°	°
3. 2	20.52. 0	1.36	·1122	7.47	·00791			
3.28	51. 0	1.43	·1126	8.41	·00875			
3.51	52. 0	1.47	·1122	11. 7	·00920			
4. 0	51.10	1.58	·1118	13.41	·01010			
4.23	51. 0	2. 0	·1120	15.28	·01130			
4.29	51.10	2.12	·1115	15.58	·01142			
4.42	50.50		(†)	17. 8	·01238			
6.25	52.15	3. 0	·1140*		(†)			
6.57	51.40	3. 5	·1141	21. 0	·01468*			
7. 9	52.10	3.12	·1143	23.14	·01392			
8. 5	53. 0	3.17	·1141	23.59	·01358			
8.28	52.30		(†)					
9.22	54.10	4.12	·1126					
11.25	54. 0	4.33	·1117 ***					
11.43	53. 0	5.45	·1131					
11.59	54.10	6. 4	·1126					
12.19	53.10	6.15	·1134 ***					
12.34	54.40	7.15	·1132 ***					
13.35	52. 0	7.46	·1128					
14.45	52.20	7.59	·1132					
15.37	55.10	8.14	·1125					
16.15	51.15	8.34	·1129					
16.35	51.10	9.11	·1123					
17.28	48.25	9.22	·1127					
17.47	49. 0	9.32	·1123 ***					
18.24	47.50	11. 9	·1123					
18.35	48.40	11.47	·1120					
19. 7	48. 0	12.22	·1127					
19.23	48.25	12.45	·1120					
20.13	47. 0	13. 1	·1123					
22. 0	49.20	13.15	·1118					
22.15	48.55	13.34	·1117					
23.19	51.50	13.47	·1108 ***					
23.59	51.40	14.15	·1113 ***					
		14.47	·1113					
		15.29	·1114					
		15.52	·1118					
		16.15	·1112 ***					
		16.55	·1108					
		17.19	·1111 ***					
		17.57	·1112 ***					
		19.26	·1108 ***					
		20.41	·1103					
		21.23	·1098 ***					
		22. 2	·1102					
		23. 0	·1103 (†)					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
July 12		July 12		July 12		July 12		
h m	° ′ ″	h m		h m		h m	°	°
0. 0	20. 51. 40		(†)	0. 0	·01358	1. 0	61·8	61·4
0. 30	51. 10	1. 0	·1122*	0. 53	·01330	3. 0	64·4	64·5
0. 48	49. 10	3. 0	·1123*	3. 43	·00962	9. 0	66·4	66·3
1. 34	48. 0	5. 24	·1142	5. 59	·01050	21. 25	62·8	60·7
2. 11	49. 15	5. 49	·1149	8. 19	·01233			
2. 26	48. 40	6. 40	·1140	9. 37	·01214			
3. 27	50. 10	6. 47	·1143	10. 44	·01253			
3. 52	49. 10	7. 7	·1135	12. 42	·01371			
6. 5	49. 0	7. 30	·1135		(†)			
6. 34	47. 50	8. 3	·1128	21. 25	·02095*			
7. 0	48. 50	8. 22	·1135					
7. 24	48. 30	8. 37	·1136					
	(†)	8. 55	·1146					
9. 0	48. 50*	9. 29	·1132					
21. 25	46. 39*	9. 32	·1135					
		9. 53	·1131					
		10. 5	·1135					
		10. 14	·1133					
		10. 30	·1136					
		11. 3	·1127					
		11. 10	·1130					
		11. 43	·1129					
		12. 1	·1132					
		12. 29	·1126					
			(†)					
		21. 25	·1094*					
July 13		July 13		July 13		July 13		
8. 35	20. 56. 11*	8. 35	·1127*	8. 35	·01929*	8. 35	68·3	68·2
21. 0	48. 57*	21. 0	·1077*	21. 0	·01918*	21. 0	65·9	63·3
July 14		July 14		July 14		July 14		
	(†)		(†)		(†)	1. 0	68·9	67·5
0. 30	20. 56. 30	1. 0	·1099*	1. 0	·01725*	3. 0	70·6	69·0
1. 3	55. 10	1. 47	·1112	1. 24	·01632	9. 0	70·0	69·0
1. 56	58. 55	2. 8	·1107	3. 15	·01418	21. 0	63·5	61·1
2. 26	58. 20	2. 29	·1114	3. 32	·01428			
2. 43	59. 20	2. 46	·1131	4. 13	{·01364			
3. 30	57. 50	2. 56	·1122		·01437}			
3. 52	58. 50	3. 11	·1122	6. 26	{·01511			
4. 5	56. 45	3. 20	·1126		·01538}			
	***	3. 32	·1120	7. 5	·01504			
9. 1	55. 35	3. 55	·1134	8. 0	·01522			
10. 35	58. 10	4. 5	·1124	8. 7	·01538			
11. 44	54. 50	4. 13	·1126	8. 53	{·01527			
12. 12	51. 10	4. 30	·1106		·01603}			
13. 18	54. 0		***	9. 47	·01598			
	***	5. 37	·1122	11. 30	·01676			
16. 16	52. 0	5. 44	·1118	11. 47	·01678			
16. 38	52. 50	5. 52	·1122	18. 13	{·02482			
17. 28	51. 0	6. 26	·1117		·02436}			
17. 34	51. 45	6. 59	·1127	21. 27	{·02402			
17. 47	50. 50	7. 12	·1121		·02238}			
18. 0	51. 10	7. 30	·1119	23. 59	·02092			
18. 20	49. 40	7. 40	·1123					
18. 33	50. 0	7. 47	·1118					
18. 57	48. 10	8. 23	·1115					
19. 6	49. 0	9. 2	·1117					
			***					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
July 14		July 14						
h m	° ′ ″	h m		h m		h m	°	°
20. 2	20. 46. 50	10. 19	·1123					
21. 4	49. 0	10. 39	·1129					
21. 33	49. 10	11. 28	·1128					
21. 59	51. 0	11. 43	·1135					
22. 6	50. 50	12. 6	·1122					
22. 30	54. 10		***					
23. 21	54. 5	12. 35	·1120					
23. 59	57. 40		***					
		13. 10	·1123					
		13. 32	·1123					
			***					
		14. 20	·1128					
			***					
		15. 0	·1128					
		15. 7	·1124					
			***					
		15. 40	·1123					
		15. 48	·1125					
		16. 3	·1121					
		16. 10	·1123					
		16. 15	·1121					
			***					
		17. 4	·1122					
			***					
		17. 30	·1117					
		17. 38	·1117					
		17. 56	·1110					
		18. 2	·1112					
			***					
		19. 15:	·1092					
			***					
		20. 25	·1092					
		21. 2	·1096					
		21. 20	·1103					
		21. 58	·1101					
		23. 6	·1105					
		23. 45	·1113					
		23. 52	·1111					
		23. 59	·1116					
July 15		July 15		July 15		July 15		
0. 0	20. 58. 0	0. 0	·1116	0. 0	·02092	1. 0	65·7	63·9
0. 12	59. 10	0. 6	·1114	2. 51	·01830	3. 0	66·5	65·0
0. 33	20. 59. 15	0. 13	·1120	4. 59	·01600	9. 0	65·8	65·5
1. 2	21. 1. 10	0. 30	·1112	6. 41	·01467	21. 0	60·8	60·0
1. 22	1. 10		***	7. 57	·01430	22. 0	61·8	60·8
1. 31	1. 50	0. 59	·1118	9. 0	{·01438	23. 0	62·4	61·6
1. 57	0. 35	1. 8	·1130		·01510}			
3. 29	21. 0. 0	1. 22	·1124	12. 12	·01650			
3. 39	20. 59. 0	1. 35	·1136	12. 32	·01655			
5. 6	57. 10	1. 47	·1124	15. 54	·01948			
5. 25	55. 25	1. 59	·1128	18. 45	·02262			
6. 6	55. 10	2. 10	·1126	20. 13	{·02334			
7. 28	56. 35	2. 20	·1132		·02185}			
8. 5	50. 30	2. 45	·1124	21. 9	·02179			
8. 45	55. 0	2. 55	·1133		(†)			
10. 0	54. 40	3. 42	·1119	22. 59	·01557			
10. 30	56. 5	4. 8	·1123	23. 59	·01493			

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

July 13. The Photographic Traces for the three Magnetometers were too faint for use.

Western Declination

Greenwich Mean Solar Time.	Western Declination.
July 15 h m	° ′ ″
10. 44	20. 55. 0
11. 15	56. 0
11. 30	55. 0
11. 58	54. 5
12. 17	57. 0
12. 47	54. 5
12. 50	54. 30
13. 0	53. 50
13. 9	54. 30
13. 26	52. 10
	***
14. 13	54. 0
	***
15. 3	53. 10
	***
16. 3	56. 50
17. 30	50. 30
19. 57	46. 55
21. 0	48. 10
22. 0	48. 15
22. 41	52. 0
23. 4	52. 15
23. 59	56. 10
July 16	
0. 0	20. 56. 15
0. 32	20. 59. 55
0. 57	21. 0. 5
1. 19	20. 58. 50
1. 33	20. 59. 45
1. 45	21. 1. 30
	***
2. 35	1. 45
3. 8	0. 0
3. 25	21. 0. 10
4. 23	20. 58. 0
4. 38	59. 30
	***
8. 0	53. 45
9. 14	54. 10
9. 29	52. 0
9. 45	51. 30
10. 0	53. 10
10. 8	52. 55
10. 28	56. 0
11. 3	54. 15
11. 13	55. 0
11. 25	54. 25
12. 28	55. 10
12. 35	56. 0
12. 58	54. 35
13. 26	56. 0
13. 45	58. 50
14. 25	53. 45
14. 56	53. 15
16. 34	50. 10
17. 12	50. 50
	***
17. 58	48. 50
18. 36	49. 0
18. 59	48. 30
19. 36	49. 50
19. 58	48. 40
21. 23	48. 50
21. 36	50. 0
21. 43	49. 0
23. 52	48. 25
23. 59	49. 0

Horizontal Force in parts of the whole H. F. uncorrected for Temperature

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
July 15 h m	
4. 19	·1121
4. 36	·1123
	***
5. 7	·1113
	***
6. 0	·1122
6. 11	·1125
6. 39	·1123
6. 47	·1126
7. 2	·1126
7. 17	·1131
7. 24	·1128
7. 34	·1132
7. 54	·1125
8. 37	·1139
9. 4	·1132
9. 30	·1124
10. 2	·1123
10. 34	·1126
10. 48	·1121
	***
11. 34	·1126
11. 50	·1124
12. 9	·1124
12. 21	·1128
12. 37	·1122
13. 12	·1122
13. 57	·1117
	***
15. 5:	·1122
	***
16. 0	·1115
16. 17	·1118
16. 33	·1118
	***
17. 8•	·1121
	***
17. 56	·1122
	***
18. 36	·1118
18. 43	·1116
19. 2	·1114
19. 11	·1110
	***
19. 51	·1105
	***
21. 2	·1095
21. 22	·1092
	***
21. 55	·1089
22. 35	·1099
	(†)
July 16	
	(†)
0. 28	·1108
	***
0. 51	·1119
1. 20:	·1107
1. 43	·1118
2. 3	·1118
2. 12	·1114
2. 19	·1120
2. 24	·1120
2. 39	·1129
3. 3	·1118
3. 8	·1114
3. 29:	·1124
3. 44	·1121
3. 58	·1127
4. 5	·1128
4. 33	·1141
4. 49	·1132
5. 3	·1133
5. 15	·1138
5. 23	·1136
	***
5. 47	·1144
5. 57	·1141
6. 52	·1134
6. 57	·1137
7. 15	·1132
7. 24	·1126
7. 32	·1131
7. 47	·1129
8. 4	·1138
8. 20	·1131
8. 48	·1136
9. 4	·1135
9. 19	·1137
9. 39	·1131
9. 47	·1136
10. 1	·1132
10. 14	·1137
10. 37	·1127
10. 40	·1130
10. 47	·1127
11. 5	·1134
11. 23	·1131
12. 26	·1130
12. 37	·1132
12. 45	·1126
13. 4	·1127
13. 28	·1121
13. 48	·1127
13. 55	·1127
14. 8	·1130
14. 30	·1126
15. 6	·1134
17. 17	·1128
17. 20	·1125
17. 39	·1125
17. 53	·1118
18. 0	·1121
18. 20	·1110
18. 29	·1109

Vertical Force in parts of the whole V. F. uncorrected for Temperature

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
July 16 h m	
0. 0	·01493
2. 10	·01322
2. 35	·01314
4. 7	·01210
4. 40	·01192
8. 4	·01270
10. 46	·01252
14. 27	·01410
15. 37	·01533
16. 47	·01690
16. 52	·01686
19. 6	·01967
19. 12	·01958
20. 11	·02054
21. 5	{ ·01991
	{ ·01318
22. 54	·01294
23. 59	·01182

Readings of Thermometers

Greenwich Mean Solar Time.	Of H. F. Magnet.	Of V. F. Magnet.
July 16 h m	°	°
0. 0	62·9	62·3
1. 0	63·7	63·0
2. 0	64·1	63·4
3. 0	64·6	64·0
6. 0	65·2	65·1
9. 0	64·1	64·3
12. 0	62·3	63·0
18. 0	57·8	56·6
21. 0	60·0	58·3
22. 0	60·6	58·8
23. 0	61·6	60·0

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
July 17	
0. 0	20. 49. 0
0. 22	50: 15
0. 28	50. 0
0. 32	51. 0
0. 41	50. 10
0. 45	51. 0
0. 55	51. 50
1. 15	51. 15
1. 32	52. 50
2. 48	54. 0
4. 0	54. 0
4. 45	53. 0
5. 31	53. 10
6. 16	51. 50 ***
12. 32	50. 0
12. 45	49. 20
12. 57	49. 50
13. 15	48. 50
13. 22	49. 10
13. 52	48. 10
14. 8	48. 55
14. 27	48. 0
15. 9	49. 0
15. 26	48. 30
15. 33	49. 0
16. 0	47. 30
16. 17	48. 10 ***
17. 10	47. 35
17. 25	46. 15
17. 53	46. 55
19. 2	44. 10
19. 45	43. 35
19. 57	42. 0
20. 0	41. 55
20. 48	40. 0
22. 53	47. 35
23. 59	50. 30
July 18	
0. 0	20. 50. 40
0. 22	52. 30
0. 41	51. 30
1. 18	52. 10
1. 33	50. 45
2. 3	49. 10
2. 19	50. 0
2. 57	48. 0 ***
5. 15	48. 15 ***
8. 41	53. 10 ***
11. 48	52. 30 ***
14. 59	53. 10
18. 25	43. 20
20. 4	40. 50
20. 44	41. 0
20. 56	40. 0
21. 46	44. 50
22. 0	44. 45
22. 46	47. 35
23. 59	53. 0

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
July 16	
h m	
18. 38	·1102
19. 13	·1099 ***
20. 17	·1100
20. 53	·1098
21. 15	·1099
21. 25	·1103
21. 32	·1100
21. 45	·1107
21. 54	·1104
21. 59	·1110
22. 17	·1106
22. 59	·1103
23. 43	·1120
23. 59	·1109
July 17	
0. 0	·1109
0. 22	·1113
0. 40	·1111
0. 47	·1116
1. 17	·1113 ***
2. 5	·1123 ***
2. 37	·1123
2. 52	·1125 ***
3. 12	·1124
3. 30	·1126 ***
4. 25	·1126 ***
4. 52:	·1122 ***
5. 14	·1126 ***
5. 53	·1126 ***
6. 43	·1136 ***
6. 53	·1132 ***
7. 18	·1130 ***
7. 38	·1135
8. 22	·1132
8. 43	·1134
9. 0	·1132
9. 32	·1132
9. 58	·1127 ***
11. 3	·1128
11. 30	·1127 ***
11. 49	·1129
12. 14	·1126
12. 31	·1124
12. 37	·1127 ***
12. 58	·1123 ***
13. 32	·1122 ***
14. 39	·1122
14. 55	·1119 ***
15. 39	·1120
16. 7	·1117 ***
16. 25	·1116 ***
17. 10	·1108 ***
18. 58	·1112 ***
19. 52	·1110
20. 10	·1120 ***
21. 31	·1125
21. 47	·1121
22. 32	·1116
22. 51	·1120
23. 37	·1118
23. 53	·1114
23. 59	·1113
July 18	
0. 0	·1113 ***
0. 14	·1115 ***
1. 3	·1106
1. 15	·1110
1. 30	·1104
2. 1	·1104
2. 19	·1109
3. 26	·1106
3. 35	·1107
3. 43	·1104
3. 58	·1104
4. 8	·1097
4. 35	·1099
4. 47	·1096
5. 8	·1098
5. 19	·1096
5. 37	·1100
5. 49	·1096
6. 14	·1098
6. 44	·1098
6. 45	·1095
7. 37	·1094
8. 38	·1088
9. 54	·1087
10. 42	·1088
11. 19	·1092 ***

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
July 17	
0. 0	·01182
3. 44	·00758
4. 59	·00938
6. 27	·01024
10. 18:	·01093
13. 55	·01338
16. 29	·01517
18. 31:	·01608
20. 26	·01541
23. 18	·01448
23. 59	·01370
July 18	
0. 0	·01370
2. 35	·01025
2. 46	{ ·01037 ·01122
4. 15	·01282
4. 23	{ ·01271 ·01322 ***
6. 37	{ ·01298 ·01352
7. 4	{ ·01316 ·01358
7. 51	{ ·01306 ·01362
10. 35:	·01377
12. 45	·01584
16. 14	·01968
18. 57	·02260
23. 59	·02038

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
July 17		
0. 0	62·5	61·1
1. 0	63·5	62·3
2. 0	64·2	63·1
3. 0	65·0	64·0
9. 0	64·2	64·3
21. 0	61·9	60·9
July 18		
1. 0	65·2	64·3
3. 0	66·5	66·1
9. 0	67·0	67·3
21. 0	61·9	60·9

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
July 19	
0. 0	20. 53. 10
1. 4	54. 0
1. 55	52. 50
2. 1	53. 30
2. 52	50. 30
5. 15	48. 0
11. 46	48. 0
14. 46	47. 30
14. 57	47. 0
16. 30	46. 30
16. 42	45. 30 ***
19. 42	42. 10 ***
20. 29	43. 30
21. 35	43. 50
22. 35	47. 0
23. 59	48. 50

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
July 18 h m	
13. 58	·1096
14. 47	·1097
16. 15	·1096
16. 46	·1100
17. 29	·1102
18. 49	·1103
19. 22	·1101
20. 32	·1091
20. 59	·1099
21. 32	·1097
21. 42	·1099
21. 52	·1096
22. 2	·1096
22. 36	·1097
22. 55	·1100
23. 29	·1101 (†)
July 19	(†)
1. 0	·1098*
1. 32	·1102
1. 45	·1094
2. 11	·1115
2. 40:	·1107
4. 11	·1114
4. 54	·1112
5. 15	·1114
5. 47	·1109
6. 0	·1112
6. 15	·1110
7. 13	·1114
7. 30	·1117
8. 4	·1118
8. 17	·1125
9. 38	·1125
11. 17	·1126
11. 45	·1122
12. 2	·1125
12. 58	·1123
13. 2	·1125
13. 35	·1122
13. 57	·1123
14. 2	·1126
14. 25	·1123
14. 44	·1125
15. 10	·1122
16. 42	·1117
16. 56	·1119
17. 50	·1112
18. 1	·1113
18. 18	·1102
19. 7	·1097
20. 0	·1103
20. 24	·1104
20. 58	·1110
21. 52:	·1106

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
July 19	
0. 0	·02038
3. 43	·01937
7. 33	·01746
11. 12:	·01582
14. 30	·01749
17. 42	{ ·02065 ·02028
20. 20	·02036
23. 59	·01934

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
July 19		
1. 0	64·4	63·0
3. 0	65·0	63·9
9. 0	66·8	66·3
23. 40	65·0	64·0

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
July 20	
0. 0	20. 48. 35
0. 18	48. 10
1. 15	51. 0
1. 45	50. 10
3. 54	51. 30
4. 8	51. 5
5. 4	52. 30
6. 3	51. 55
6. 45	53. 10
7. 38	52. 55
8. 7	50. 0
9. 39	53. 30
10. 37	54. 15
11. 34	53. 30
13. 37	53. 10
14. 0	56. 50
14. 53	52. 35
16. 14	51. 50
19. 18	47. 0
20. 36	47. 0
21. 54	51. 0
23. 11	53. 30
23. 59	56. 20
July 21	
0. 0	20. 56. 25
0. 33	57. 10 (†)
1. 0	56. 29*
3. 0	57. 0
3. 57	56. 55 ***
5. 28	54. 30 ***
6. 22	56. 0 ***

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
July 19 h m	
22. 16	·1108
22. 50	·1109
23. 59	·1114
July 20	
0. 0	·1114
0. 55	·1111
1. 11	·1115
1. 48	·1113
2. 12	·1119
2. 35	·1120
2. 49	·1116
3. 6	·1116
3. 10	·1114
3. 30	·1117
3. 57	·1116
4. 11	·1109
4. 46	·1117
5. 0	·1116
5. 26	·1098
5. 48:	·1112
6. 11	·1106
6. 56	·1119
7. 29	·1102
8. 13	·1106
8. 32	·1104
8. 38	·1105
9. 14	·1101
9. 45	·1103
10. 9	·1106
10. 49	·1109
11. 29	·1106
12. 33	·1106
13. 25	·1108
13. 42	·1119
14. 3	·1113
16. 17	·1109
17. 13	·1111
17. 59	·1108
18. 30	·1100
19. 49	·1091
20. 51	·1089
21. 47	·1091
22. 35	·1100 (†)
July 21	(†)
1. 0	·1113*
1. 58	·1104
2. 33	·1106
2. 47	·1102
2. 59	·1107
3. 4	·1102
3. 20	·1107
3. 33	·1106
3. 49	·1109

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
July 20	
0. 0	·01934
1. 0	·01835
1. 44	·01736
2. 26	·01650
4. 59	·01200
5. 16	·01143
5. 30	{ ·01121 ·01166
6. 24	·01252
6. 29	·01272
6. 45	{ ·01248 ·01302
7. 10	{ ·01257 ·01310
7. 39	{ ·01272 ·01335
8. 13	{ ·01286 ·01350
9. 32	·01304
11. 35	·01354
13. 41	·01456
14. 1	·01463
19. 22	·01920
21. 38	·01959
23. 40	·01871
23. 59	·01872
July 21	
0. 0	·01872
3. 15	{ ·01618 ·01662 ***
7. 16	{ ·01759 ·01797
11. 0:	·01900
14. 41	·02288
16. 7	·02198
17. 38	·02020

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
July 20		
9. 15	69·0	69·0
21. 0	64·5	63·4
July 21		
1. 0	66·0	65·4
3. 0	66·9	66·4
9. 0	67·0	67·0
21. 0	60·2	58·9

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.
July 21 h m	° ′ ″
6. 35	20. 55. 0 ***
8. 2	56. 30 ***
9. 1	55. 0 ***
10. 58	55. 55
11. 50	53. 30
16. 13	50. 10
16. 20	46. 10
17. 49	45. 0
17. 57	43. 45
18. 3	44. 20
19. 12	42. 50
19. 15	43. 30
19. 29	42. 0
19. 49	44. 0
20. 29	43. 50
20. 39	44. 30
21. 51	44. 0
21. 55	43. 55
22. 6	43. 0 ***
23. 27	47. 15
23. 57	47. 0
23. 59	47. 10
July 22	
0. 0	20. 47. 10
0. 9	47. 55
1. 9	47. 0
1. 18	48. 0
1. 44	48. 0

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
July 21 h m	
4. 59	·1109
5. 4	·1112
5. 12	·1109
5. 47	·1108
6. 3	·1112
6. 26	·1111
6. 36	·1112
6. 47	·1106
6. 55	·1114
7. 0	·1112
7. 7	·1113
7. 17	·1102
7. 32	·1104
7. 44	·1111
8. 16	·1103
8. 46	·1103
8. 59	·1104
10. 7	·1106
10. 24	·1108
10. 34	·1107
12. 38	·1107
13. 9	·1108
13. 52	·1107
14. 52	·1109 ***
15. 22	·1109 ***
16. 19	·1110 ***
17. 15	·1110
17. 22	·1113
17. 32	·1110
17. 49	·1109 ***
19. 27	·1092
19. 44	·1095
20. 37	·1092
21. 4	·1094
21. 30	·1092
21. 52	·1096
22. 0	·1090
22. 13	·1091
22. 28	·1099
22. 39	·1095
22. 59	·1105
23. 9	·1105
23. 17	·1100
23. 28	·1108
23. 35	·1104 ***
23. 59	·1104
July 22	
0. 0	·1104
0. 5	·1108
0. 13	·1102
0. 31	·1115
1. 0	·1112

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
July 21 h m	
18. 50	{ ·01850 ·01398 }
20. 22	{ ·01403 ·01362 }
21. 22	·01357
22. 12	·01218
23. 59	·01064
July 22	
0. 0	·01064
1. 3	{ ·00950 ·00911 }
4. 31	·00564
7. 32:	·00450

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
July 2		
1. 0	64·1	63 1
3. 0	65·9	65·1
9. 0	66·3	66·7
21. 0	60·6	60·9
22. 0	60·7	61·0

Greenwich Mean Solar Time.	Western Declination.
July 22 h m	° ′ ″
2. 6	20. 48. 30
2. 14	42. 50
2. 35	48. 0
2. 45	49. 0
3. 57	50. 20
4. 24	49. 50
4. 50	50. 35
5. 30	50. 10
6. 37	51. 30
7. 9	49. 0
7. 30	50. 0
8. 36	48. 35
9. 45	50. 40
11. 53	49. 0
12. 7	50. 0
12. 23	48. 15
12. 30	48. 45
12. 37	47. 10
13. 37	46. 15
13. 41	47. 0
13. 58	45. 15
14. 42	45. 15
14. 51	46. 0
15. 18	43. 40 ***
16. 27	43. 10
16. 33	45. 55
16. 57	40. 25
17. 3	41. 40
17. 33	34. 25
17. 55	42. 55
18. 2	42. 55
18. 13	45. 25
18. 26	43. 25
18. 29	44. 0
18. 43	42. 30
18. 48	44. 20
18. 57	42. 0
19. 0	42. 55
19. 7	41. 15
19. 22	42. 50
19. 38	38. 45
19. 52	39. 15
20. 3	41. 55
20. 15	41. 5
20. 32	46. 10
20. 43	44. 0
20. 48	45. 0
20. 57	43. 0
21. 0	44. 30
21. 17	43. 15 ***
22. 9	46. 20
22. 15	46. 0
22. 22	47. 30
22. 53	47. 10
23. 40	51. 10
23. 59	51. 0

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
July 22 h m	
1. 10	·1114
1. 31	·1111
1. 43	·1113
2. 10	·1114
2. 44	·1111
3. 8	·1114
3. 22	·1113
3. 52	·1115
4. 5	·1113
4. 30:	·1103
4. 49	·1112
4. 56	·1107
5. 26	·1106
5. 43	·1111
5. 55	·1106
6. 24	·1108
6. 32	·1113
6. 41	·1113
7. 2	·1102
7. 54	·1113
8. 12	·1112
8. 20	·1114
8. 44	·1105
9. 33	·1109
10. 1	·1109
10. 39	·1114 ***
11. 4	·1112
11. 24	·1117
11. 32	·1112
11. 59	·1127
12. 4	·1118
12. 7	·1123
12. 15	·1117
12. 22	·1128
12. 27	·1114
12. 35	·1132
12. 40	·1116
12. 46	·1116
12. 51	·1124
12. 57	·1120
13. 7	·1126
13. 16	·1118
13. 22	·1121
13. 29	·1114
13. 34	·1120
14. 10:	·1113
14. 56	·1123 ***
15. 14	·1112
15. 28	·1118 ***
16. 27	·1122
16. 36	·1117
17. 8	·1113
17. 31	·1103
18. 7	·1115
18. 17	·1111

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
July 22 h m	
12. 12	·00562
12. 18	·00557
12. 25	·00582
12. 30	·00570
14. 57	·00744
17. 29	·00975
19. 22	·01062
19. 34	·01078
20. 28	{ ·01110 ·01037 }
22. 35	{ ·01058 ·01016 }
23. 46	·01022 (†)

Greenwich Mean Solar Time.	Readings of Thermometers. Of H.F. Magnet.	Of V. F. Magnet.
July 22 h m	°	°
23. 0	61·0	61·3

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Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
July 23	
0. 0	20. 51. 0
0. 34	52. 10
0. 48	55. 10
1. 21	55. 30
1. 27	57. 0
1. 33	20. 56. 10
1. 59	21. 0. 0
2. 36	20. 56. 0
2. 53	57. 35
2. 58	56. 45
3. 10	56. 30
3. 15	57. 15
3. 25	56. 0
3. 41	56. 30
3. 47	55. 45
4. 7	56. 0
4. 29	54. 0
5. 0	53. 45
5. 5	53. 0
5. 12	53. 30
5. 16	53. 0
5. 30	54. 30
5. 50	51. 50
5. 57	53. 20
6. 15	49. 30
6. 21	49. 45
6. 25	47. 55
6. 45	46. 10
7. 2	48. 50
7. 38	48. 35
7. 59	47. 0
8. 14	43. 30
8. 33	52. 40
8. 57	45. 30
9. 15	46. 55
9. 46	41. 30
10. 12	44. 0
10. 28	42. 40
10. 45	47. 0
11. 1	41. 50
11. 6	43. 30
11. 30	26. 30
11. 45	35. 30
12. 23	38. 0
12. 49	36. 0
12. 54	20. 36. 15
13. 23	44. 25
13. 44	44. 30
14. 4	42. 40
14. 15	44. 40
14. 44	44. 50
15. 7	46. 40
15. 39	43. 35
15. 53	44. 10
15. 58	43. 40
16. 3	44. 20
16. 7	43. 35
16. 15	44. 50
16. 25	41. 30
16. 55	39. 40
17. 2	43. 30
17. 15	41. 10
17. 21	41. 35
17. 30	40. 20
17. 40	43. 15
17. 45	43. 0
17. 53	45. 10
17. 57	44. 20
18. 0	45. 15
18. 11	44. 0
18. 25	47. 0
18. 40	43. 15
18. 41	43. 50
18. 45	43. 0
18. 56	45. 0
19. 9	48. 30
19. 15	47. 30
19. 30	49. 25
20. 0	44. 15
20. 15	45. 0
20. 30	44. 10
20. 37	43. 10
20. 45	44. 0
21. 18	41. 0
21. 33	42. 10
21. 39	41. 50
21. 46	43. 10
21. 54	42. 15
22. 21	43. 55
22. 36	43. 15
23. 59	44. 25
July 24	
0. 0	20. 44. 30
0. 34	44. 0
2. 20	46. 10
2. 47	44. 50
2. 55	45. 10
3. 25	44. 50
3. 34	46. 10
5. 22	44. 40
5. 42	42. 15
6. 25	41. 40

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
July 22	
h m	
19. 13	·1113
19. 42	·1107
20. 3	·1110
20. 41	·1108
20. 51	·1110
20. 58	·1106
21. 2	·1113
21. 21	·1108
21. 30	·1120
22. 17	·1106
23. 59	·1115
July 23	
0. 0	·1115
0. 27	·1116
0. 54	·1127
1. 8	·1122
1. 26	·1119
1. 30	·1122
1. 36	·1120
2. 5	·1144
2. 21	·1124
2. 39	·1112
2. 55	·1128
3. 2	·1124
3. 6	·1128
3. 11	·1124
3. 19	·1131
3. 33	·1126
3. 40	·1131
3. 59	·1127
4. 18	·1133
4. 29	·1130
4. 45	·1135
4. 55	·1145
5. 2	·1142
5. 13	·1144
5. 30	·1167
5. 47	·1152
5. 53	·1162
6. 10	·1137
6. 18	·1152
6. 39	·1149
6. 57	·1152
7. 17	·1135
7. 30	·1138
8. 2	·1122
8. 22	·1150
8. 37	·1126
8. 53	·1116
9. 22	·1109
9. 33	·1112
9. 50	·1134
10. 10	·1124
10. 30	·1126
10. 46	·1111
11. 3	·1131
11. 9	·1125
11. 30	·1160
12. 6	·1119
12. 16	·1124
	***
13. 35	·1110
13. 50	·1101
14. 59	·1121
	***
16. 28	·1115
16. 34	·1124
17. 10	·1110
17. 17	·1116
17. 47	·1102
18. 22	·1095
19. 0	·1090
19. 10	·1092
19. 15	·1088
19. 25	·1096
19. 41	·1086
20. 2	·1098
20. 17	·1095
20. 30	·1100
21. 16	·1100
21. 37	·1102
22. 15	·1090
22. 55	·1107
23. 59	·1107
July 24	
0. 0	·1107
0. 32	·1098
0. 49	·1107
0. 55	·1107
	***
2. 7	·1113
2. 25	·1122
3. 32	·1113
3. 47	·1128
4. 10	·1114

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
July 23	
	(†)
0. 46	·01018
1. 14	·01028
	·00970
2. 19	·01000
2. 44	·00980
3. 4	·00990
4. 1	·00977
4. 9	·00958
5. 20	·00956
5. 29	·00968
5. 51	·00962
5. 58	·00977
6. 14	·00960
6. 27	·00978
7. 12	·00975
7. 22	·00958
8. 2	·00950
8. 21	·00957
8. 42	·00857
9. 16	·00842
9. 53	·00878
10. 31	·00853
10. 46	·00800
11. 0	·00842
11. 9	·00826
11. 26	·00875
12. 4	·00880
12. 35	·00948
13. 20	·01012
	·00950
15. 9	·01038
	·01000
15. 58	·01072
	·01048
16. 46	·01101
	·01070
17. 39	·01122
	·01082
18. 32	·01122
	·01078
19. 44	·01098
	·01055
21. 2	·01083
	·01032
22. 30	·00997
23. 44	·01008
	·00957
23. 59	·00968
July 24	
0. 0	·00968
1. 34	·00963
1. 40	·00948
3. 33	·00840
3. 45	·00844
6. 43	·00675
7. 17	·00620
9. 15	·00498
9. 35	·00454
10. 9	·00438

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
July 23		
0. 0	61 ·5	61 ·8
1. 0	62 ·0	62 ·1
2. 0	62 ·4	62 ·6
3. 0	62 ·9	63 ·0
6. 0	63 ·6	64 ·0
9. 0	63 ·4	64 ·0
12. 0	62 ·0	62 ·0
18. 0	60 ·0	60 ·2
21. 0	60 ·5	60 ·4
22. 0	61 ·0	60 ·9
23. 0	61 ·5	61 ·3
July 24		
0. 0	62 ·1	61 ·9
1. 0	62 ·9	62 ·4
2. 0	64 ·0	63 ·2
3. 0	64 ·9	64 ·0
9. 0	67 ·8	67 ·7
21. 0	64 ·9	64 ·0

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
July 24		July 24		July 24				
h m	° ′ ″	h m		h m		h m	°	°
7.16	20.44.40	4.38	·1108	10.52	·00374			
7.57	43.20		***	11. 8	·00386			
8.23	35.10	5.14	·1118	11.21	·00380			
8.34	38. 0	5.21	·1117	11.37	·00418			
8.54	38. 0	5.39	·1124	13.39	·00500			
9.15	43.30	5.52	·1120	14. 5	·00542			
9.37	43. 0		***	16.14	·00695			
10.15	46.10	6.29	·1127	19. 1	·00776			
10.30	45.10		***	21.18	·00760			
10.45	40.50	6.54	·1123	23.59	·00583			
11. 0	38.55		***					
11.18	32. 0	7. 8	·1124					
11.32	35.30	7.29	·1130					
11.44	35.15	7.35	·1129					
11.51	37. 0	7.48	·1133					
12. 5	34.10	8.21	·1117					
13.10	28.20	8.36	·1126					
13.31	37.50	8.50	·1122					
14. 2	44. 0	9. 4	·1135					
14.36	42.50	9.30	·1123					
14.56	42.30	10. 8	·1143					
15. 9	40.15	10.20	·1136					
15.23	40.25	10.45	·1088					
	***	10.59	·1094					
16. 2	42.50	11. 5	·1089					
16.13	44.20	11.30	·1120					
	***	11.47	·1117					
17. 8	42. 0	12. 1	·1112					
17.24	43. 0		***					
18. 0	41.55	12.47	·1112					
	***		***					
18.45	37.10	13.30	·1094					
19.46	39.25	13.40	·1096					
20.12	42.30		***					
20.36	41. 0	14.10	·1112					
21.46	43. 0	14.17	·1109					
22.51	48.10	14.45	·1111					
23.17	48.40	14.55	·1114					
23.38	52.10	15. 2	·1109					
23.59	51. 0	15.16	·1111					
			***					
		16.11	·1106					
			***					
		17. 8	·1107					
		17.43	·1098					
		17.53	·1102					
		18.24	·1094					
		19. 0	·1106					
		19.20	·1106					
		19.44	·1100					
			***					
		20.40	·1098					
			***					
		21. 4	·1094					
		21.19	·1096					
			***					
		21.47	·1097					
			***					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
		July 24						
h m	° ′ ″	h m		h m		h m	°	°
		22.18	·1088					
			***					
		22.52	·1103					
			(†)					
		23.43	·1070					
		23.59	·1092					
July 25		July 25		July 25		July 25		
0. 0	20.50.50	0. 0	·1092	0. 0	·00583	1. 0	68·3	67·9
0. 5	51. 0	0.23	·1114	0.26	·00554	3. 0	70·1	69·9
0.16	52.30	1. 4	·1102	1.58	·00272	9. 0	71·8	72·2
1. 3	52.15	1.18	·1103	2.30	·00238	21. 0	66·5	64·9
1.22	51. 0	1.29	·1098	3.56:	·00672			
1.32	51. 0	1.43	·1106	5.45	{ ·01002			
1.46	49.15	1.52	·1099		·01070			
1.53	50. 5	1.58	·1108		***			
2. 5	49.10	2. 7	·1110	7.30	{ ·01038			
2.12	48.10	2.17	·1101		·01134			
2.25	48. 0	2.30	·1102	8.14	{ ·01018			
2.33	48.50	2.37	·1109		·01110			
2.44	48. 0	2.54	·1108	11.13	·01027			
2.52	48.10	3. 0	·1111	14.11	·01250			
3.13	44.40	3.19	·1091	19.53	·01938			
3.25	45. 0	3.31	·1100	21.21	{ ·02040			
4.16	42.40	3.37	·1095		·01862			
4.33	40.55	4. 1	·1100	23.59	·01743			
4.42	41.30	4. 7	·1092					
4.52	40.55	4.27	·1102					
5.16	41.35	4.32	·1100					
5.53	39.30	4.46	·1102					
6.19	39.40	4.59	·1096					
6.37	38.50	5.33	·1099					
6.53	40. 0	5.47	·1106					
7.15	39. 5	6.20	·1104					
7.50	40.30	6.32	·1106					
8. 3	40. 0	6.38	·1103					
8.45	43.50	6.59	·1112					
9.38	43.30	7.22	·1112					
9.51	45.15	7.47	·1120					
10. 6	44.40	8.17	·1102					
10.44	48.20	8.25	·1104					
11.15	46.20	8.45	·1099					
11.51	48.15	8.53	·1102					
12.12	47.50	9.15	·1097					
12.21	48.10	9.46	·1096					
12.42	47.30	9.58	·1106					
12.56	48.15	10.12	·1094					
13. 9	46.20	10.35	·1096					
13.17	46.20	10.44	·1104					
13.30	48.50	10.59	·1097					
14. 2	47.30	11.20	·1094					
14.33	49. 0	11.59	·1095					
15.46	45. 0	12.35	·1092					
16.29	44.30	12.47	·1095					
16.48	45.10	13. 3	·1091					
17. 8	44.30	13.58	·1089					
17.18	45.15	15. 5	·1094					
17.33	44.10	16.16	·1093					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.
July 25 h m	° ′ ″
17. 45	20. 43. 30
17. 53	44. 10
18. 1	43. 50
18. 11	44. 10
18. 32	42. 35
18. 48	45. 20
19. 7	43. 0
20. 56	40. 0
21. 30	41. 0
22. 20	44. 40
22. 31	44. 30
	***
23. 59	54. 50
July 26	
0. 0	20. 55. 0
1. 9	59. 30
1. 37	58. 10
2. 14	58. 20
2. 54	56. 0
3. 30	56. 50
	***
4. 35	54. 10
	***
5. 57	53. 55
6. 6	54. 10
6. 19	53. 0
	***
7. 23	55. 0
8. 16	54. 50
8. 30	53. 30
	***
10. 0	53. 45
	***
10. 37	57. 0
	***
11. 11	54. 30
11. 28	55. 50
11. 45	52. 55
12. 27	51. 30
12. 40	52. 20
	***
15. 48	51. 0
	***
16. 19	52. 10
17. 41	48. 10
18. 2	49. 0
	***
18. 26	47. 10
	***
19. 53	49. 35
20. 7	48. 25
20. 23	49. 0
20. 50	48. 0
21. 30	50. 0
21. 37	48. 35
21. 59	49. 45
22. 19	49. 0

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
July 25 h m	
16. 30	·1098
17. 4	·1095
17. 28	·1086
17. 47	·1086
18. 4	·1066
	(†)
21. 0	·1096*
23. 59	·1082
July 26	
0. 0	·1082
0. 5	·1087
0. 19	·1082
0. 32	·1091
0. 40	·1087
0. 52	·1092
1. 2	·1091
1. 27	·1089
1. 55	·1095
2. 7:	·1109
2. 32	·1079
2. 58	·1077
3. 8	·1084
3. 15	·1077
3. 28	·1085
4. 0	·1079
	***
4. 52	·1089
	***
5. 20	·1081
5. 30	·1086
5. 55	·1073
6. 7	·1077
	***
7. 27	·1084
7. 45	·1080
8. 7	·1089
8. 26	·1080
8. 49	·1079
9. 0	·1083
9. 8	·1079
9. 33	·1083
9. 52	·1082
	***
11. 18	·1090
	***
12. 2	·1084
12. 10	·1086
12. 20	·1084
	***
15. 32	·1093
	***
16. 0	·1092

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
July 26	
0. 0	·01743
1. 44	·01528
4. 1	·01090
5. 0	·00920
5. 10	·00906
5. 50	·01016
7. 3	{·01124
	·01178}
8. 13	{·01118
	·01214}
9. 27	·01200
11. 31	·01338
16. 43	{·02077
	·02028}
20. 4	·01787
20. 8	·01760
20. 43	·01782
20. 56	·01755
22. 33	·01780
	(†)

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
July 26		
1. 0	71·2	69·8
3. 0	73·9	73·0
9. 18	74·0	73·2
22. 34	65·2	64·2

Greenwich Mean Solar Time.	Western Declination.
July 26 h m	° ′ ″
23. 0	20. 51. 0
23. 37	52. 25
23. 59	52. 10
July 27	
0. 0	20. 52. 10
0. 36	53. 30
1. 15	53. 45
1. 39	56. 0
2. 44	53. 45
3. 0	54. 55
3. 8	53. 55
3. 28	54. 0
	***
5. 0	50. 0
	***
6. 18	50. 0
6. 54	52. 0
7. 17	51. 0
	***
8. 29	51. 0
8. 45	53. 0
9. 17	49. 0
9. 36	51. 5
9. 52	51. 10
10. 15	53. 0
10. 22	52. 15
11. 29	53. 30
11. 55	50. 45
12. 56	52. 30
13. 22	56. 50
13. 52	57. 5
14. 45	51. 50
16. 3	49. 50
16. 24	50. 35
17. 7	48. 0
17. 27	49. 0
17. 57	48. 40
18. 44	50. 50
19. 50	49. 20
20. 6	50. 30

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
July 26 h m	
16. 15	·1095
16. 46	·1090
17. 8	·1094
	***
17. 52	·1088
18. 2	·1090
	***
18. 34	·1078
	***
19. 2	·1076
	***
20. 11	·1065
	***
21. 53	·1066
22. 15	·1078
22. 45	·1077
23. 0	·1084
23. 35	·1092
23. 53	·1089
23. 59	·1090
July 27	
0. 0	·1090
0. 22	·1096
0. 52	·1090
1. 15	·1088
1. 33	·1096
2. 9	·1095
2. 20	·1100
2. 57	·1094
3. 6	·1099
3. 22	·1095
4. 0:	·1104
4. 25	·1092
4. 46	·1098
5. 12	·1090
5. 51	·1087
6. 19	·1088
6. 50	·1082
7. 25:	·1094
8. 0:	·1087
8. 34	·1101
8. 47	·1101
8. 58	·1093
9. 10	·1091
9. 28	·1096
9. 48	·1090
10. 17	·1083
10. 45	·1080
11. 32:	·1086
12. 6	·1081
12. 35	·1076
	***
14. 7	·1098
14. 42	·1092
16. 37	·1092
17. 30	·1088
18. 1	·1075

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
July 27	
0. 0	·01374
2. 3	·01142
4. 57	·00622
5. 17	{·00591
	·00620}
	***
7. 7	{·00616
	·00663}
7. 42	{·00632
	·00676}
10. 52:	·00757
13. 46	·01116
15. 0	·01255
16. 36	·01521
17. 43	·01340
17. 51	·01305
18. 3	{·01312
	·00897}
20. 28	{·00972
	·00920}
21. 15	{·00928
	·00892}
23. 59	·00754

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
July 27		
9. 0	69·4	69·8
21. 0	59·5	58·9

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
July 27		July 27						
h m	° ′ ″	h m		h m		h m	°	°
20. 23	20. 48. 50	18. 20	·1068					
21. 50	48. 15	19. 11	·1063					
22. 30	49. 20	20. 13	·1069					
23. 28	52. 50	20. 18	·1063					
23. 59	53. 0	21. 21	·1054					
		21. 39	·1058					
		22. 5	·1052					
		22. 22	·1055					
		22. 30	·1051					
		22. 53	·1061					
		23. 2	·1061					
		23. 16	·1066					
		23. 42	·1068					
			(†)					
July 28		July 28		July 28		July 28		
0. 0	20. 52. 55		(†)	0. 0	·00754	1. 0	64 ·0	63 ·5
0. 30	53. 30	1. 0	·1100*	1. 41	·00583	3. 0	66 ·8	66 ·5
1. 11	53. 0	1. 4	·1097	2. 3	·00558	9. 0	68 ·0	68 ·5
1. 23	54. 25	1. 29	·1106	5. 12	·00114	21. 0	61 ·1	60 ·9
1. 42	53. 5	2. 9	·1114	6. 38	—·00040			
2. 9	53. 50	2. 19	·1110	7. 2	{ —·00025			
2. 17	53. 10	2. 40	·1113		·00050			
3. 23	52. 50	3. 36	·1107	7. 18	{ ·00038			
3. 32	53. 20	4. 16	·1113		·00091			
3. 45	52. 50	5. 4	·1105	7. 54	{ ·00035			
3. 58	53. 0	5. 48	·1110		·00083			
	***	6. 8	·1105	9. 46	·00068			
4. 47	50. 50	6. 26	·1110	11. 37	·00160			
5. 0	51. 0	6. 41	·1105	12. 41	·00184			
5. 15	50. 50	7. 13	·1101	13. 10	·00227			
5. 48	51. 35	7. 24	·1104	13. 44	·00263			
5. 56	52. 15	7. 48	·1098	14. 41	·00401			
6. 8	51. 20	8. 29	·1099	19. 3	·00918			
	***	8. 37	·1102	19. 13	·00922			
7. 23	53. 50	9. 0	·1104	19. 46	{ ·00972			
7. 42	52. 25	9. 15	·1101		·00920			
	***	9. 35	·1103	20. 20	{ ·00978			
8. 16	54. 0	10. 3	·1097		·00940			
	***	10. 17	·1104	20. 56	{ ·00986			
9. 38	53. 50	10. 36	·1102		·00941			
10. 9	51. 35	10. 53	·1094	21. 33	{ ·00963			
10. 15	51. 55	11. 27	·1102		·00917			
11. 9	48. 0	11. 53	·1110	22. 13	·00922			
11. 56	52. 0	12. 2	·1105	22. 44	{ ·00881			
12. 22	48. 35	12. 10	·1116		·00840			
12. 30	50. 10	12. 23	·1114	23. 59	·00752			
12. 56	47. 0	12. 38	·1101					
13. 15	54. 40	12. 41	·1102					
13. 45	48. 50	12. 58	·1097					
14. 13	46. 35	13. 13	·1094					
14. 38	51. 45	13. 20	·1096					
14. 50	51. 0	13. 36	·1110					
	***	13. 59	·1105					
15. 57	51. 30	14. 29	·1089					
	***	14. 55	·1097					
17. 30	46. 0	15. 1	·1101					
	***	15. 16	·1099					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
July 28		July 28						
h m	° ′ ″	h m		h m		h m	°	°
17. 53	20. 47. 0	15. 30	·1102					
18. 9	46. 0		***					
18. 56	47. 25	16. 47	·1105					
19. 13	42. 5		***					
19. 20	43. 35	17. 36	·1099					
19. 38	44. 20		***					
19. 51	43. 50	20. 18	·1087					
20. 10	45. 0	20. 43	·1070					
20. 27	43. 50	20. 56	·1073					
20. 46	46. 10	21. 31	·1069					
22. 35	50. 25	21. 59	·1072					
22. 54	50. 0	22. 33	·1092					
23. 13	51. 40	22. 43	·1097					
23. 22	51. 50	23. 6	·1100					
23. 53	54. 55	23. 16	·1093					
23. 57	54. 45	23. 22	·1093					
23. 59	54. 55	23. 25	·1093					
		23. 42	·1099					
		23. 47	·1096					
		23. 53	·1101					
		23. 59	·1098					
July 29		July 29		July 29		July 29		
0. 0	20. 54. 55	0. 0	·1098	0. 0	·00752	1. 0	66 ·7	66 ·4
0. 57	56. 0		***	0. 35	·00683	3. 0	69 ·6	69 ·4
1. 24	57. 45	0. 30	·1095	4. 7	·00047	9. 0	69 ·4	69 ·6
1. 57	56. 0	0. 49	·1098		***	21. 0	61 ·9	63 ·0
2. 5	56. 25	1. 18	·1100	6. 48	·00022	22. 0	62 ·0	63 ·0
2. 24	53. 55	1. 38	·1096	6. 55	·00043	23. 0	62 ·5	63 ·1
2. 30	54. 45	1. 49	·1098	7. 5	{ ·00042			
2. 48	53. 0	2. 3	·1093		·00097			
3. 18	53. 10	2. 7	·1095	9. 2	·00108			
3. 48	54. 30	2. 22	·1086	17. 24	·00752			
3. 57	53. 30	2. 53	·1109	20. 9	{ ·00925			
4. 15	54. 50	3. 14	·1113		·00872			
4. 28	53. 40	3. 43	·1103	20. 46	{ ·00920			
4. 49	53. 50	4. 15	·1098		·00844			
5. 12	52. 0	4. 32	·1100	22. 37	·00958			
5. 48	53. 0	4. 43	·1085	23. 59	·00910			
6. 18	56. 30	4. 58	·1089					
7. 2	56. 50	5. 16	·1086					
8. 7	52. 55	5. 24	·1080					
	***	5. 31	·1084					
9. 18	55. 25	6. 1	·1075					
	***		***					
12. 24	53. 55	7. 8	·1086					
13. 51	54. 25	7. 23	·1083					
14. 11	53. 10	7. 36	·1089					
14. 25	54. 25	8. 2	·1090					
14. 53	53. 10	8. 17	·1097					
15. 34	53. 30	8. 32	·1088					
16. 45	51. 10	10. 5	·1084					
17. 27	51. 0		***					
17. 35	49. 30	12. 6	·1084					
17. 44	52. 30		***					
18. 12	50. 15	13. 45	·1092					
18. 30	52. 0	14. 7	·1088					
18. 52	51. 10	14. 57	·1089					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.
July 29 h m	° ′ ″
19. 0	20. 52. 30
	***
19. 40	52. 0
20. 8	54. 0
20. 33	53. 0
20. 45	53. 15
21. 11	51. 50
21. 30	52. 0
21. 41	51. 10
22. 0	51. 30
	***
23. 57	59. 0
23. 59	58. 40
July 30	
0. 0	20. 58. 20
	***
1. 46	21. 0. 0
2. 15	20. 59. 0
2. 31	21. 0. 0
2. 57	20. 58. 20
3. 5	59. 0
4. 1	56. 30
4. 49	56. 30
5. 2	55. 10
5. 34	53. 50
6. 20	53. 0
6. 51	46. 50
7. 6	49. 40
7. 17	50. 0
7. 35	52. 15
7. 59	52. 15
	***
9. 21	55. 50
10. 9	54. 25
10. 21	56. 0
10. 39	51. 40
10. 54	50. 25
11. 8	50. 35
11. 45	48. 0
12. 42	49. 10
12. 59	48. 30
14. 44	57. 0
15. 30	53. 50
	***
17. 21	52. 0
17. 30	50. 50
18. 48	47. 10
18. 59	47. 30
19. 15	46. 20
19. 26	46. 50
20. 2	46. 0
20. 41	46. 15
21. 2	45. 50
21. 40	46. 30
23. 35	20. 53. 0
23. 59	54. 35
July 31	
0. 0	20. 54. 40
0. 5	54. 30
1. 15	58. 0
	***
4. 46	52. 50
	***
10. 24	54. 0
	***
11. 14	51. 25
12. 33	53. 0
	***
13. 26	51. 10
	***
15. 33	51. 30
15. 45	52. 30
	***
17. 8	52. 20
17. 50	54. 0
18. 3	53. 0
18. 20	54. 0
18. 37	53. 10
18. 56	53. 45
19. 4	53. 0
19. 25	53. 10
19. 48	51. 0
	***
20. 58	50. 25
21. 41	52. 0
22. 30	51. 40
22. 51	53. 0
22. 57	52. 10
23. 59	55. 30

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
July 29 h m	
15. 35	·1094
16. 41	·1094
16. 54	·1090
17. 43	·1092
18. 4	·1090
18. 30	·1094
18. 45	·1091
18. 52	·1092
19. 34	·1086
20. 2	·1089
20. 45	·1088
21. 35	·1080
21. 40	·1081
22. 0	·1075
23. 20	·1066
23. 59	·1069
July 30	
0. 0	·1069
0. 12	·1069
0. 49	·1090
1. 19	·1091
2. 8	·1106
2. 17	·1106
2. 40	·1115
2. 55	·1107
3. 24	·1119
3. 43	·1114
3. 52	·1116
4. 6	·1107
5. 0	·1120
5. 13	·1116
	***
5. 50	·1121
6. 24	·1119
6. 44	·1113
7. 2	·1125
7. 17	·1115
7. 25	·1116
8. 17	·1107
8. 30	·1104
9. 6	·1105
9. 17	·1108
10. 0	·1107
10. 23	·1125
10. 42	·1109
10. 49	·1111
11. 10	·1108
11. 32	·1100
11. 57	·1101
	***
13. 21	·1095
	***
14. 17	·1097
15. 0	·1101
15. 33	·1100
	***
17. 3	·1102
17. 15	·1106
17. 29	·1103
	***
18. 0	·1102
18. 34	·1096
19. 17	·1095
19. 40	·1090
	***
21. 31	·1084
21. 47	·1080
23. 0	·1079
23. 59	·1086
July 31	
0. 0	·1089
0. 44	·1097
1. 16	·1099
	***
2. 45	·1097
	***
3. 36	·1102
	***
4. 36	·1099
	***
6. 52	·1103
	***
8. 12	·1110
8. 45	·1113
9. 1	·1116
	***
10. 45	·1115
11. 3	·1120
11. 17	·1116
11. 47	·1115
12. 11	·1118
12. 25	·1114
13. 15	·1108
	***
15. 32	·1106
15. 58	·1109
17. 7	·1112
	***
17. 29	·1110
	***
17. 56	·1111
	***
18. 49	·1095
	***
19. 17	·1097
19. 45	·1092
19. 57	·1094
20. 11	·1090
20. 35	·1091
21. 4	·1089
21. 44	·1096
	***
22. 32	·1093
22. 51	·1084

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
July 30	
0. 0	·00910
1. 51	·00752
4. 59	·00371
6. 44	{·00250 ·00268
7. 23	{·00217 ·00258
8. 40	·00200
10. 15	·00233
10. 33	·00230
13. 34	·00425
17. 17	·00876
19. 11	{·01082 ·00665
22. 42	{·00564 ·00532
23. 59	·00470
July 31	
0. 0	·00470
0. 29	{·00456 ·00428
2. 15	·00324
8. 3:	—·00205
12. 31	·00006
17. 59	·00592
18. 22	{·00604 ·00555
19. 6	{·00598 ·00558
20. 2	{·00597 ·00560
21. 10	{·00584 ·00540
22. 6	·00503
23. 12	·00412
	(†)

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
July 30		
0. 0	63·5	64·0
1. 0	65·0	65·0
2. 0	66·1	66·2
3. 0	67·3	68·3
6. 0	69·4	69·3
9. 0	69·3	69·5
12. 0	66·0	65·7
18. 0	61·4	61·9
21. 0	61·6	61·4
22. 0	62·2	62·1
23. 0	63·4	63·0
July 31		
0. 0	64·5	64·0
1. 0	65·9	65·0
2. 0	67·2	66·4
3. 0	68·6	68·0
9. 0	69·0	68·9
21. 0	63·9	62·3

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

July 31. Horizontal Force

Greenwich Mean Solar Time (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature
23. 1	·1092 ***
23. 56	·1097
23. 59	·1098

Aug. 1. Western Declination

Greenwich Mean Solar Time (h m)	Western Declination (° ′ ″)
0. 0	20. 55. 30 ***
1. 7	58. 20
1. 34	57. 45 ***
3. 0	58. 55
3. 9	58. 10
3. 22	58. 30
3. 27	57. 45
3. 38	58. 10
3. 45	59. 5
3. 57	57. 10
5. 6	54. 55
5. 15	55. 15
7. 2	55. 0
7. 32	56. 10
8. 11	54. 30
9. 2	55. 0
9. 50	56. 0
10. 47	53. 50 ***
11. 34	55. 0 ***
12. 26	53. 5
13. 37	52. 50
14. 14	53. 20
14. 32	57. 25
15. 14	53. 30
16. 3	52. 0
16. 50	53. 0
17. 9	51. 30
17. 30	51. 10
17. 45	50. 10
18. 0	51. 0
18. 26	48. 55
21. 30	49. 15
23. 59	55. 45

Aug. 1. Horizontal Force

Greenwich Mean Solar Time (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature
0. 0	·1098
0. 7	·1100
0. 18	·1094
0. 40	·1093
1. 7	·1086
1. 20	·1084
1. 46	·1089
2. 10	·1087
2. 23	·1089
2. 32	·1087
	(†)
3. 0	·1121*
9. 0	·1092*
20. 43	·1084
20. 59	·1083 ***
21. 31	·1077
22. 8	·1077 ***
23. 1	·1082
23. 41	·1098 ***
23. 49	·1096
23. 59	·1098

Aug. 1. Vertical Force

Greenwich Mean Solar Time (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature
0. 0	·00300
0. 51	·00218
1. 48	·00080
	(†)
3. 0	−·00119*
9. 0	·00134*
20. 44	·00760
20. 52	·00727
21. 34	{·00749 ·00720}
22. 15	{·00723 ·00677}
23. 32	·00605
	(†)

Aug. 1. Readings of Thermometers

Greenwich Mean Solar Time (h m)	Of H. F. Magnet (°)	Of V. F. Magnet (°)
1. 0	69·0	67·8
3. 0	72·3	71·0
9. 0	73·0	72·2
21. 0	62·0	62·0

Aug. 2. Western Declination

Greenwich Mean Solar Time (h m)	Western Declination (° ′ ″)
0. 0	20. 55. 45
1. 40	55. 35
1. 45	54. 10
1. 56	57. 0
2. 6	55. 10
2. 15	56. 40
2. 28	53. 55
3. 8	52. 30 ***
3. 53	52. 35
4. 45	53. 40 ***
6. 8	53. 0 ***
7. 0	20. 53. 25
8. 10	53. 10 ***
9. 11	55. 40
10. 39	53. 0
11. 57	53. 10
12. 17	54. 30
14. 0	56. 10
15. 20	51. 10
15. 44	52. 45
15. 54	52. 0
16. 27	53. 10
16. 57	49. 30 ***
17. 30	50. 40
18. 0	50. 45 ***
19. 0	48. 40 ***
20. 2	50. 0
20. 23	49. 35
20. 54	50. 30
21. 17	50. 0
22. 37	51. 50
23. 2	53. 50
23. 9	53. 10
23. 59	57. 20

Aug. 2. Horizontal Force

Greenwich Mean Solar Time (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature
0. 0	·1098
0. 37	·1100
1. 0	·1104
1. 19	·1101
1. 52	·1100
2. 3	·1104
2. 10	·1102
2. 25	·1104
2. 33	·1102
2. 48	·1105
3. 0	·1113
3. 17	·1105
3. 46	·1112
4. 1	·1106
4. 20	·1104
4. 36	·1105
5. 3	·1100
5. 34	·1089
6. 7	·1091
6. 37	·1098
7. 5	·1098
7. 13	·1101
7. 34	·1102
7. 49	·1097 ***
9. 5	·1102
9. 15	·1105 ***
10. 35	·1095 ***
11. 24	·1095
11. 40	·1098
12. 10	·1098
12. 39	·1099
13. 17	·1097
13. 53	·1102
14. 17	·1101
14. 50	·1105
15. 20	·1102
15. 56	·1104
16. 27	·1109
16. 58	·1104
17. 47	·1105
18. 29	·1087
18. 42	·1092
19. 18	·1083
20. 47	·1085
21. 3	·1081
22. 10	·1077
22. 29	·1077
23. 2	·1086
23. 10	·1085
23. 37	·1091
23. 59	·1090

Aug. 2. Vertical Force

Greenwich Mean Solar Time (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature
	(†)
0. 27	·00564
2. 8	·00437
3. 34	·00230
6. 15	−·00123
7. 42	{−·00160 −·00106}
10. 14:	−·00112
13. 10	·00068
14. 34	·00182
19. 27	·00743
20. 26	{·00762 ·00736}
21. 7	{·00760 ·00470}
22. 29	{·00452 ·00382}
23. 59	·00330

Aug. 2. Readings of Thermometers

Greenwich Mean Solar Time (h m)	Of H. F. Magnet (°)	Of V. F. Magnet (°)
1. 0	66·1	66·0
3. 0	68·5	68·6
9. 0	70·5	70·8
22. 32	64·0	65·0

Aug. 3. Western Declination

Greenwich Mean Solar Time (h m)	Western Declination (° ′ ″)
0. 0	20. 57. 30
0. 27	59. 0
0. 41	58. 25
1. 3	59. 0
1. 14	57. 50
1. 23	59. 0
1. 44	58. 15 ***
2. 10	58. 55 ***
2. 59	55. 30 ***
3. 31	56. 0
3. 39	55. 0
4. 12	57. 0

Aug. 3. Horizontal Force

Greenwich Mean Solar Time (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature
0. 0	·1090
0. 17	·1092
0. 45	·1088
0. 58	·1091
1. 17	·1083
1. 36	·1093
1. 57	·1104
2. 5	·1102
2. 22	·1113
2. 32	·1109 ***
2. 53	·1111 ***
3. 7	·1105 ***

Aug. 3. Vertical Force

Greenwich Mean Solar Time (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature
0. 0	·00330
0. 53	·00296
2. 23	·00178
5. 2	−·00148
6. 40	−·00305
	(†)
8. 34	−·00369*
10. 39	−·00298
14. 11	·00001
16. 36	·00300
18. 4	·00494
19. 45	·00538
19. 53	·00497
20. 10	·00522
20. 22	·00439

Aug. 3. Readings of Thermometers

Greenwich Mean Solar Time (h m)	Of H. F. Magnet (°)	Of V. F. Magnet (°)
8. 34	70·6	70·2
21. 0	62·5	62·2

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

August 3. From 6h. 40m. to 10h. 39m. the trace of the Vertical Force Magnet was off the sheet, in the direction of diminishing force.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Aug. 3		Aug. 3		Aug. 3				
h m	° ′ ″	h m		h m		h m	°	°
4. 57	20. 53. 45	3. 25	·1108	20. 53	·00500			
5. 8	54. 30	3. 49	·1102	21. 4	·00426			
5. 53	52. 0	4. 7	·1103	21. 40	·00387			
6. 14	52. 0	4. 26	·1096		(†)			
6. 53	56. 0	4. 37	·1095	22. 23	·00406			
	***	4. 58	·1083	22. 42	·00463			
8. 33	55. 50	5. 13	·1094	22. 59	·00432			
	***	5. 32	·1084	23. 59	·00420			
9. 10	54. 0	5. 44	·1088					
	***	5. 52	·1094					
10. 13	55. 10	6. 1	·1092					
	***	6. 14	·1096					
11. 3	52. 10	6. 30	·1092					
	***	6. 35	·1096					
14. 10	52. 0	6. 47	·1098					
14. 24	54. 0	7. 9	·1092					
14. 59	55. 0	7. 33	·1095					
15. 38	50. 40	8. 47	·1093					
15. 53	52. 0	9. 27	·1095					
16. 11	48. 0	9. 47	·1099					
16. 19	48. 50	10. 2	·1096					
16. 27	48. 0	10. 16	·1097					
16. 36	50. 0	10. 29	·1096					
16. 49	46. 5	10. 41	·1097					
16. 58	45. 50	10. 52	·1090					
17. 42	53. 15	11. 11	·1099					
17. 51	20. 53. 0	11. 20	·1098					
18. 15	21. 2. 0	12. 38	·1097					
18. 52	7. 50	13. 17	·1100					
19. 9	3. 5	13. 45	·1096					
19. 14	9. 10	14. 11	·1097					
19. 22	3. 0	14. 19	·1103					
19. 28	7. 40	14. 30	·1101					
	***	14. 43	·1106					
19. 53	4. 20	14. 51	·1104					
20. 6	21. 6. 0	15. 6	·1112					
20. 28	20. 54. 10	15. 15	·1109					
20. 38	21. 0. 0	15. 41	·1109					
20. 45	20. 59. 0	15. 49	·1111					
	***	15. 58	·1109					
20. 54	21. 0. 0	16. 11	·1108					
21. 3	20. 55. 10	16. 21	·1104					
21. 8	57. 55	16. 30	·1110					
21. 29	48. 25	16. 36	·1105					
21. 33	52. 20	16. 53	·1104					
21. 41	20. 39. 30	17. 21	·1103					
21. 55	21. 4. 15	17. 55	·1089					
22. 5	21. 4. 35	18. 3	·1090					
22. 18	20. 53. 10	18. 34	·1050					
22. 24	21. 2. 0	18. 53	·1070					
22. 33	20. 58. 45	19. 2	·1101					
22. 47	21. 6. 10	19. 12	·1035					
22. 58	21. 6. 0	19. 19	·1062					
23. 33	20. 55. 55	19. 23	·1056					
23. 47	57. 10	19. 29	·1074					
23. 58	20. 55. 0	19. 32	·1064					
23. 59	21. 2. 0	19. 36	·1080					
		19. 57	·1111					
		20. 0	·1097					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
		Aug. 3						
h m	° ′ ″	h m		h m		h m	°	°
		20. 2	·1109					
		20. 14	·1047					
		20. 30	·1104					
		20. 36	·1090					
		20. 48	·1109					
		20. 55	·1077					
		21. 2	·1091					
		21. 19	·1053					
		21. 24	·1070					
		21. 31	·1051					
		21. 41	·1050					
		21. 48	·1090					
		22. 7	·1050					
		22. 8	·1075					
		22. 17	·1052					
		22. 19	·1067					
		22. 25	·1061					
		22. 33	·1055					
		22. 38	·1094					
		22. 41	·1083					
		22. 50	·1092					
		22. 52	·1084					
		23. 0	·1066					
		23. 4	·1078					
		23. 7	·1069					
		23. 12	·1079					
		23. 15	·1069					
		23. 22	·1083					
		23. 28	·1085					
		23. 30	·1098					
		23. 31	·1084					
		23. 40	·1114					
		23. 59	·1079					
Aug. 4		Aug. 4		Aug. 4		Aug. 4		
0. 0	21. 2. 0	0. 0	·1079	0. 0	·00420	1. 0	66·0	66·0
0. 10	20. 59. 50	0. 8	·1089	0. 14	·00423	3. 0	68·3	68·6
0. 24	21. 6. 10	0. 17	·1062	0. 21	·00407	9. 0	69·6	69·7
0. 33	5. 0	0. 23	·1108	0. 35	·00428	21. 0	65·5	65·3
0. 35	10. 50		(†)	0. 43	·00410			
0. 45	5. 0	1. 0	·1084	0. 51	·00442			
0. 49	10. 0	1. 10	·1076		(†)			
0. 57	1. 20	1. 22	·1129	1. 0	·00272*			
0. 58	10. 0		(†)	2. 32	·02206			
1. 12	6. 10	1. 51	·1132	3. 27	·02480			
1. 22	1. 5	1. 58	·1083	4. 17	·02662			
	***	2. 2	·1103	4. 26	·02158			
1. 29	21. 7. 20	2. 7	·1082	4. 31	·02120			
1. 39	20. 53. 30	2. 14	·1137	4. 38	·02680			
1. 40	21. 14. 0	2. 17	·1096	4. 43	·02708			
1. 48	8. 20	2. 19	·1112	5. 6	·02717			
	***	2. 20	·1088	5. 15	·02735			
2. 12	4. 0	2. 30	·1131	5. 37	·02748			
2. 20	8. 10	2. 32	·1108	6. 14	·02782			
2. 25	4. 10		(†)	6. 27	·02770			
2. 28	14. 30	3. 0	·1057*	6. 37	·02783			
2. 31	5. 45	3. 7	·1057	6. 41	·02807			
2. 36	13. 45	3. 14	·1075	7. 1	·02775			

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

VERTICAL FORCE.—August 4ᵈ. 1ʰ. The adjustments were altered, so that the scale reading was increased by 13$^{\text{div.}}$·50, or by 0·02136 parts of the whole Vertical Force.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Aug. 4		Aug. 4		Aug. 4				
h m	° ′ ″	h m		h m		h m	°	°
2. 38	21. 6. 50	3. 16	·1069	7. 19	{ ·02790			
2. 51	3. 30	3. 18	·1078		·02824			
2. 57	21. 4. 30	3. 23	·1071	8. 1	·02770			
	***		(†)	8. 38	{ ·02782			
3. 33	20. 58. 50	3. 31	·1116		·02838			
3. 36	21. 1. 25	3. 34	·1097	9. 21	·02796			
	***	3. 39	·1106	9. 27	·02758			
4. 3	20. 56. 0	3. 41	·1092	9. 41	·02748			
4. 8	56. 45	3. 48	·1079	9. 52	·02760			
4. 13	55. 0	3. 55	·1090	10. 6	·02720			
4. 36	57. 50	4. 0	·1087	10. 19	·02708			
4. 43	55. 45	4. 8	·1076	10. 28	·02724			
4. 50	58. 10	4. 14	·1084	10. 38	·02668			
4. 55	55. 0	4. 16	·1076	10. 49	·02673			
	***	4. 32	·1107	10. 59	·02628			
5. 15	58. 40	4. 39	·1078	11. 13	·02677			
	***	4. 48	·1111	11. 31	·02644			
5. 49	54. 0	4. 52	·1082	11. 41	·02617			
5. 57	54. 0	5. 1	·1120	11. 50	·02614			
6. 6	53. 50	5. 2	·1098	12. 4	·02522			
6. 33	56. 30	5. 7	·1112	12. 12	·02562			
6. 50	55. 0	5. 8	·1090	12. 18	·02488			
7. 11	57. 30	5. 10	·1097	12. 23	·02470			
7. 26	57. 25	5. 22	·1084	12. 38	·02268			
7. 36	56. 5	5. 29	·1093	12. 43	·02350			
8. 9	57. 30	5. 43	·1080	12. 59	·02504			
	***	5. 47	·1085	13. 8	·02482			
8. 41	53. 20	5. 49	·1077	13. 28	·02520			
8. 50	55. 55	6. 2	·1100	13. 37	·02456			
9. 6	48. 0	6. 10	·1100	13. 44	·02483			
9. 7	20. 37. 45	6. 17	·1104	14. 8	·02322			
	***	6. 25	·1098	14. 15	·02420			
9. 29	21. 8. 30	6. 32	·1101	14. 19	·02395			
	***	6. 37	·1085	14. 28	·02330			
9. 33	20. 55. 0	7. 4	·1099	14. 32	·02327			
10. 1	21. 14. 40	7. 9	·1093	14. 37	·02356			
10. 23	20. 55. 25	7. 19	·1093	14. 49	·02234			
10. 32	21. 5. 40	7. 30	·1079	15. 0	·02302			
10. 39	20. 55. 50	7. 41	·1094	15. 4	·02300			
10. 46	21. 8. 10		***	15. 13	·02448			
10. 57	20. 55. 55	8. 31	·1085	15. 24	·02455			
11. 14	58. 0	8. 47	·1094	15. 31	·02428			
11. 47	20. 45. 0	9. 15	·1130	15. 34	·02457			
12. 12	21. 3. 35	9. 19	·1123	15. 50	·02610			
12. 33	20. 21. 15	9. 22	·1149	16. 2	·02607			
12. 53	21. 4. 0	9. 25	·1101	16. 4	·02630			
13. 13	20. 31. 55	9. 30	·1111	16. 13	·02626			
	(†)	9. 37	·1111	16. 21	·02563			
13. 32	20. 25. 45	9. 44	·1140	16. 28	·02588			
13. 42	21. 6. 20	9. 54	·1145	16. 36	·02527			
13. 48	20. 58. 45	10. 1	·1090	16. 46	·02522			
14. 7	21. 9. 15	10. 6	·1083	17. 15	·02918			
14. 15	21. 7. 50	10. 14	·1097	17. 39	·03066			
14. 41	20. 38. 15	10. 17	·1083	18. 7	·03015			
14. 54	47. 0	10. 26	·1108	19. 45	·03034			
15. 1	46. 55	10. 32	·1086	20. 17	·03024			
15. 11	51. 0	10. 33	·1058	22. 1	·02918			
15. 18	48. 10	10. 43	·1082	22. 52	·02962			

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Aug. 4		Aug. 4		Aug. 4				
h m	° ′ ″	h m		h m		h m	°	°
15. 35	21. 3. 55	10. 53	·1040	23. 0	·03000			
15. 43	0. 30	11. 6	·1080	23. 47	·03012			
16. 0	16. 55	11. 50	·1057	23. 52	·03057			
	(†)		(†)	23. 57	·03025			
16. 13	21. 16. 45	12. 4	·1041	23. 59	·03023			
16. 37	20. 55. 10	12. 14	·1028					
	***		(†)					
17. 0	21. 0. 0	12. 34	·1072					
17. 18	20. 57. 20	12. 48	·1142					
17. 22	21. 3. 0	13. 9	·1014					
17. 30	0. 30	13. 19	·1032					
17. 45	9. 50	13. 39	·1105					
17. 49	0. 0	13. 55	·1026					
18. 0	21. 7. 40		(†)					
18. 6	20. 59. 40	14. 18	·1020					
	***	14. 29	·1010					
18. 15	55. 10	14. 33	·1016					
18. 29	54. 55	14. 35	·1009					
	***		(†)					
19. 21	46. 10	15. 2	·0986					
	***	15. 15	·1013					
19. 49	55. 0	15. 19	·1010					
	***	15. 25	·1015					
20. 38	59. 55	15. 30	·1011					
21. 0	57. 45	15. 42	·1066					
21. 13	58. 45	15. 49	·1069					
	***	16. 0	·1062					
21. 37	58. 50	16. 21	·1014					
21. 54	55. 0		(†)					
22. 20	55. 0	16. 48	·0987					
22. 23	55. 40	17. 0	·1009					
22. 37	53. 50	17. 8	·1015					
22. 58	57. 10	17. 15	·1007					
23. 24	55. 0	17. 29	·1030					
23. 37	53. 35	17. 34	·1010					
23. 41	56. 0	17. 54	·1024					
23. 47	20. 51. 15	17. 57	·1012					
23. 59	21. 0. 0	18. 7	·1033					
		18. 19	·1006					
		18. 40	·1026					
		19. 2	·1030					
		19. 29	·1028					
		19. 40	·1032					
		19. 51	·1024					
		20. 0	·1033					
		20. 5	·1030					
		20. 11	·1036					
		20. 24	·1025					
		20. 32	·1028					
		20. 43	·1019					
		20. 51	·1025					
		21. 2	·1021					
		21. 50	·1022					
			(†)					
Aug. 5		Aug. 5		Aug. 5		Aug. 5		
0. 0	21. 0. 0		(†)	0. 0	·03023	1. 0	69·3	68·5
0. 3	20. 57. 40	0. 4	·1017	0. 2	·03027	3. 0	70·3	68·8

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

August 4. The trace of the Horizontal Force Magnet was off the sheet in the direction of diminishing force, from about $13^h. 57^m$ to $14^h. 7^m$, from $14^h. 45^m$ to $15^h 2^m$, and from $16^h. 30^m$ to $16^h. 48^m$.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Aug. 5		Aug. 5		Aug. 5		Aug. 5		
h m	° ′ ″	h m		h m		h m	°	°
0. 20	21. 2. 5	0. 27	·1005	0. 8	·03002	9. 0	68 ·0	68 ·5
0. 28	1. 40	1. 3	·1090	0. 15	·03025	21. 0	61 ·8	60 ·8
0. 33	3. 0	1. 15	·1075	0. 48	·03050	22. 0	62 ·2	61 ·2
0. 57	1. 30	1. 20	·1095	1. 44	·03007	23. 0	63 ·3	62 ·5
1. 7	4. 0	1. 22	·1086	2. 4	·03082			
1. 18	3. 0	1. 28	·1070	2. 9	·03076			
1. 27	4. 50	1. 30	·1087	2. 13	·03108			
1. 32	1. 40	1. 32	·1069	2. 22	·03110			
1. 39	4. 5	1. 38	·1089	2. 45	·03172			
1. 46	1. 55	1. 39	·1075	3. 2	·03030			
1. 58	21. 4. 45	2. 15	·1167	3. 19	·02923			
2. 11	20. 58. 0	2. 16	·1162	4. 22	·02684			
2. 17	21. 0. 50	2. 23	·1203	4. 38	·02653			
2. 21	20. 57. 30	2. 33	·1162	4. 49	·02660			
2. 33	21. 5. 0	2. 43	·1181	5. 19	·02591			
2. 53	20. 48. 15	3. 13	·1080	5. 26	·02596			
3. 10	53. 0	3. 28	·1076	5. 45	·02563			
3. 14	52. 0	3. 32	·1078	6. 6	·02595			
3. 30	53. 10	3. 40	·1072	9. 48	·02626			
3. 44	55. 15	3. 49	·1076	11. 32	·02690			
3. 48	55. 10	4. 10	·1058	14. 1	·02852			
4. 3	56. 15	4. 20	·1068	15. 33	·02988			
4. 34	55. 0	4. 28	·1064	16. 0	·02922			
4. 42	56. 45	4. 41	·1086	18. 29	·02723			
4. 55	54. 20	4. 48	·1070	18. 47	·02692			
5. 18	55. 50	4. 50	·1078	19. 1	·02720			
	***	5. 2	·1064	19. 13	·02695			
5. 46	53. 20	5. 12	·1081	19. 31	·02708			
	***	5. 30	·1062	19. 46	·02622			
6. 24	54. 20	5. 37	·1072	20. 9	·02696			
	***	5. 44	·1070	20. 29	·02658			
6. 52	53. 25	5. 53	·1086	20. 54	·02680			
	***	5. 59	·1080	22. 51	·02637			
7. 48	56. 0	6. 3	·1082	22. 57	·02578			
	***	6. 27	·1063	23. 59	·02613			
11. 0	52. 0	6. 52	·1081					
11. 47	54. 0	7. 0	·1077					
12. 5	52. 0	7. 12	·1083					
12. 32	53. 55	7. 18	·1076					
13. 23	55. 10	7. 23	·1079					
14. 7	52. 0		***					
14. 32	51. 30	7. 47	·1078					
14. 47	52. 50	7. 58	·1070					
15. 10	51. 40	8. 3	·1077					
15. 51	52. 20	8. 9	·1074					
16. 3	50. 45	8. 15	·1077					
	***	8. 21	·1076					
18. 5	52. 45	8. 32	·1082					
18. 42	48. 10	8. 45	·1077					
19. 23	49. 0	8. 55	·1078					
19. 39	52. 30	9. 2	·1075					
20. 30	47. 45	9. 31	·1080					
20. 45	48. 0	9. 38	·1076					
21. 23	45. 40	9. 47	·1079					
22. 18	49. 0	10. 7	·1080					
22. 27	48. 25	10. 17	·1077					
	***	10. 34	·1081					
23. 7	53. 0	10. 46	·1078					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Aug. 5		Aug. 5						
h m	° ′ ″	h m		h m		h m	°	°
23. 23	20. 52. 15	10. 53	·1081					
23. 59	55. 0	11. 32	·1070					
		11. 47	·1072					
		12. 4	·1070					
		12. 20	·1070					
			***					
		13. 2	·1067					
		13. 54	·1072					
		14. 17	·1070					
		14. 49	·1073					
		15. 49	·1072					
		16. 24:	·1064					
		17. 13:	·1072					
		18. 3	·1058					
		18. 38	·1049					
		18. 53	·1058					
		19. 3	·1053					
		19. 19	·1058					
		19. 32	·1055					
		19. 41	·1058					
		20. 17	·1050					
		21. 24	·1071					
		21. 50	·1071					
		22. 17	·1066					
		22. 40	·1073					
		22. 55	·1060					
		23. 0	·1065					
		23. 23	·1049					
		23. 40	·1059					
		23. 59	·1071					
Aug. 6		Aug. 6		Aug. 6		Aug. 6		
0. 0	20. 55. 0	0. 0	·1073	0. 0	·02613	0. 0	64 ·0	63 ·6
0. 25	55. 20	0. 28	·1072	0. 58	·02630	1. 0	65 ·0	64 ·5
0. 30	54. 35	0. 49	·1091	1. 37	·02576	3. 0	66 ·3	65 ·8
0. 45	57. 50	1. 15	·1088	1. 50	·02594	6. 0	67 ·5	67 ·0
0. 57	56. 35	1. 21	·1073	3. 20	·02492	9. 22	66 ·2	66 ·2
1. 13	58. 15	1. 29	·1074	3. 26	·02474	12. 0	65 ·0	65 ·0
1. 18	58. 0	1. 37	·1062	4. 27	·02422	18. 0	62 ·3	62 ·8
1. 30	59. 0	1. 51	·1080	4. 39	·02440	21. 0	62 ·3	63 ·0
1. 43	56. 45	2. 9	·1059	5. 19	·02432	22. 0	62 ·5	63 ·4
1. 56	59. 10	2. 22	·1071	6. 43	·02220	23. 0	63 ·0	63 ·9
2. 8	57. 50	2. 24	·1064	7. 18	·02203			
3. 0	57. 35	2. 41	·1077	9. 50	·02248			
3. 15	58. 0	2. 54	·1074	12. 34	·02400			
3. 24	56. 50	3. 0	·1084	13. 26	·02414			
4. 11	55. 5	3. 15	·1095	15. 41	·02632			
4. 22	53. 0	3. 46	·1090	16. 22	·02645			
4. 35	45. 15	4. 14	·1104	16. 58	·02692			
4. 45	47. 0	4. 26	·1096	17. 16	{ ·02661			
4. 53	46. 30	4. 43	·1134		·02606			
5. 9	50. 10	4. 53	·1125		***			
5. 49	49. 55	5. 3	·1122	21. 27	·02658			
	***	5. 21	·1095	23. 59	·02636			
7. 0	52. 20		***					
7. 12	51. 30	6. 4	·1092					
	***		***					
9. 14	53. 10	6. 12	·1086					
			***					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Aug. 6		Aug. 6						
h m	° ′ ″	h m		h m		h m	°	°
9.23	20.51.15	6.23	·1093 ***					
10.9	53.30							
10.21	52.55	6.34	·1087 ***					
11.6	53.50							
11.27	53.0	6.59	·1100					
11.36	53.30	7.32	·1088					
11.56	53.0	8.33	·1100					
12.18	54.35	8.47	·1105					
12.41	20.54.0	8.59	·1098					
13.15	21.0.10	9.15	·1104					
13.50	20.51.0	9.37	·1096 ***					
14.45	50.55							
14.52	52.0	10.21	·1094 ***					
15.15	52.0							
15.30	50.10	11.48	·1094 ***					
15.40	51.15							
16.3	52.0	12.3	·1098 ***					
16.9	53.0							
16.35	58.25	12.40	·1094 ***					
16.48	55.10							
17.13	53.10	13.1	·1095 ***					
17.30	57.30							
17.38	57.10	13.26	·1090 ***					
17.50	57.35							
18.27	51.0	13.40	·1091 ***					
19.0	56.0							
19.43	52.35	14.4	·1088					
20.7	53.0	14.45	·1088					
20.39	51.0	14.54	·1093 ***					
21.0	50.50							
21.30	53.0	15.31	·1089					
21.42	52.30	15.58	·1083					
22.14	54.25	16.18	·1070 ***					
22.20	53.50							
23.38	58.30	17.7	·1084					
23.57	57.5	17.16	·1089 ***					
23.59	57.10							
		17.38	·1092					
		17.52	·1086					
		18.23	·1081 ***					
		18.40	·1084 ***					
		19.0	·1082					
		19.5	·1077					
		19.32	·1074					
		19.41	·1069					
		20.26	·1072 ***					
		21.53	·1072					
		22.9	·1061					
		22.19	·1060					
		22.41	·1080					
		22.50	·1070					
		23.0	·1071					
		23.10	·1067					
		23.29	·1079 (†)					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Aug. 7		Aug. 7		Aug. 7		Aug. 7		
h m	° ′ ″	h m		h m		h m	°	°
0.0	20.57.10		(†)	0.0	·02636	0.0	64·0	64·2
0.15	58.20	0.45	·1082	3.21	·02565	1.0	65·1	65·0
0.57	57.10	1.31	·1094 ***	4.9	·02570	3.0	66·3	65·8
1.59	58.0			5.32	·02506	9.0	65·2	65·3
2.11	59.5	1.49	·1091	6.17	·02510	21.0	61·0	60·0
2.22	58.10		(†)	8.7	·02452			
2.33	58.25	3.0	·1134*	10.22	·02494			
2.42	58.40	5.32	·1106	11.37	·02557			
3.6	57.45	5.49	·1116	11.54	·02528			
3.27	52.30	6.2	·1114	12.15	·02530			
3.40	53.40	6.45	·1101	13.26	·02618			
4.5	50.45	7.17	·1101 ***	14.10	·02608			
4.59	52.40			14.23	·02580			
5.50	52.15	7.28	·1104 ***	14.42	·02596			
6.25	50.25			14.48	·02580			
7.29	53.0	8.9	·1104	14.58	·02577			
7.36	52.20	8.29	·1106 ***	15.18	{ ·02614 ·02545			
8.24	52.0							
8.30	54.0	9.13	·1106 ***	16.7	{ ·02668 ·02626			
9.14	53.0							
9.51	52.50	9.52	·1108	16.54	{ ·02677 ·02648			
10.14	54.0	10.6	·1111 ***					
11.0	49.0			17.33	{ ·02707 ·02680 ***			
11.18	50.0	10.25	·1106 ***					
11.37	53.0							
11.44	51.50	10.45	·1107	19.56	·02742			
11.47	52.40	11.18	·1102	22.40	·02720			
12.0	50.10	11.30	·1110	23.21	·02677 (†)			
12.9	50.30	11.37	·1134					
12.30	47.45	11.49	·1124 ***					
13.30	49.15							
13.46	52.35	12.30	·1103					
13.54	52.30	12.42	·1103					
14.15	58.35	12.52	·1097					
14.31	55.10	12.59	·1098					
14.41	55.15	13.4	·1102 ***					
15.22	45.25							
15.35	45.15	13.30	·1105					
15.45	46.45 ***	14.2	·1080					
		14.9	·1084					
16.24	45.50	14.17	·1084					
16.59	48.50	14.37	·1108					
17.18	46.55	14.46	·1112					
18.14	47.50	14.48	·1112					
18.30	44.40	15.8	·1100 ***					
18.56	51.5							
19.4	48.10	15.23	·1097					
19.24	49.0	15.29	·1091					
19.36	46.25	15.40	·1096					
19.53	47.25	15.56	·1106 ***					
20.20	51.10							
20.36	49.40	16.19	·1108 ***					
20.52	53.25							
21.23	53.15	17.12	·1091					
21.32	51.30	17.15	·1094					
22.0	54.25	17.23	·1088					
22.13	53.40	17.32	·1092					
22.21	54.30 ***	18.17	·1074					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Aug. 7		Aug. 7						
h m	° ′ ″	h m		h m		h m	°	°
23. 59	20. 54. 0	18. 30	·1078					
		19. 2	·1058					
		19. 15	·1069					
		19. 30	·1062					
		20. 9	·1062					
		20. 20	·1053					
		20. 33	·1054					
		20. 45	·1066					
		20. 50	·1055					
		20. 52	·1066					
		21. 4	·1055					
		21. 10	·1068					
		21. 53	·1084					
		22. 0	·1082					
		22. 15	·1088					
		22. 21	·1088					
		23. 7	·1097					
			***					
		23. 33	·1097					
		23. 59	·1108					
Aug. 8		Aug. 8		Aug. 8		Aug. 8		
0. 0	20. 54. 5	0. 0	·1111	0. 0	·02764	1. 0	63·3	63·2
0. 19	55. 0	0. 14	·1113	2. 34	·02653	3. 0	64·2	63·5
1. 4	55. 40	0. 19	·1110	4. 5	·02616	9. 0	64·0	64·0
1. 30	55. 10	1. 1	·1109	6. 10	·02460	21. 0	60·0	60·2
1. 47	56. 20	1. 45	·1106	8. 9	·02452			
3. 26	53. 25	1. 59	·1111	8. 53	·02440			
3. 36	54. 10	2. 31	·1105	11. 19	·02526			
4. 0	52. 40		***	12. 2	·02530			
4. 27	50. 15	2. 56	·1098	12. 37	·02401			
4. 39	50. 45		***	13. 17	·02410			
4. 50	49. 50	3. 9	·1098	13. 50	·02542			
5. 23	49. 10	3. 21	·1103	14. 0	·02550			
6. 15	51. 50	3. 34	·1101	14. 50	·02690			
6. 52	50. 30	3. 46	·1105	15. 43	{·02745			
7. 3	51. 45	3. 55	·1100		·02695			
7. 13	50. 25	4. 2	·1100	16. 7	·02690			
7. 30	51. 35	4. 26	·1094	16. 31	·02714			
8. 0	46. 15	4. 40	·1096	16. 51	{·02700			
8. 24	50. 5	4. 48	·1107		·02657			
8. 57	48. 10	5. 2	·1102	17. 57	{·02742			
9. 39	52. 20		***		·02710			
9. 55	52. 10	5. 36	·1102	19. 4	{·02758			
10. 14	55. 0	6. 0	·1105		·02732			
10. 28	52. 50	6. 8	·1104	21. 30	{·02794			
11. 15	52. 30	6. 17	·1110		·02745			
11. 29	54. 45	6. 23	·1110	23. 59	·02738			
11. 49	54. 0	6. 49	·1128					
12. 16	50. 10	7. 20	·1108					
12. 20	20. 59. 45	7. 32	·1117					
12. 27	21. 2. 50	7. 57	·1106					
12. 52	20. 53. 20	8. 22	·1114					
13. 0	57. 0	8. 43	·1108					
13. 45	48. 25	9. 4	·1118					
13. 50	48. 50	9. 47	·1112					
13. 53	43. 50	10. 11	·1124					
14. 3	47. 25	10. 21	·1111					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Aug. 8		Aug. 8						
h m	° ′ ″	h m		h m		h m	°	°
15. 3	20. 53. 35	10. 41	·1110					
15. 14	52. 55	10. 55	·1113					
15. 36	56. 15	11. 5	·1108					
15. 52	54. 25	11. 22	·1114					
16. 30	57. 55	11. 47	·1108					
17. 21	49. 10	11. 53	·1112					
18. 2	48. 30	12. 4	·1114					
18. 27	50. 45	12. 35	·1074					
18. 36	48. 30	12. 51	·1093					
18. 48	49. 20	13. 3	·1082					
18. 55	47. 0	13. 23	·1079					
18. 59	49. 45	13. 45	·1100					
19. 4	49. 15	14. 0	·1092					
19. 8	52. 35	14. 15	·1090					
19. 15	48. 35	14. 42	·1085					
19. 19	50. 15	15. 3	·1094					
19. 44	50. 45	15. 10	·1094					
20. 2	48. 20	15. 33	·1102					
20. 28	47. 25	15. 52	·1098					
20. 34	48. 35	16. 3	·1099					
21. 6	49. 30	16. 32	·1094					
21. 15	52. 0	16. 55	·1101					
	***	17. 34	·1096					
21. 27	52. 50	17. 39	·1100					
21. 33	52. 5	18. 32	·1096					
22. 6	53. 25	18. 34	·1092					
22. 16	52. 50	18. 50	·1092					
22. 25	53. 50	19. 32	·1085					
22. 50	54. 0	20. 4	·1076					
22. 57	54. 50	20. 38	·1072					
23. 4	53. 55	21. 7	·1077					
	***	21. 41	·1073					
23. 59	54. 30	22. 9	·1076					
		22. 26	·1065					
		22. 40	·1075					
		22. 48	·1075					
		22. 57	·1088					
		23. 12	·1083					
		23. 28	·1092					
		23. 38	·1090					
		23. 53	·1094					
		23. 59	·1099					
Aug. 9		Aug. 9		Aug. 9		Aug. 9		
0. 0	20. 54. 35	0. 0	·1099	0. 0	·02738	1. 0	62·0	62·8
0. 24	53. 50	0. 4	·1104	1. 4	·02717	3. 0	62·8	64·5
0. 35	51. 40	0. 15	·1100	1. 19	·02728	9. 0	64·5	64·5
1. 19	51. 25	0. 22	·1103	2. 17	·02680	21. 0	58·3	59·0
1. 42	48. 45	0. 31	·1103	4. 3	·02490			
1. 46	49. 0	1. 1	·1112	5. 9	·02434			
2. 17	45. 0	1. 7	·1108	6. 21	·02343			
2. 28	46. 30		***	8. 0	·02435			
3. 0	45. 15	1. 48	·1126	8. 12	·02433			
3. 20	47. 10	1. 50	·1123	8. 35	·02452			
3. 35	46. 50	2. 1	·1130	8. 45	·02440			
	***	2. 16	·1115	9. 18	·02428			
4. 22	48. 0	2. 19	·1122	11. 53	·02470			
4. 46	47. 25	2. 41	·1109	12. 19	·02420			

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Aug. 9		Aug. 9		Aug. 9				
h m	° ′ ″	h m		h m		h m	°	°
4. 57	20. 46. 10	3. 3	·1112	12. 47	·02465			
5. 6	47. 0	3. 11	·1116	15. 16	·02634			
5. 17	44. 10	3. 16	·1113	16. 10	·02660			
5. 28	45. 45	3. 23	·1119	16. 36	·02664			
5. 39	44. 55	3. 47	·1109	19. 34	·02945			
7. 3	49. 0	3. 58	·1110	19. 41	·02928			
7. 45	48. 0	4. 3	·1104	20. 35	·02853			
8. 14	48. 55	4. 22	·1125	21. 47	·02802			
8. 30	45. 10	4. 28	·1125	21. 52	·02810			
8. 45	52. 0	4. 37	·1130	22. 58	{·02760			
9. 0	49. 50	4. 57	·1110		·02712			
9. 12	52. 5	5. 5	·1118	23. 59	·02688			
9. 51	47. 10	5. 13	·1106					
10. 40	49. 20	5. 22	·1112					
11. 13	49. 30	5. 32	·1102					
11. 40	47. 50	5. 45	·1112					
11. 48	50. 0	6. 1	·1110					
13. 3	51. 10	6. 13	·1104					
13. 16	49. 20	6. 25	·1108					
15. 16	50. 0	6. 38	·1106					
15. 25	50. 30	7. 7	·1110					
16. 2	49. 10	7. 12	·1107					
16. 30	55. 10	7. 19	·1112					
16. 44	54. 0	7. 43	·1112					
16. 50	54. 30	7. 56	·1117					
17. 25	49. 50	8. 2	·1111					
	***	8. 16	·1093					
18. 20	48. 0	8. 36	·1120					
18. 38	45. 10	8. 40	·1109					
18. 48	45. 10	8. 52	·1114					
19. 2	44. 10	9. 15	·1102					
19. 13	45. 50	9. 37	·1099					
19. 20	45. 30	9. 50	·1106					
19. 46	47. 50	9. 58	·1103					
20. 0	47. 10	10. 5	·1105					
20. 28	48. 20	10. 20	·1102					
20. 45	46. 30	10. 42	·1106					
21. 2	48. 5	10. 47	·1104					
21. 16	47. 50	11. 0	·1109					
21. 30	48. 50	11. 37	·1105					
21. 40	49. 5	11. 52	·1122					
21. 53	51. 25	12. 17	·1094					
22. 40	52. 0	12. 38	·1097					
22. 51	51. 10	12. 47	·1101					
	***	12. 52	·1098					
23. 18	53. 10	13. 58	·1104					
23. 37	52. 50	14. 3	·1102					
23. 43	53. 10	14. 11	·1106					
23. 52	52. 0	14. 15	·1103					
23. 59	52. 40	14. 28	·1104					
		14. 45	·1102					
		15. 2	·1104					
		15. 40	·1102					
		15. 51	·1103					
		16. 0	·1101					
		16. 15	·1110					
		16. 37	·1118					
		16. 41	·1115					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Aug. 9						
h m	° ′ ″	h m		h m		h m	°	°
		17. 17	·1109					
		17. 40	·1110					
		17. 56	·1096					
		18. 24	·1087					
		18. 33	·1092					
		18. 40	·1089					
		18. 54	·1091					
		19. 0	·1095					
		19. 29	·1089					
		19. 45	·1075					
		19. 53	·1075					
		20. 11	·1080					
		20. 39	·1068					
		20. 47	·1067					
		21. 6	·1059					
		21. 15	·1062					
		21. 20	·1058					
		21. 50	·1072					
		22. 4	·1080					
		22. 15	·1077					
		22. 33	·1086					
		22. 53	·1080					
		23. 15	·1093					
		23. 31	·1090					
		23. 40	·1096					
		23. 59	·1095					
Aug. 10		Aug. 10		Aug. 10		Aug. 10		
0. 0	20. 52. 45	0. 0	·1095	0. 0	·02688	8. 47	64·2	64·6
0. 15	52. 35	0. 8	·1094	2. 6	·02662	21. 0	61·5	61·8
0. 54	54. 10	0. 22	·1088	4. 6	·02543			
1. 27	52. 10	0. 45	·1112	4. 15	·02512			
1. 50	53. 30	0. 52	·1112	6. 0	·02318			
2. 0	53. 10	1. 15	·1100	6. 26	·02328			
2. 21	53. 50	2. 27	·1123	6. 37	·02360			
2. 30	53. 0	2. 54	·1109	6. 58	·02344			
2. 35	53. 20	3. 4	·1116	9. 24	·02393			
2. 56	50. 10	3. 22	·1110	11. 12	·02390			
3. 12	50. 15	3. 35	·1113	14. 32	·02457			
3. 37	49. 10	4. 3	·1139	21. 45	·02720			
3. 49	49. 45	4. 15	·1118	23. 59	·02692			
4. 11	47. 0	4. 34	·1108					
4. 41	48. 10	4. 45	·1109					
5. 9	47. 20	5. 3	·1106					
5. 40	48. 15	5. 19	·1108					
6. 4	47. 45	5. 39	·1119					
6. 30	42. 20	5. 50	·1118					
6. 50	49. 5	6. 10	·1122					
7. 6	49. 15	6. 24	·1104					
7. 51	50. 55	6. 40	·1129					
7. 58	52. 0	7. 6	·1100					
8. 29	50. 25	7. 54	·1104					
9. 14	52. 20	8. 14	·1112					
9. 25	52. 0	8. 22	·1109					
10. 3	52. 10	8. 57	·1108					
10. 30	53. 10	9. 11	·1104					
11. 0	52. 0	9. 34	·1110					
12. 30	52. 0	9. 49	·1105					
	(†)							

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.
Aug. 10	
h m	° ′ ″
13. 45	20. 51. 50
14. 32	53. 15
16. 10	50. 0
16. 50	51. 10
17. 34	48. 45
17. 41	49. 25
17. 52	49. 0
18. 0	49. 45
19. 33	45. 20
21. 0	47. 0
21. 27	46. 0
21. 43	48. 5
21. 58	47. 35
22. 46	48. 55
23. 32	51. 55
23. 59	52. 10
Aug. 11	
0. 0	20. 52. 20
0. 27	52. 45
1. 18	54. 30
1. 30	54. 0
2. 0	54. 30
2. 28	53. 0
3. 50	51. 10
5. 21	47. 0
6. 55	47. 10
8. 18	50. 10
12. 53	51. 5
13. 42	52. 0
13. 53	53. 0
14. 17	52. 0
16. 2	51. 0
16. 30	51. 20
17. 5	50. 20
17. 25	51. 0
17. 56	49. 20
18. 23	49. 10
18. 36	50. 10
19. 10	49. 25
20. 0	45. 40
22. 28	46. 30
23. 17	51. 10

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Aug. 10	
h m	
10. 4	·1108
10. 19	·1105
10. 37	·1114
10. 49	·1108
11. 19	·1105
11. 29	·1107
12. 1	·1102
12. 22	·1106
12. 43	·1103
13. 41	·1107
13. 58	·1103
14. 19	·1105
14. 40	·1102
14. 48	·1102
15. 11	·1100
15. 30	·1102
16. 10	·1100
16. 51	·1102
17. 33	·1090
18. 0	·1088
18. 20	·1093
18. 34	·1091
18. 46	·1094
20. 22	·1081
21. 30	·1070
21. 53	·1069
22. 14	·1072
22. 33	·1074
22. 38	·1073
22. 58	·1077
23. 59	·1086
Aug. 11	
0. 0	·1086
0. 15	·1091
0. 31	·1091
0. 46	·1096
0. 53	·1094
1. 21	·1096
1. 49	·1107
1. 56	·1106
2. 5	·1109
2. 32	·1101
3. 15	·1107
3. 34	·1105
3. 53	·1109
4. 22	·1108
4. 36	·1113
5. 15:	·1106
5. 50	·1109
6. 29	·1106
6. 40	·1109
7. 45	·1105
9. 22	·1108
10. 21	·1109
10. 52	·1106
12. 43	·1106
12. 52	·1103

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
Aug. 11	
0. 0	·02692
0. 27	·02695
3. 15	·02594
6. 2	·02377
6. 15	·02406
8. 57	·02477
13. 54:	·02610
19. 52	·03022
20. 30	·03045
22. 20	·02925
23. 59	·02828

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Aug. 11		
1. 0	62·6	63·5
3. 0	63·2	64·0
9. 5	65·0	65·3
21. 0	60·6	60·9

Greenwich Mean Solar Time.	Western Declination.
Aug. 11	
h m	° ′ ″
23. 53	20. 52. 0
23. 59	52. 25
Aug. 12	
0. 0	20. 52. 30
0. 22	53. 30
0. 36	53. 0
1. 18	55. 55
2. 12	56. 15
2. 20	55. 25
	***
3. 40	54. 0
3. 50	55. 5
6. 38	51. 5
9. 30	51. 5
9. 57	50. 30
10. 15	51. 35
10. 57	49. 30
11. 47	51. 25
12. 3	53. 25
	***
16. 4	51. 25
16. 32	50. 10
17. 15	50. 30
17. 35	53. 15
17. 48	52. 45
	***
18. 37	53. 20
19. 50	52. 5
20. 3	52. 10
20. 16	53. 25
20. 22	53. 5
20. 34	53. 50
20. 43	53. 10
21. 44	53. 0
22. 28	54. 35
22. 42	54. 10
23. 38	57. 5
23. 59	57. 0

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Aug. 11	
h m	
13. 6	·1107
13. 49	·1100
14. 11	·1104
15. 19	·1106
16. 15	·1108
16. 38	·1104
16. 58	·1106
17. 21	·1105
17. 34	·1107
17. 45	·1102
17. 55	·1104
19. 0	·1100
19. 41	·1088
20. 47	·1079
21. 24	·1078
21. 47	·1085
22. 11	·1083
22. 46	·1085
23. 17	·1090
23. 25	·1082
23. 59	·1083
Aug. 12	
0. 0	·1083
0. 7	·1083
1. 40	·1100
2. 22	·1100
2. 45	·1088
3. 8	·1106
3. 17	·1105
3. 25	·1110
3. 37	·1106
	***
3. 52	·1116
4. 23	·1106
5. 13	·1099
6. 7:	·1109
7. 17	·1107
7. 25	·1109
7. 47	·1106
8. 37	·1107
8. 46	·1106
9. 0	·1110
9. 32	·1109
10. 3	·1103
10. 19	·1112
10. 37	·1107
11. 5	·1104
11. 52	·1107
12. 6	·1112
12. 17	·1110
12. 36	·1112
12. 54	·1108
13. 10	·1107
13. 22	·1110
14. 4	·1104
15. 20	·1108
15. 33	·1104

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
Aug. 12	
0. 0	·02828
1. 22	·02724
5. 27	·02346
6. 9	·02410
9. 12	·02563
10. 30	·02587
12. 53	·02727
17. 29	·03188
18. 52	·03037
21. 54	·02788
22. 23	·02770
	·02688
23. 59	·02664

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Aug. 12		
1. 0	64·4	64·3
3. 0	66·7	66·5
9. 0	67·9	67·9
21. 0	61·4	61·0
22. 0	62·0	61·5
23. 0	62·9	62·2

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Western Declination

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
Aug. 13	
0. 0	20. 57. 0
1. 30	57. 0
1. 54	58. 5
4. 45	54. 55
4. 52	55. 10
5. 4	52. 30
5. 43	48. 30
5. 47	49. 0
5. 57	48. 25
6. 21	54. 0
6. 45	48. 55
7. 6	51. 0
7. 43	48. 35
8. 17	51. 0
	***
9. 16	51. 5
9. 37	37. 50
9. 56	43. 0
10. 20	47. 5
10. 52	45. 25
11. 4	47. 0
11. 25	43. 40
11. 37	43. 0
11. 47	43. 30
12. 42	38. 45
13. 37	38. 0
14. 13	44. 0
14. 21	43. 25
14. 41	49. 10
14. 58	47. 0
15. 17	42. 45
15. 54	45. 50
16. 9	45. 50
16. 45	51. 20
17. 28	46. 0
18. 23	47. 30
18. 33	48. 30
19. 39	47. 55
20. 22	49. 0

Horizontal Force in parts of the whole H. F. uncorrected for Temperature

Greenwich Mean Solar Time. (h m)	Horizontal Force
Aug. 12	
16. 27	·1103
17. 33	·1096
18. 0	·1100
18. 22	·1095
18. 33	·1094
19. 0	·1082
20. 8	·1078
20. 27	·1075
20. 48	·1076
20. 58	·1081
21. 21	·1080
22. 17	·1076
22. 48	·1079
23. 4	·1087
23. 15	·1083
23. 52	·1095
23. 59	·1094
Aug. 13	
0. 0	·1094
0. 3	·1092
	(†)
0. 48	·1092
1. 0	·1092
1. 7	·1093
1. 20	·1097
1. 30	·1092
1. 37	·1100
	***
3. 59	·1101
4. 2	·1106
4. 5	·1099
4. 31	·1110
4. 35	·1104
4. 45	·1108
4. 55	·1104
5. 10	·1114
5. 16	·1111
5. 25	·1115
5. 41	·1103
5. 47	·1103
5. 59	·1104
6. 4	·1104
6. 20	·1122
6. 24	·1117
6. 35	·1133
7. 0	·1097
7. 14	·1118
7. 17	·1113
7. 26	·1114
7. 47	·1102
8. 4	·1113
8. 13	·1110
8. 21	·1095
8. 34	·1096
8. 46	·1107
9. 0	·1100
9. 8	·1107

Vertical Force in parts of the whole V. F. uncorrected for Temperature

Greenwich Mean Solar Time. (h m)	Vertical Force
Aug. 13	
0. 0	·02664
2. 45	·02516
3. 13	·02470
5. 11	·02348
5. 32	·02355
6. 8	·02330
6. 20	·02298
6. 35	·02305
6. 43	·02336
7. 55	·02377
9. 27	·02400
9. 45	·02366
9. 52	·02387
11. 24	·02330
12. 0	·02336
12. 23	·02374
12. 34	·02367
14. 42	·02454
15. 12	·02443
17. 18	·02590
18. 47	·02768
21. 17	·02967
22. 39	·02873
23. 59	·02854

Readings of Thermometers

Greenwich Mean Solar Time. (h m)	Of H. F. Magnet. (°)	Of V. F. Magnet. (°)
Aug. 13		
0. 0	63·9	63·4
1. 0	64·9	64·4
2. 0	66·1	65·4
3. 0	67·0	66·5
6. 0	69·0	68·3
9. 0	68·7	68·2
12. 0	67·2	67·0
18. 0	63·8	64·1
21. 0	63·2	63·8
22. 0	63·5	63·8
23. 0	63·8	64·0

Western Declination (continued)

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
Aug. 13	
20. 50	20. 48. 30
21. 25	50. 30
21. 58	50. 0
23. 59	56. 10
Aug. 14	
0. 0	20. 56. 15
0. 13	56. 25
	(†)
1. 0	20. 58. 8*
3. 0	21. 2. 2*
3. 39	0. 10
3. 53	2. 10
4. 11	0. 50
4. 15	21. 1. 0
4. 30	20. 58. 10
4. 39	59. 15
4. 48	58. 35
5. 0	59. 50
5. 15	20. 58. 40
5. 30	21. 0. 0
5. 47	20. 52. 35
5. 52	53. 0
6. 9	47. 10

Horizontal Force (continued)

Greenwich Mean Solar Time. (h m)	Horizontal Force
Aug. 13	
9. 21	·1100
9. 31	·1101
9. 41	·1110
9. 51	·1111
9. 58	·1097
10. 2	·1101
10. 15:	·1103
10. 45	·1094
10. 50	·1093
11. 0	·1086
11. 19	·1088
12. 2	·1068
12. 33	·1081
12. 45	·1072
12. 53	·1079
13. 14	·1080
13. 53	·1069
14. 18	·1067
14. 52	·1073
15. 0	·1071
15. 37	·1096
16. 3	·1090
16. 38	·1100
16. 48	·1098
16. 54	·1103
17. 2	·1100
17. 13	·1101
17. 47	·1090
18. 11	·1088
18. 40	·1088
19. 57	·1079
20. 37	·1069
21. 52	·1060
22. 1	·1062
22. 42	·1066
23. 31	·1078
23. 59	·1091
Aug. 14	
0. 0	·1091
	(†)
1. 0	·1093*
2. 22	·1094
2. 32	·1101
2. 42	·1093
3. 5	·1122
3. 25	·1108
3. 40	·1116
3. 47	·1111
4. 11	·1128
4. 32	·1114
4. 47	·1113
5. 7	·1124
5. 17	·1116
5. 27	·1123
5. 31	·1119
5. 40	·1125

Vertical Force (continued)

Greenwich Mean Solar Time. (h m)	Vertical Force
Aug. 14	
0. 0	·02854
1. 48	{ ·02878 ·02824
4. 53	·02820
5. 3	·02807
5. 37	·02810
5. 47	·02835
5. 54	·02820
6. 9	·02805
6. 24	·02820
6. 32	·02800
6. 45	·02788
6. 54	·02760
8. 10	·02693
10. 56	·02760
12. 50	·02852
14. 12	{ ·02940 ·02878

Readings of Thermometers (continued)

Greenwich Mean Solar Time. (h m)	Of H. F. Magnet. (°)	Of V. F. Magnet. (°)
Aug. 14		
0. 0	64·3	64·5
1. 0	64·9	65·0
2. 0	65·5	65·5
3. 0	66·1	66·0
9. 14	66·0	66·2
21. 0	61·5	61·7

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Aug. 14 — Western Declination

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
6. 13	20. 47. 20
6. 29	38. 40
6. 34	45. 45
6. 44	46. 40
6. 52	53. 40
7. 8	49. 50
7. 19	51. 0
7. 32	50. 0
7. 40	50. 40
7. 45	50. 10
8. 12	52. 50
8. 27	51. 35
8. 48	53. 15
9. 2	52. 10
9. 35	53. 45
10. 6	51. 0
11. 2	52. 40
11. 39	50. 50
12. 6	52. 50
12. 27	52. 0
12. 39	53. 0
12. 49	50. 55
13. 6	52. 10
13. 15	51. 35
14. 25	50. 55
14. 58	50. 40
18. 15	50. 45
18. 31	50. 0
18. 48	50. 55
19. 0	50. 0
	(†)
21. 0	50. 48*
23. 32	54. 45
23. 59	56. 0

Aug. 14 — Horizontal Force in parts of the whole H. F. uncorrected for Temperature

Greenwich Mean Solar Time. (h m)	Horizontal Force
5. 49	·1118
6. 0	·1140
6. 6	·1129
6. 9	·1134
6. 24	·1117
6. 37	·1155
6. 47	·1146
6. 52	·1149
7. 6	·1117
7. 16	·1116
7. 32	·1107
7. 39	·1110
7. 49	·1105
8. 6	·1114
8. 17	·1102
8. 32	·1105
8. 38	·1102
8. 45	·1105
8. 53	·1102
9. 10	·1108
10. 1	·1097
10. 23	·1105
10. 38	·1105
10. 46	·1100
11. 2	·1106
11. 34:	·1099
11. 55	·1107
12. 31	·1109
12. 42	·1096
12. 54	·1103
13. 15	·1100
13. 50	·1104
13. 55	·1102
14. 7	·1109
14. 23	·1106
16. 23	·1109
17. 23	·1108
18. 23	·1110
19. 5	·1106
20. 21	·1101
22. 0	·1090
22. 25	·1096
22. 42	·1095
22. 49	·1100
23. 0	·1097
23. 30	·1100
23. 59	·1087

Aug. 14 — Vertical Force in parts of the whole V. F. uncorrected for Temperature

Greenwich Mean Solar Time. (h m)	Vertical Force
15. 20	·02936 / ·02878
16. 26	·02948 / ·02900
17. 28	·02962 / ·02922
18. 17	·02971 / ·02932
19. 16	·02972 / ·02933
20. 27	·02960 / ·02920
21. 41	·02948 / ·02906
22. 45	·02908
23. 31	·02885
	(†)

Aug. 15 — Western Declination

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
0. 0	20. 56. 10
1. 30	58. 0
1. 56:	56. 35
2. 17	57. 20
6. 27	51. 50
13. 0	50. 0
15. 30	51. 50
17. 50	50. 0
18. 0	49. 10
18. 9	20. 50. 10
19. 15	48. 20
19. 27	48. 50
19. 42	47. 50
19. 52	46. 25
20. 18	48. 0
20. 33	47. 45
21. 30	50. 30
21. 39	50. 15
23. 35	56. 0
23. 59	55. 50

Aug. 15 — Horizontal Force in parts of the whole H. F. uncorrected for Temperature

Greenwich Mean Solar Time. (h m)	Horizontal Force
0. 0	·1087
1. 30	·1098
1. 36	·1102
1. 49	·1096
2. 19	·1093
2. 25	·1099
2. 30	·1093
2. 34	·1097
3. 3	·1101
3. 23	·1099
4. 26	·1103
4. 33	·1100
4. 47	·1102
4. 56	·1109
5. 14	·1102
5. 30	·1107
5. 40	·1102
5. 51	·1101
	***
6. 30	·1107
6. 38	·1106
	***
7. 28	·1107
7. 34	·1109
7. 51	·1106
8. 35	·1106
8. 50	·1102
9. 0	·1106
9. 4	·1103
9. 31	·1107
9. 51	·1103
10. 10	·1107
10. 22	·1103
11. 1	·1102
11. 7	·1105
11. 30	·1102
11. 52	·1106
12. 19	·1103
13. 29	·1105
15. 16	·1103
15. 43	·1106
16. 37	·1104
17. 9	·1106
17. 50	·1104
17. 58	·1104
21. 20	·1083
22. 9	·1085
23. 32	·1095
23. 45	·1091
23. 59	·1094

Aug. 15 — Vertical Force in parts of the whole V. F. uncorrected for Temperature

Greenwich Mean Solar Time. (h m)	Vertical Force
	(†)
1. 0	·02258*
1. 38	·02243
2. 24	·02266 / ·02330
3. 14	·02322
4. 50	·02393
9. 33	·02422
11. 31	·02490
14. 39	·02677 / ·02596
15. 36	·02674 / ·02612
16. 34	·02695 / ·02648
17. 28	·02702 / ·02650
18. 20	·02698 / ·02657
19. 27	·02718 / ·02676
20. 42	·02703 / ·02648
21. 52	·02658 / ·02573
23. 50	·02517
	(†)

Aug. 15 — Readings of Thermometers

Greenwich Mean Solar Time. (h m)	Of H. F. Magnet. (°)	Of V. F. Magnet. (°)
1. 0	63·8	64·0
3. 0	64·9	64·8
9. 0	64·5	65·5
21. 0	60·6	60·6

Aug. 16 — Western Declination

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
0. 0	20. 55. 50
1. 28	57. 10
1. 49	57. 35
2. 24	55. 30
4. 7	52. 30
4. 31	52. 40
5. 26	50. 20
7. 39	50. 15
8. 6	48. 0
8. 39	47. 35
9. 2	49. 15
	***
12. 29	49. 30
13. 16	51. 10
13. 44	49. 30

Aug. 16 — Horizontal Force in parts of the whole H. F. uncorrected for Temperature

Greenwich Mean Solar Time. (h m)	Horizontal Force
0. 0	·1094
0. 30	·1094
	(†)
1. 0	·1099*
2. 18	·1098
2. 38	·1094
3. 10	·1098
	***
3. 23	·1095
	***
4. 1	·1098
	***
4. 45	·1108
	***
5. 20	·1098
	***

Aug. 16 — Vertical Force in parts of the whole V. F. uncorrected for Temperature

Greenwich Mean Solar Time. (h m)	Vertical Force
	(†)
0. 45	·02462
5. 54	·02670
7. 33	·02688 / ·02792
9. 42	·02778
14. 28	·02922
17. 43	·03043
20. 27	·03074
	(†)
21. 0	·03082*
22. 31	·03052
23. 59	·03068

Aug. 16 — Readings of Thermometers

Greenwich Mean Solar Time. (h m)	Of H. F. Magnet. (°)	Of V. F. Magnet. (°)
1. 0	63·4	63·3
3. 0	64·2	64·7
9. 0	63·8	64·7
21. 0	61·1	61·7

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Aug.16		Aug.16						
h m	° ′ ″	h m		h m		h m	°	°
14.23	20.49. 0	5.32	·1100					
15. 3	50.10		***					
16.57	50. 0	6.25	·1112					
17.14	49. 0		***					
18.44	49. 0	6.47	·1106					
19. 0	48.10		***					
19.30	49.10	7.17	·1112					
19.50	48.30		***					
20.45	50.20	8.21	·1116					
20.53	50. 0	9. 6	·1113					
20.56	50.10	9.20	·1113					
21.21	51.45	9.48	·1108					
21.35	51.35	10.49	·1108					
	(†)	11.27	·1111					
22.37	53. 0	12. 0	·1109					
23.59	56.45	13. 7	·1112					
		13.30	·1115					
		14. 0	·1113					
		15.20	·1113					
		17.32	·1107					
		19.30	·1103					
		20. 7	·1100					
		20.22	·1099					
		21.34	·1094					
			(†)					
Aug.17		Aug.17		Aug.17		Aug.17		
0. 0	20.56.55		(†)	0. 0	·03068	9. 3	62·1	62·6
5.35	51.30	0.38	·1090	2.10	·03100	21. 0	59·8	60·8
7.29	52.10	0.53	·1094	8. 5	·03118			
8.27	50.30	1. 7	·1093	12. 6	·03154			
9.15	52.10	1.19	·1095	14.27	{ ·03208			
14.30	50.10	2.43	·1099		·03125			
14.53	50.30	2.59	·1102	19.10	{ ·03256			
17.44	48.25	3.34	·1103		·03174			
18.24	46.15	3.48	·1106	23.59	·03203			
19.53	46.10	4.34	·1106					
21.35	50. 0	4.46	·1108					
22.44	56. 5	5.26	·1107					
23.59	59. 0	5.52	·1110					
		6. 4	·1110					
		6.30	·1114					
		6.49	·1118					
		7. 5	·1117					
		7.23	·1119					
		7.44	·1116					
		8. 3	·1115					
		8.17	·1117					
		9. 4	·1110					
		9.23	·1110					
		9.32	·1109					
		10.15	·1110					
		11.29	·1109					
		13.56	·1109					
		14. 4	·1111					
		15. 0	·1108					
		15.33	·1109					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
		Aug.17						
h m	° ′ ″	h m		h m		h m	°	°
		16.55	·1106					
		17.41	·1107					
		18.38	·1104					
		18.52	·1103					
		21. 0	·1090					
		21.18	·1090					
		21.36	·1088					
		21.55	·1089					
		22. 7	·1087					
		22.53	·1096					
		23. 9	·1097					
		23.59	·1104					
Aug.18		Aug.18		Aug.18		Aug.18		
0. 0	20.59. 0	0. 0	·1104	0. 0	·03203	1. 0	60·9	61·2
0. 8	59. 0		(†)	1.39	{ ·03192	3. 0	62·0	62·0
	(†)	0.57	·1112		·02838	9. 0	63·0	63·2
1. 0	59. 7*	1.30	·1108	5.53	·02997	21. 0	59·0	58·9
3. 0	53.51*	2.25	·1120	9.20	·03160			
4. 0	52.50	2.35	·1117	10.21	·03162			
4.44	51.10	3. 1	·1116	10.47	·03153			
	(†)	3.37	·1119	14.13	·03318			
8.42	48.20	3.55	·1115	14.38	·03310			
9.32	48. 0	4.10	·1115	15.22	·03277			
10. 9	44.55	4.19	·1120	15.57	·03363			
10.33	49.20	4.48	·1111	18.21	·03548			
11. 0	46.45	4.58	·1116	18.40	{ ·03543			
11.12	47. 0	5. 4	·1115		·03470			
11.27	46. 0	5.15	·1118	20.37	{ ·03536			
11.43	46.40	5.30	·1116		·03470			
11.58	46.15	5.49	·1120	22. 0	{ ·03466			
12. 6	47.30	5.56	·1126		·03403			
12.18	45.15	6.20	·1116	22.58	·03386			
12.53	44.40	6.44	·1115	23.59	·03307			
13. 5	46.20	7. 7	·1122					
13.15	44.25	7.29	·1117					
13.49	47.10	8.17	·1113					
14.26	53. 0		(†)					
14.45	48. 0	9. 0	·1114*					
14.52	48.10	21. 0	·1092*					
15.15	35.55	22.40	·1102					
15.30	35.40	23. 7	·1108					
16.12	45.55	23.15	·1113					
16.38	47. 0	23.24	·1111					
18.15	46. 0	23.34	·1113					
19.31	46. 5	23.59	·1108					
19.38	44.45							
20. 2	46. 0							
20.18	45. 0							
20.56	47.10							
	(†)							
21. 0	46.10*							
Aug.19		Aug.19		Aug.19		Aug.19		
	(†)	0. 0	·1108	0. 0	·03307	1. 0	64·9	64·4
0.30	20.54.45	0.23	·1112	2. 0	·03116	3. 0	68·3	68·0
0.48	54.50	1.22	·1126	3.49	·03414	9. 0	69·0	69·5
			***					

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Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Aug. 19		Aug. 19		Aug. 19		Aug. 19		
h m	° ′ ″	h m		h m		h m	°	°
1. 0	20. 56. 0	2. 15	·1114	5. 49	·03988	21. 0	60·4	60·8
1. 15	55. 45	2. 22	·1115	7. 30	·04342	22. 0	61·6	61·2
1. 23	56. 25		***		(†)	23. 0	62·4	62·0
2. 18	54. 0	3. 0	·1116	9. 0	·04583*			
2. 27	54. 30		***	21. 0	·05414*			
2. 57	53. 0	3. 39	·1120					
3. 13	53. 0		***					
	***	3. 58	·1111					
5. 27	49. 0	4. 3	·1116					
	***	4. 6	·1114					
6. 56	51. 10	4. 15	·1122					
10. 3	51. 55	4. 19	·1100					
10. 15	51. 10	4. 28	·1114					
10. 55	45. 35	4. 33	·1106					
11. 19	46. 0	4. 39	·1111					
11. 59:	37. 55	5. 0	·1115					
12. 40	43. 30	5. 6	·1112					
12. 58	40. 40	5. 12	·1117					
14. 13	47. 10	5. 19	·1109					
14. 16	46. 30	5. 27	·1113					
14. 43	56. 0	5. 50	·1111					
14. 48	54. 30	5. 58	·1122					
14. 53	56. 10	6. 20	·1116					
15. 2	54. 30	6. 45	·1117					
15. 10	57. 0	6. 57	·1113					
15. 17	51. 50	7. 15	·1117					
15. 27	58. 30	7. 24	·1117					
15. 32	57. 10	7. 42	·1121					
15. 36	59. 0	7. 55	·1118					
15. 53	52. 20	8. 28	·1116					
16. 0	51. 55	9. 2	·1125					
16. 7	57. 15	9. 19	·1120					
16. 23	42. 5	9. 47	·1127					
16. 30	42. 30	10. 11	·1125					
16. 37	41. 20	10. 25	·1118					
16. 45	47. 5	10. 36	·1114					
17. 0	40. 5	10. 47	·1117					
17. 24	45. 20	10. 53	·1113					
17. 39	43. 30	11. 11	·1124					
17. 52	48. 0	11. 22	·1122					
18. 11	46. 30	11. 56	·1083					
18. 24	49. 30	12. 2	·1087					
18. 33	49. 0	12. 7	·1084					
18. 45	51. 20	12. 11	·1087					
18. 57	47. 15	12. 17	·1086					
19. 6	50. 0	12. 23	·1097					
19. 12	47. 55	12. 36	·1080					
19. 45	45. 55	12. 41	·1089					
19. 53	47. 30	12. 47	·1084					
20. 0	45. 25	12. 49	·1088					
20. 38	46. 0	12. 53	·1085					
21. 5	48. 20	13. 3	·1109					
21. 29	47. 45	13. 15	·1086					
21. 33	49. 55	13. 27	·1104					
22. 18	54. 0	13. 34	·1102					
22. 45	54. 30	13. 42	·1120					
22. 57	56. 0	13. 47	·1111					
23. 19	56. 20	13. 50	·1113					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Aug. 19		Aug. 19						
h m	° ′ ″	h m		h m		h m	°	°
23. 44	20. 58. 5	14. 5	·1107					
	(†)	14. 12	·1117					
		14. 22	·1107					
		14. 33	·1126					
		15. 3	·1093					
		15. 6	·1102					
		15. 8	·1095					
		15. 15	·1102					
		15. 23	·1099					
		15. 37	·1113					
		15. 48	·1113					
		15. 55	·1092					
		16. 7	·1102					
		16. 22	·1097					
		16. 27	·1091					
		16. 34	·1094					
		16. 47	·1082					
		16. 55	·1085					
		17. 15	·1078					
		17. 24	·1070					
		17. 34	·1086					
		17. 57	·1090					
		18. 7	·1096					
		18. 19	·1092					
		18. 28	·1098					
		18. 41	·1090					
		18. 51	·1098					
		19. 0	·1093					
		19. 14	·1096					
		19. 19	·1094					
		19. 34	·1098					
		19. 38	·1094					
		19. 47	·1098					
		19. 54	·1095					
		20. 2	·1098					
		20. 24	·1096					
		20. 32	·1090					
		20. 46	·1092					
		21. 13	·1085					
		21. 28	·1072					
		21. 42	·1071					
		21. 48	·1076					
		22. 8	·1074					
		22. 39	·1098					
		22. 46	·1100					
		22. 53	·1095					
		23. 19	·1119					
			(†)					
Aug. 20		Aug. 20		Aug. 20		Aug. 20		
	(†)		(†)		(†)	0. 0	63·5	63·3
1. 0	20. 55. 14*	1. 0	·1082*	1. 0	·04180*	1. 0	64·7	64·8
3. 0	53. 20*	1. 22	·1096	2. 47	·02955	2. 0	66·0	66·0
5. 57	50. 0		***	3. 33	·03067	3. 0	67·0	67·1
6. 15	49. 45	2. 30	·1109	4. 56	·03376	6. 0	69·0	68·8
10. 3	52. 20		***	6. 53	·03520	9. 0	68·7	68·5
10. 41	51. 25	3. 17	·1111	8. 31	·03587	12. 0	67·5	67·2

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

August 19. The Photographic Trace for the Vertical Force Magnet was off the sheet from $7^h. 30^m.$, in the direction of increasing force.

VERTICAL FORCE.—August 20. The adjustments were altered at $0^h.$, so that the readings were diminished by $7^{div.}·80$, or by 0·01234 parts of the whole Vertical Force; and again at $2^h.$, when the readings were still further diminished by $9^{div.}·50$, or by 0·01503 parts of the whole Vertical Force.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Aug. 20		Aug. 20		Aug. 20		Aug. 20		
h m	° ′ ″	h m		h m		h m	°	°
13.48	20.51. 0	3.30	·1150	9.48	{·03604 ·03734}	21. 0	64·5	64·8
19.54	47.40	3.37	·1149	11.10	·03703	22. 0	65·2	65·0
21.19	48. 0	3.49	·1141	12.32	{·03727 ·04006}	23. 0	65·9	65·6
23.28	53.45	4. 7	·1138	15.29	·04117			
23.59	54. 0	4.15	·1143	17.32	·04247			
		4.30	·1141	19.25	·04238			
		4.43	·1107	22.23	·04173			
		5.42	·1111	22.38	·04182			
		5.49	·1115	23.59	·04146			
		6.18	·1111					
		7.37	·1115					
		7.38	·1112					
		8.46	·1117					
		9. 0	·1114					
		10.18	·1114					
		10.36	·1112					
		12.58	·1109					
		13. 0	·1107					
		14.54	·1109					
		17.26	·1108					
		18.51	·1106					
		20. 9	·1101					
		20.41	·1098					
		21.20	·1097					
		21.45	·1096					
		22.20	·1100					
		23. 3	·1102					
		23.32	·1104					
		23.45	·1107					
			(†)					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Aug. 21		Aug. 21		Aug. 21		Aug. 21		
0. 0	20.54. 0		(†)	1. 0	·04093*	0. 0	66·5	66·2
1.17	54.30	0.45	·1112	3. 0	·03895*	1. 0	67·2	67·0
4.49	49. 0	1. 0	·1110	9. 0	·03665*	2. 0	68·1	68·0
9. 0	51.20	1.23	·1106	21. 0	·04188*	3. 0	69·0	68·8
16.13	49.30	1.30	·1112			9. 0	69·6	69·1
17.29	48. 0	2.17	·1105			21. 0	63·4	64·0
17.55	48.45	2.31	·1108					
18.16	47.50	2.53	·1107					
18.41	48.30	4. 4	·1112					
19.50	47.10	4.11	·1111					
22.14	51.30	5.19	·1116					
23. 0	53.25	5.47	·1115					
23.59	53. 0	6. 7	·1116					
		7.22	·1116					
		7.40	·1117					
		8. 8	·1116					
		8.52	·1116					
		9. 2	·1113					
		10. 6	·1117					
		10.51	·1117					
		11.33	·1115					
		11.42	·1116					
		12.18	·1114					
		12.33	·1115					
		12.55	·1114					
		15.47	·1114					
		15.55	·1112					
		17.10	·1110					
		17.38	·1111					
		17.56	·1111					
		18.13	·1112					
		19.13	·1108					
		20.55	·1105					
		22.10	·1108					
		22.53	·1107					
		23.40	·1113					
			(†)					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Aug. 22		Aug. 22		Aug. 22		Aug. 22		
0. 0	20.53. 0		(†)		(†)	1. 0	63·5	64·0
0.36	53. 0	1. 0	·1110*	1. 0	·04108*	3. 0	64·8	65·5
2. 0	50. 0	1.40	·1126 ***	1.49	·03764	9. 0	66·0	66·3
2. 6	50.25	1.57	·1125 ***	2.28	·03723	21. 0	57·6	58·0
2.14	50. 0	2.35	·1131 ***	3.48	·03575			
2.21	51.15	3. 9	·1121 ***	3.54	·03588			
2.57	49. 0	3.33	·1125	6.18	{·03712 ·03783}			
3.57	49. 5	3.45	·1123	6.59	·03715			
4.26	48.10	4. 3	·1125 ***		(†)			
4.41	48.35	4.31	·1116	9. 0	·03839*			
4.55	47.50	4.46	·1119	16.37	·03968			
6.42	49. 0	4.54	·1116	17.50	·03890			
6.54	49.40	5: 15	·1116 ***	18.58	·03738			
7.27	49.35	6. 4	·1124	21.53	·03376			
8. 3	52. 0	6.15	·1122	23.59	·03165			
8.15	51.35	6.37	·1125 ***					
8.39	52.10	7.12	·1120 ***					
8.51	51.10	7.44	·1113 ***					
9. 2	52.30	8.16	·1110					
9.25	48.15	8.33	·1112 ***					
9.53	46.50	8.51	·1108					
10.21	50.35	9.17	·1112					
10.32	50.15	9.36	·1129					
11. 0	51.10	9.52	·1120					
11.19	50.15	10. 7	·1119					
14. 5	50. 0	10.28	·1111					
14.24	52.20 ***	11.10	·1110					
16.58	48.45 ***	11.22	·1112					
19. 3	47.45	11.36	·1109					
19.22	46.45	12.14	·1113					
20. 0	49.10	12.32	·1111					
20.41	20.49.30	13. 0	·1114					
23.30	21. 0.10	13.16	·1112					
23.59	1. 0	14.26	·1113					
		14.39	·1114					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the readings will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

August 21. The Photographic Trace for the Vertical Force Magnet was too faint for use.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Aug.22						
h m	° ′ ″	h m		h m		h m	°	°
		17.31	·1114					
		17.47	·1113					
		17.56	·1115					
		18. 7	·1108					
		18.33	·1112					
		18.46	·1108					
		19.20	·1107					
		19.32	·1109					
		21. 2	·1099					
		21.46	·1097					
		22. 5	·1104					
		22.27	·1107					
		22.31	·1111					
		22.51	·1116					
			(†)					
Aug.23		Aug.23		Aug.23		Aug.23		
0. 0	21. 1. 0		(†)	0. 0	·03165	1. 0	62·8	62·2
0.37	2. 0	0.49	·1118	1. 2	·03114	3. 0	65·1	65·7
1.22	21. 1.25	0.57	·1115	1.29	·03057	9. 0	65·8	67·2
3.21	20.54.35	1. 7	·1117		(†)	21. 6	58·1	58·4
3.38	56. 0	1.32	·1113	2.18	·02676			
4.20	53.30	1.40	·1116	3.20	·02724			
4.36	53.45	1.59	·1116		(†)			
4.44	52.55	2. 6	·1118	3.56	·02902			
5. 0	52.50	2.43	·1118	5.33:	·03300			
5.24	51. 0	2.58	·1120	7.19	·03538			
5.41	52. 0	3.19	·1114	7.23	·03555			
5.59	52. 0		(†)	7.48	·03538			
6. 5	51.55	3.44	·1124	8.27	·03576			
6.23	53.20	3.59	·1123		·03668			
6.33	52.35	4.21	·1114	10.16	·03607			
6.48	53.10	4.38	·1126	11.28	·03602			
7.46	52.15	4.48	·1122	12.32	·03630			
8.23	54.50	5. 0	·1121	12.41	·03620			
	***	5.22	·1112	12.53	·03631			
8.54	54.45	5.36	·1113	13.15	·03598			
9. 0	52.55	5.51	·1096	13.29	·03625			
9.12	56. 0	6.21	·1108	14.12	·03670			
9.41	53.40	6.34	·1105	14.46	·03722			
10.48	56.10	6.40	·1107	15.15	·03728			
11.30	55.40	6.51	·1105	16.20	·03834			
12.16	53.10	7.19	·1110		(†)			
12.33	54.20	7.34	·1105	21. 6	·03839*			
12.46	51.45	7.52	·1103	22.51	·03676			
14.30	53.50	8. 6	·1108	23.31	·03675			
14.45	54. 5	8.55	·1093		·03567			
15.19	47.10	9. 3	·1096	23.59	·03535			
15.28	47.55	9.30	·1094					
15.33	46.55	10. 7	·1098					
16. 5	50. 0	10.17	·1095					
16.14	50. 0	10.41	·1103					
16.45	53. 5	10.50	·1101					
17.19	50.35	10.55	·1105					
17.36	48.20	11.19	·1104					
18. 8	47.25	11.34	·1108					
18.33	49.10	11.50	·1106					
18.41	48.15	12. 9	·1112					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Aug.23		Aug.23						
h m	° ′ ″	h m		h m		h m	°	°
18.45	20.49. 0	12.21	·1112					
18.50	48.10	12.32	·1118					
18.56	49.30	12.39	·1114					
19. 7	48.25	12.52	·1130					
19.42	48.15	13. 0	·1126					
19.51	46. 0	13.20	·1104					
20.18	51.20	13.26	·1113					
20.25	50. 0		***					
20.50	54. 5	13.58	·1106					
21.21	54.40	14. 3	·1108					
22.30	20.58.20	14.32	·1095					
23. 3	21. 0.30	14.55	·1115					
23.59	2.55	15. 9	·1119					
		15.22	·1113					
		15.28	·1116					
		15.33	·1110					
		15.54	·1104					
		16.12	·1104					
		16.46	·1100					
		17. 7	·1105					
		17.11	·1102					
		17.17	·1105					
		17.29	·1103					
		17.45	·1107					
		18. 6	·1101					
		18.19	·1106					
		19. 4	·1101					
		19.33	·1100					
		19.48	·1095					
		20. 1	·1101					
		20.15	·1098					
		20.45	·1084					
		21.18	·1080					
		21.30	·1084					
		21.36	·1081					
		21.59	·1099					
		22.18	·1104					
		22.23	·1102					
		22.36	·1106					
		23.14	·1119					
		23.47	·1113					
		23.59	·1100					
Aug.24		Aug.24		Aug.24		Aug.24		
0. 0	21. 2.55	0. 0	·1099	0. 0	·03535	9. 0	66·0	66·0
0.15	2.55	0. 5	·1098	0.41	·03480	21. 0	58·4	58·3
0.40	21. 5.10	0.22	·1104	2.32	·03222			
2.26	20.58.40	0.28	·1100	3.22	·03094			
2.37	21. 0. 0	0.35	·1103	5. 2	·03443			
2.57	20.57.50	1. 0	·1084		·03542			
3.22	56. 0	1.50	·1106	5.33	·03468			
3.43	57.50	2.13	·1109		·03524			
4. 6	55. 0	2.39	·1120	6.19	·03433			
4.33	56.30	3. 0	·1107		·03494			
4.57	54.50	3.18	·1102	7. 8	·03402			
5.16	52. 0	3.40	·1122		·03470			
5.38	51.55	4. 9	·1105	8. 9	·03396			

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.
Aug. 24 h m	° ′ ″
5. 50	20. 50. 10
6. 0	52. 20
6. 30	54. 0
6. 50	50. 10
7. 30	52. 10
7. 38	51. 0
8. 0	51. 50
8. 22	57. 10
12. 21	54. 40
	(†)
14. 40	52. 10
15. 7	54. 0
16. 49	47. 0
17. 29	48. 0
17. 38	47. 10
17. 56	47. 0
18. 3	46. 0
18. 22	47. 10
18. 40	46. 30
19. 15	48. 30
19. 42	47. 25
20. 3	50. 45
20. 44	20. 50. 55
23. 15	21. 2. 50
23. 59	2. 55
Aug. 25	
0. 0	21. 2. 55
0. 53	0. 55
1. 35	21. 1. 20
	***
2. 38	20. 58. 20
2. 40	59. 20
3. 6	56. 50
3. 41	56. 10
4. 0	56. 50
4. 32	56. 0
5. 35	56. 15
5. 55	55. 35
6. 28	55. 50
7. 19	56. 55
7. 57	55. 55
8. 52	20. 48. 0
9. 18	53. 5
9. 45	52. 10
10. 3	53. 10
10. 23	52. 45
10. 56	53. 20
11. 23	52. 50
11. 49	56. 45
14. 16	51. 25
15. 3	51. 30
	***
15. 53	49. 45
16. 35	52. 40
16. 44	52. 15
17. 25	56. 45
17. 45	56. 10
18. 22	50. 45
19. 8	49. 0
19. 35	47. 20
19. 41	49. 10
19. 52	48. 10
21. 0	20. 49. 10
23. 59	21. 1. 0

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Aug. 24 h m	
4. 25	·1115
4. 37	·1102
4. 52	·1094
5. 11	·1101
5. 30	·1094
5. 58	·1117
6. 9	·1108
6. 15	·1107
6. 31	·1100
6. 47	·1116
6. 59	·1118
7. 20	·1107
7. 30	·1113
8. 28	·1105
9. 44	·1108
10. 59	·1106
12. 20	·1106
	(†)
14. 44	·1107
15. 4	·1102
15. 55	·1112
17. 39	·1103
17. 52	·1106
18. 9	·1100
18. 20	·1101
18. 32	·1096
18. 51	·1092
19. 8	·1086
	***
19. 46	·1085
	***
19. 56	·1088
	***
20. 31	·1079
21. 18	·1095
21. 53	·1091
22. 24	·1096
22. 52	·1095
22. 59	·1100
23. 26	·1091
23. 59	·1098
Aug. 25	
0.: 0	·1098
1. 6	·1107
1. 35	·1109
	***
1. 58	·1104
	***
2. 30	·1102
2. 42	·1107
	***
3. 27:	·1099
	***
4. 3	·1111
	***
4. 34	·1095
	***
4. 40	·1101
	***
4. 57	·1087
5. 4	·1092
5. 13	·1086
5. 21	·1092
5. 30	·1086
5. 36	·1091
5. 57	·1087
	***
7. 5	·1105
7. 15	·1100
7. 22	·1105
	***
8. 0	·1103
8. 22	·1110
8. 38	·1103
8. 49	·1107
9. 20	·1094
9. 31	·1097
9. 50	·1092
10. 34	·1091
10. 48	·1094
11. 19	·1092
11. 40	·1102
11. 52	·1100
12. 9	·1105
12. 30	·1102
12. 42	·1102
12. 55	·1098
13. 14	·1096
13. 22	·1097
13. 44	·1096
14. 47	·1098
15. 13	·1107
15. 27	·1103
15. 51	·1098
16. 9	·1097
16. 22	·1101
17. 13	·1090
17. 50	·1106
18. 47	·1097
19. 5	·1098
	***
19. 43	·1097
19. 55	·1097
20. 49	·1088
21. 10	·1083
21. 31	·1083
	***
22. 0	·1090
	***
22. 25	·1103
	***
23. 28	·1100
	***
23. 59	·1110

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
Aug. 24 h m	
8. 48	{·03420 ·03523
11. 56:	·03577
14. 44	·03788
16. 34	·03990
19. 5	·03618
20. 51	·03330
21. 56	·03236
23. 59	·03137
Aug. 25	
0. 0	·03137
1. 30	·02972
2. 24	·02803
3. 13	·02635
5. 32:	·03220
8. 25	·03458
9. 53	·03470
12. 27	·03588
13. 36	·03694
17. 7	·04077
17. 58	·03942
20. 43	·03680
21. 54	·03537
22. 48	·03490
23. 59	·03385

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Aug. 25		
1. 0	64·5	63·8
3. 0	67·1	66·9
9. 0	65·9	65·9
21. 0	59·9	59·7

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

August 24. The motion of the Declination and Horizontal Force photographic cylinder was impeded for two hours, namely, from 12^h. 30^m. to 14^h. 30^m.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Aug. 26		Aug. 26		Aug. 26		Aug. 26		
h m	° ′ ″	h m		h m		h m	°	°
0. 0	21. 0. 55	0. 0	·1110	0. 0	·03385	1. 0	66 ·2	65 ·6
0. 20	2. 55	0. 17	·1106	2. 15	·03104	3. 0	69 ·1	68 ·8
0. 52	4. 0	0. 42	·1111	3. 9	·02863	9. 0	69 ·1	69 ·0
1. 7	2. 0		(†)	4. 30	·03292	21. 0	62 ·5	63 ·0
1. 38	2. 5	1. 0	·1108*	5. 34	{ ·03540	22. 0	63 ·5	63 ·7
1. 49	1. 0	1. 31	·1108		·03612	23. 0	64 ·2	64 ·1
2. 0	1. 0	2. 2	·1118	6. 7	{ ·03580			
2. 10	1. 35	2. 13	·1113		·03563			
2. 20	0. 50	3. 16	·1098	6. 41	{ ·03608			
2. 40	21. 0. 55		(†)		·03680			
	***	9. 0	·1117*	7. 13	·03640			
3. 52	20. 58. 45	9. 10	·1097	7. 56	{ ·03618			
	***	9. 38	·1088		·03727			
5. 8	53. 25	9. 58	·1091	9. 44	·03673			
5. 42	54. 0	10. 34	·1092	12. 5	·03740			
6. 36	53. 0	10. 52	·1096	12. 43	·03778			
7. 8	53. 40	11. 6	·1094	17. 33	·04205			
7. 55	51. 40	11. 22	·1096	22. 7	·03762			
8. 12	52. 0	11. 47	·1093	23. 59	·03507			
8. 42	45. 55	12. 15	·1100					
8. 51	40. 50	12. 45	·1095					
9. 15	48. 20	13. 15	·1100					
9. 26	46. 35	13. 57	·1095					
9. 52	49. 10	14. 17	·1098					
10. 3	49. 0	14. 43	·1096					
10. 52	52. 10	15. 4	·1099					
11. 45	52. 10	16. 1	·1098					
12. 2	51. 10	16. 19	·1100					
12. 34	57. 0	16. 43	·1096					
12. 56	52. 0	17. 3	·1098					
13. 30	52. 0	17. 48	·1096					
14. 15	51. 35	18. 21	·1097					
14. 32	50. 55	19. 29	·1092					
14. 54	51. 35	19. 44	·1091					
15. 24	51. 0	20. 55	·1083					
15. 52	52. 10	21. 18	·1084					
16. 44	50. 50	21. 52	·1081					
16. 58	51. 15	22. 12	·1083					
18. 12	49. 10		(†)					
18. 40	49. 0							
18. 55	48. 15							
19. 35	47. 10							
19. 59	47. 40							
20. 7	49. 0							
20. 20	48. 20							
22. 11	53. 25							
22. 24	55. 0							
23. 59	58. 40							
Aug. 27		Aug. 27		Aug. 27		Aug. 27		
0. 0	20. 58. 40		(†)	0. 0	·03507	0. 0	65 ·5	65 ·3
	(†)	0. 4	·1098	1. 3	{ ·03458	1. 0	67 ·0	66 ·9
1. 0	21. 0. 14*	0. 40	·1108		·02856	2. 0	68 ·2	68 ·1
2. 52	20. 54. 45	1. 2	·1105	2. 49	{ ·02587	3. 0	69 ·2	69 ·1
4. 3	53. 0	1. 17	·1104		·02978	6. 0	70 ·5	70 ·1
4. 20	53. 35	1. 24	·1109	4. 28	·02888	9. 0	68 ·8	68 ·2
4. 38	53. 35	1. 53	·1108	5. 41	{ ·03182	12. 0	67 ·0	67 ·0
	(†)	2. 18	·1114		·03270	18. 0	59 ·4	61 ·0

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Aug. 27		Aug. 27		Aug. 27		Aug. 27		
h m	° ′ ″	h m		h m		h m	°	°
7. 38	20. 53. 45	2. 40	·1110	6. 18	{ ·03233	21. 0	59 ·5	60 ·1
7. 44	54. 30	2. 51	·1112		·03310	22. 0	59 ·8	60 ·2
7. 59	53. 45	3. 19	·1106	7. 15	{ ·03252	23. 0	60 ·1	60 ·7
9. 0	54. 35		***		·03328			
	***	3. 52	·1104	8. 33	·03297			
11. 59	51. 10	4. 1	·1104	10. 51	·03403			
12. 15	52. 40	4. 9	·1102		(†)			
12. 30	52. 25		***	16. 15	·03795			
12. 45	53. 10	4. 44	·1102	19. 7	·03468			
13. 15	51. 20	5. 29	·1108	20. 50	·03250			
14. 50	49. 35	5. 45	·1106	21. 22	·03192			
15. 44	49. 25	6. 2	·1108		(†)			
16. 7	48. 50	6. 29	·1104					
16. 19	49. 10	6. 50	·1102					
17. 15	48. 0	7. 21	·1104					
17. 27	49. 10	7. 53	·1102					
17. 39	47. 30	8. 7	·1105					
17. 54	47. 15	8. 54	·1107					
18. 0	48. 20	9. 38	·1105					
18. 11	46. 25	10. 17	·1107					
18. 37	48. 0	11. 37	·1110					
18. 45	47. 30	11. 45	·1108					
19. 2	48. 10	12. 0	·1114					
19. 22	46. 50	12. 10	·1113					
19. 27	48. 25	12. 23	·1117					
19. 39	47. 0	13. 0	·1112					
20. 48	51. 20		(†)					
21. 1	51. 0	15. 33	·1111					
22. 17	57. 20	15. 48	·1112					
22. 22	59. 0	16. 0	·1108					
23. 8	57. 10	16. 35	·1111					
23. 36	57. 20	17. 30	·1108					
23. 59	58. 20	17. 37	·1109					
		17. 45	·1106					
		18. 13	·1108					
		18. 45	·1104					
		19. 5	·1105					
		19. 54	·1091					
		20. 15	·1091					
		20. 31	·1089					
		20. 49	·1081					
		21. 25	·1077					
		21. 32	·1078					
		21. 51	·1077					
			(†)					
		22. 43	·1069					
		23. 6	·1076					
		23. 17	·1077					
		23. 36	·1087					
		23. 59	·1099					
Aug. 28		Aug. 28		Aug. 28		Aug. 28		
0. 0	20. 58. 20	0. 0	·1099		(†)	0. 0	61 ·0	61 ·1
0. 23	20. 58. 40	0. 14	·1108	0. 13	·02082	1. 0	62 ·5	62 ·7
0. 57	21. 0. 0		***	1. 16	·02030	2. 0	63 ·9	64 ·3
1. 52	0. 10	0. 40	·1115	2. 6	{ ·01942	3. 0	65 ·4	65 ·8
2. 17	21. 0. 50		***		·02000	9. 0	67 ·6	67 ·9
2. 30	20. 58. 55	1. 12	·1115	2. 50	·01866	21. 0	60 ·0	60 ·5

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Aug.28		Aug.28		Aug.28				
h m	° ′ ″	h m		h m		h m	°	°
2.32	21. 0. 10	1. 20	·1112	3. 14	·01878			
2.39	20. 58. 0	1. 38	·1116	4. 9	·02096			
2.52	59. 10	1. 42	·1118	6. 27:	·02687			
2.58	58. 50	1. 45	·1114	8. 42	·02940			
3. 4	59. 15	1. 49	·1120	9. 1	·02975			
3.39	57. 20	1. 54	·1115	9. 12	·02952			
4.12	20. 58. 40	1. 58	·1121	10. 32	·02940			
4.27	21. 2. 0	2. 14	·1124	11. 53	·02986			
4.56	20. 55. 0	2. 23	·1113	12. 7	·03012			
5. 7	54. 30	2. 28	·1118	12. 34	·03004			
5.30	57. 10	2. 37	·1097	13. 54	·03115			
5.48	56. 0	2. 50	·1114	14. 34	·03113			
6. 6	57. 20	2. 57	·1114	16. 16	·03270			
6.15	57. 0	3. 4	·1126	17. 26	·03453			
6.30	57. 10	3. 25	·1110	17. 50	·03477			
6.42	55. 25	3. 37	·1106	18. 40	·03572			
6.55	56. 45	3. 58	·1131	20. 7	·03390			
7.10	54. 50	4. 9	·1121	21. 36	·03276			
7.14	55. 0	4. 21	·1136	21. 54	·03274			
7.23	54. 5	4. 45	·1086		(†)			
7.30	54. 40	4. 57	·1096	23. 12	·03115			
8.29	50. 0	5. 7	·1095	23. 59	·03112			
9. 2	34. 0	5. 25	·1111					
9.18	49. 55	5. 49	·1097					
9.35:	46. 25	6. 2	·1103					
9.49	48. 10	6. 14	·1097					
10. 2	46. 10	6. 25	·1108					
10.26	48. 0	6. 35	·1100					
10.39	46. 0	6. 47	·1111					
10.54	48. 5	6. 54	·1108					
11. 2	47. 55	7. 14	·1115					
11.20	49. 15	7. 35	·1106					
12. 5	46. 5	7. 48	·1107					
12.13	52. 15	8. 4	·1100					
12.56	50. 25	8. 11	·1099					
13. 3	50. 50	8. 37	·1076					
13.22	49. 0	8. 46	·1080					
13.45	20. 50. 0	9. 4	·1121					
14.10	21. 3. 0	9. 17	·1090					
14.27	20. 59. 50	9. 33	·1099					
15. 0	58. 30	9. 45	·1092					
15.22	54. 40	9. 49	·1094					
15.29	54. 15	10. 0	·1091					
15.38	55. 15	10. 25	·1095					
16. 8	49. 35	10. 46	·1089					
16.16	49. 20	11. 7	·1096					
16.32	44. 30	11. 22	·1093					
16.49	48. 20	11. 30	·1095					
17.25	49. 15	11. 52	·1091					
17.42	52. 55	12. 28	·1112					
17.49	52. 45	12. 35	·1107					
17.55	53. 35	13. 7	·1101					
18. 3	52. 30	13. 15	·1102					
18.28	54. 40	13. 20	·1095					
18.47	53. 40	13. 31	·1100					
19. 0	54. 25	13. 41	·1097					
19.19	52. 10	13. 59	·1096					
19.26	54. 50	14. 23	·1112					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Aug.28		Aug.28						
h m	° ′ ″	h m		h m		h m	°	°
19.38	20. 53. 50	14. 49	·1100					
19.53	56. 30	15. 14	·1108					
20.16	54. 25	15. 22	·1113					
20.29	57. 40	15. 35	·1114					
20.35	57. 0	15. 54	·1122					
20.48	59. 0	16. 14	·1127					
21. 0	58. 0	16. 33	·1114					
21.18	58. 5	16. 55	·1104					
21.36	57. 10	17. 31	·1099					
21.50	58. 40	17. 37	·1102					
22.30	57. 0	18. 0	·1093					
23. 4	58. 0	18. 6	·1094					
23.22	57. 0	18. 24	·1090					
23.52	57. 0	18. 45	·1095					
23.59	56. 50	18. 52	·1093					
		19. 0	·1096					
		19. 14	·1084					
		19. 22	·1089					
		19. 36	·1075					
		19. 47	·1071					
		19. 59	·1070					
		20. 14	·1065					
		20. 30	·1075					
		20. 40	·1072					
		20. 49	·1076					
		21. 0	·1070					
		21. 18	·1072					
		21. 27	·1076					
		22. 2	·1083					
		22. 13	·1078					
		22. 21	·1080					
		22. 29	·1075					
		22. 40	·1074					
		22. 52	·1079					
		23. 13	·1080					
			(†)					
Aug.29		Aug.29		Aug.29		Aug.29		
0. 0	20. 56. 55		(†)	0. 0	·03112	1. 0	63·0	63·1
0.16	20. 57. 25	1. 0	·1104*	0. 8	·03100	3. 0	65·1	65·0
0.30	21. 0. 50	1. 17	·1108	2. 55	·02938	9. 0	65·0	65·5
1.25	0. 0	1. 52	·1102	4. 26	·02777	21. 0	59·1	59·6
1.38	21. 1. 0	2. 10	·1118	5. 54	·02686			
1.59	20. 59. 45	2. 17	·1113	6. 41	·02658			
2. 5	21. 0. 0	2. 20	·1115	6. 52	·02635			
2.15	20. 59. 30	2. 30	·1101	7. 15	·02638			
2.25	57. 55	2. 41	·1107	7. 25	·02614			
2.39	59. 25	2. 50	·1097	7. 49	·02610			
3. 0	54. 55	3. 1	·1101	8. 11	·02578			
3. 9	55. 20	3. 8	·1096	9. 42	·02562			
3.30	53. 30	3. 12	·1104	11. 22	·02636			
3.42	53. 40	3. 27	·1109	13. 36	·02683			
3.44	54. 10	3. 32	·1103	13. 51	·02680			
3.57	53. 50	3. 45	·1113	14. 4	·02703			
4. 7	55. 55	4. 0	·1106	14. 32	·02713			
4.30	57. 30	4. 8	·1124	14. 56	·02740			
5. 9	55. 0	4. 15	·1118	15. 38	·02832			
5.17	55. 0	4. 31	·1119	18. 17	·03020			

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Aug. 29		Aug. 29		Aug. 29				
h m	° ′ ″	h m		h m		h m	°	°
6. 7	20. 51. 0	4. 41	·1106	20. 32	·03142			
6. 15	51. 40	5. 22	·1115	20. 44	·03114			
6. 28	51. 15	5. 36	·1111	21. 2	{ ·03100			
6. 47	52. 25	5. 49	·1115		{ ·02957			
6. 58	49. 15	6. 8	·1114	23. 42	·02884			
7. 16	52. 20	6. 22	·1125		(†)			
7. 39	41. 0	6. 38	·1119					
7. 56	48. 35	6. 48	·1122					
8. 16	49. 40	6. 57	·1118					
8. 40	49. 0	7. 2	·1102					
8. 57	50. 35	7. 24	·1117					
9. 38	47. 50	7. 34	·1104					
10. 2	47. 20	7. 55	·1134					
10. 47	51. 5	8. 16	·1114					
11. 4	50. 0	8. 33	·1108					
11. 25	52. 0	8. 38	·1111					
11. 40	50. 30	8. 49	·1108					
11. 51	50. 10	9. 30	·1107					
12. 25	52. 15	9. 44	·1105					
12. 35	51. 10		***					
12. 45	51. 50	10. 15	·1106					
13. 27:	49. 55	10. 49	·1113					
13. 47	53. 25	10. 59	·1107					
14. 0	53. 10	11. 19	·1114					
14. 17	55. 55	11. 39	·1106					
14. 55	52. 5	12. 2	·1116					
15. 5	47. 55	12. 10	·1116					
15. 15	49. 5	12. 25	·1121					
15. 59	48. 55	12. 54	·1123					
16. 20	50. 35	13. 7	·1127					
17. 0	50. 0	13. 30	·1119					
17. 27	51. 0	13. 35	·1120					
17. 48	50. 50	13. 49	·1110					
17. 56	49. 20	14. 0	·1119					
18. 8	49. 50		***					
18. 50	48. 10	14. 32	·1112					
18. 54	48. 50	14. 42	·1115					
18. 59	48. 0	14. 46	·1113					
	***	14. 56	·1120					
19. 38	48. 30	15. 20	·1115					
19. 45	47. 0	15. 46	·1118					
19. 58	49. 0	15. 56	·1116					
20. 8	48. 5	16. 30	·1122					
20. 19	48. 35		***					
20. 29	47. 25	17. 9	·1112					
20. 52	48. 25	17. 25	·1112					
21. 50	53. 0	17. 33	·1116					
23. 15	55. 35	17. 39	·1110					
23. 22	55. 0	17. 45	·1112					
23. 52	59. 30		***					
23. 59	59. 10	18. 30	·1107					
			***					
		19. 16	·1105					
		19. 35	·1102					
		19. 45	·1103					
			***					
		20. 30	·1092					
		20. 47	·1078					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Aug. 29						
h m	° ′ ″	h m		h m		h m	°	°
		21. 13	·1073					
		21. 20	·1078					
		21. 33	·1076					
		21. 52	·1079					
			***					
		22. 29	·1088					
		22. 50	·1092					
		23. 7	·1090					
		23. 40	·1105					
		23. 44	·1105					
		23. 59	·1095					
Aug. 30		Aug. 30		Aug. 30		Aug. 30		
0. 0	20. 59. 10	0. 0	·1095		(†)	1. 0	62·1	62·0
0. 39	59. 50	0. 13	·1102	0. 31	·02758	3. 0	64·0	64·2
0. 46	20. 59. 20		(†)	1. 7	·02754	9. 0	66·8	66·7
0. 54	21. 1. 10	0. 48	·1098	1. 58	·02697	22. 15	64·0	65·0
1. 0	0. 20	0. 57	·1103	4. 12	·02456			
1. 21	21. 1. 0	1. 2	·1100	4. 23	·02458			
1. 38	20. 58. 20	1. 9	·1105	4. 35	·02417			
2. 30	55. 0	1. 13	·1101	4. 42	·02423			
2. 36	56. 0	1. 53	·1100	4. 48	·02396			
2. 49	56. 0	2. 7	·1105	5. 18	·02390			
3. 0	54. 30	2. 12	·1101	5. 36	·02362			
3. 3	56. 0	2. 24	·1107	5. 55	·02358			
3. 16	54. 40	2. 32	·1102	6. 4	·02376			
3. 22	55. 35	2. 42	·1111	6. 19	·02320			
3. 28	53. 45	3. 2	·1111	7. 26	·02248			
3. 55	51. 0	3. 7	·1106	8. 3	·02287			
4. 8	53. 0	3. 14	·1120	9. 39	·02353			
4. 27	52. 5	3. 18	·1115	10. 56	·02364			
4. 30	53. 35	3. 31	·1115	11. 10	·02340			
4. 45	52. 10	3. 43	·1102	12. 37	·02353			
4. 52	53. 35	4. 14	·1122	13. 11	·02296			
5. 0	52. 10	4. 33	·1112	13. 33	·02273			
5. 22	53. 30	4. 41	·1134	15. 40	·02420			
5. 29	51. 10	4. 52	·1123	16. 33	·02427			
5. 35	51. 55	5. 0	·1133	16. 49	·02443			
5. 48	42. 50	5. 8	·1127	17. 41	·02457			
6. 4	36. 0	5. 30	·1143	18. 44	·02538			
6. 15	48. 0	5. 52	·1100	19. 7	·02546			
6. 35:	44. 50	6. 4	·1106	21. 16	·02687			
6. 48	49. 0	6. 17	·1159	22. 2	·02710			
7. 0	47. 0	6. 34	·1130	23. 59	·02672			
7. 15	48. 35	6. 49	·1125					
7. 29	45. 50	7. 2	·1112					
7. 38	49. 0	7. 15	·1110					
7. 57	50. 0	7. 30	·1124					
8. 19	48. 35	8. 7	·1112					
8. 38	51. 0	8. 35	·1118					
9. 39	49. 30	9. 2	·1112					
10. 55	54. 20		(†)					
11. 38	47. 30	18. 17	·1094					
12. 27	52. 0	18. 30	·1084					
12. 46	20. 56. 45	18. 45	·1089					
12. 57	21. 0. 50	19. 2	·1107					
13. 14	20. 56. 0	19. 25	·1103					
13. 22	57. 25	19. 53	·1094					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Aug. 30		Aug. 30						
h m	° ′ ″	h m		h m		h m	°	°
14. 6	20. 43. 35	20. 20	·1078					
14. 10	44. 10	20. 32	·1077					
14. 32	42. 20	20. 41	·1081					
14. 44	44. 40	20. 57	·1082					
15. 4	45. 10	21. 17	·1071					
15. 44	56. 35	21. 25	·1080					
16. 0	54. 35	21. 39	·1066					
16. 13	56. 10	21. 51	·1074					
16. 42	53. 25	22. 0	·1074					
17. 9	58. 50	22. 13	·1091					
17. 18	58. 0	22. 28	·1079					
17. 28	59. 5	23. 8	·1089					
	***	23. 17	·1089					
17. 57	58. 5	23. 21	·1097					
18. 3	59. 0	23. 30	·1097					
18. 13	57. 55	23. 40	·1095					
18. 22	57. 50	23. 59	·1080					
18. 32	20. 56. 35							
19. 0	21. 0. 30							
19. 21	20. 56. 15							
19. 33	56. 5							
19. 43	54. 55							
20. 12	56. 0							
20. 35	54. 25							
20. 45	56. 35							
20. 55	54. 10							
20. 59	54. 55							
21. 20	52. 30							
21. 28	54. 55							
22. 3	53. 55							
22. 24	56. 55							
22. 30	56. 50							
22. 45	57. 30							
23. 6	57. 25							
23. 51	58. 40							
23. 59	58. 0							
Aug. 31		Aug. 31		Aug. 31		Aug. 31		
0. 0	20. 57. 55	0. 0	·1080	0. 0	·02672	9. 0	66·5	66·6
0. 38	55. 50	0. 7	·1084	0. 27	·02644	21. 0	57·6	58·1
0. 45	57. 0		(†)	1. 31	·02502			
1. 8	56. 55	0. 55	·1091	2. 11	·02430			
1. 28	55. 55	1. 1	·1088	2. 45	·02356			
1. 52	55. 30	1. 35	·1088	2. 50	·02405			
2. 14	57. 0	1. 49	·1084	3. 48	·02592			
3. 10	56. 20	2. 4	·1091	4. 53	·02696			
3. 15	55. 20	2. 31	·1097	6. 13	·02782			
3. 22	56. 0	2. 52	·1088	9. 10	·02838			
3. 57	54. 50	3. 7	·1096	9. 57	·02817			
4. 3	55. 0	3. 14	·1092	12. 3	·02900			
4. 30	53. 25	3. 19	·1100	12. 54	·02972			
4. 42	51. 0	3. 43:	·1095	14. 59	·03204			
4. 49	52. 5	4. 15	·1105	15. 28	·03227			
5. 3	52. 0	4. 34	·1094	17. 15	·03473			
5. 53	52. 35	4. 43	·1102	17. 46	·03517			
6. 55	55. 0	5. 2	·1104	17. 57	·03474			
8. 0	54. 45	5. 34	·1098	19. 7	·03302			
8. 26	53. 25	5. 55	·1101	21. 34	·03047			

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Aug. 31		Aug. 31		Aug. 31				
h m	° ′ ″	h m		h m		h m	°	°
8. 34	20. 53. 55	6. 6	·1100	22. 58	{·02966			
8. 50	52. 20	6. 26	·1097		·02890			
9. 2	49. 25	6. 42	·1100	23. 59	·02867			
9. 20	53. 15	7. 7	·1097					
9. 30	52. 0	7. 21	·1101					
9. 54	55. 0	7. 48	·1097					
10. 20	49. 40	8. 1	·1102					
10. 35	52. 10	8. 30	·1100					
10. 53	51. 40	8. 44	·1104					
11. 24:	44. 0	8. 49	·1102					
11. 46	50. 0	9. 17	·1136					
11. 57	51. 0	9. 23	·1130					
12. 9	50. 0	9. 45	·1128					
12. 24	53. 40	10. 13	·1104					
12. 41	50. 0	10. 27	·1109					
12. 45	51. 20	10. 54	·1082					
12. 55	49. 0	11. 6	·1082					
13. 31	50. 0	11. 30	·1094					
14. 0	52. 10	11. 49	·1082					
14. 41	51. 5	12. 2	·1082					
15. 7	57. 0	12. 15	·1099					
15. 53	52. 0	12. 36	·1098					
16. 34	52. 10	12. 39	·1101					
16. 57	50. 25	12. 59	·1096					
17. 19	53. 25	13. 6	·1098					
17. 30	52. 40	13. 35	·1092					
17. 56	52. 0	13. 56	·1098					
18. 10	53. 35	14. 5	·1097					
18. 26	54. 0	14. 12	·1100					
18. 38	55. 10	14. 42	·1094					
19. 14	52. 10	14. 54	·1098					
19. 29	49. 0	15. 31	·1098					
19. 38	50. 0	15. 40	·1101					
19. 48	49. 5	15. 49	·1099					
20. 20	49. 45	16. 33	·1114					
20. 33	52. 0	16. 48	·1106					
20. 57	50. 25	17. 7	·1106					
21. 8	51. 30	17. 46	·1085					
21. 27	50. 0	18. 3	·1090					
22. 13	51. 30	18. 10	·1087					
22. 29	52. 35	18. 25	·1087					
22. 59	53. 0	18. 32	·1091					
23. 12	52. 30	18. 52	·1091					
23. 43	53. 20	19. 0	·1087					
	(†)	19. 11	·1091					
		19. 21	·1088					
		19. 35	·1102					
		19. 49	·1095					
		20. 5	·1094					
		20. 25	·1094					
			(†)					
		21. 0	·1087*					
		22. 32	·1089					
		22. 40	·1086					
		22. 45	·1090					
		22. 50	·1088					
		23. 6	·1090					
		23. 15	·1087					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.	
							Of H. F. Magnet.	Of V. F. Magnet.
h m	° ′ ″	Aug. 31 h m		h m		h m	°	°
		23. 45	·1088					
			(†)					
Sept. 1		Sept. 1		Sept. 1		Sept. 1		
1. 0	20. 55. 58*	1. 0	·1089*	0. 0	·02867	1. 0	60·8	60·8
3. 0	55. 32*	3. 0	·1117*	1. 57	·02856	3. 0	62·7	62·5
9. 0	42. 57*	9. 0	·1131*	6. 8	·02573	9. 0	64·0	64·0
21. 0	46. 36*	21. 0	·1097*	9. 31	·02422	21. 0	61·0	61·1
				10. 6	·02425			
				10. 19	·02382			
				10. 49	·02390			
				11. 5	·02358			
				11. 25	·02362			
				11. 36	·02380			
				12. 14	·02395			
				12. 57	·02478			
				15. 20	·02602			
				15. 43	·02597			
				17. 37	·02700			
				20. 26	·02783			
					·02590			
				22. 17	·02602			
				23. 59	·02557			
Sept. 2		Sept. 2		Sept. 2		Sept. 2		
	(†)		(†)	0. 0	·02557	1. 0	63·1	63·2
0. 38	20. 53. 25	0. 57	·1105	1. 51	·02498	3. 0	65·0	65·1
1. 33	53. 55	1. 24	·1103	4. 29	·02260	9. 0	66·1	66·0
4. 15	48. 15	1. 41	·1105	8. 15:	·02044	21. 0	58·0	58·1
4. 48	48. 35	1. 58	·1101	11. 51	·02142	22. 0	58·8	58·5
5. 35	47. 20	2. 5	·1104	12. 27	·02163	23. 0	59·5	59·0
5. 54	48. 0	2. 40	·1101	15. 11	·02357			
6. 30	48. 0	3. 4	·1102	17. 16	·02482			
7. 17	49. 50	3. 58	·1099	19. 37	·02711			
7. 28	49. 15	4. 15	·1096		·02680			
7. 45	50. 25	5. 26:	·1107	20. 17	·02741			
7. 57	50. 5	6. 30	·1105		·02690			
8. 48	51. 15	6. 47	·1111	21. 5	·02724			
9. 0	50. 40	7. 3	·1110		·02698			
9. 49	51. 45	7. 9	·1112	22. 24	·02730			
10. 0	51. 0	7. 19	·1120		(†)			
10. 42	51. 0	7. 30	·1112					
10. 50	51. 30	7. 45	·1128					
11. 3	50. 0	7. 49	·1124					
11. 40	49. 10	7. 54	·1126					
12. 1	51. 10	8. 18	·1119					
12. 38	48. 20	8. 36	·1120					
14. 53	48. 10	8. 58	·1116					
15. 8	49. 5	9. 12	·1115					
15. 18	47. 55	9. 21	·1111					
15. 30	48. 55	9. 39	·1113					
16. 57	48. 30		***					
17. 4	47. 10	10. 2	·1112					
17. 11	48. 0	10. 32	·1114					
17. 20	47. 10	10. 41	·1128					
17. 35	48. 0	11. 1	·1122					
17. 56	46. 15	11. 32	·1118					
18. 45	47. 5	12. 2:	·1126					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.	
							Of H. F. Magnet.	Of V. F. Magnet.
Sept. 2 h m	° ′ ″	Sept. 2 h m		h m		h m	°	°
18. 53	20. 41. 40	12. 28	·1117					
19. 3	47. 55	12. 35	·1117					
19. 17	46. 50	12. 56	·1109					
19. 27	47. 30		***					
20. 26	43. 0	16. 18	·1102					
20. 36	43. 0	16. 51	·1107					
21. 18	47. 40	16. 56	·1104					
21. 27	46. 35	17. 31	·1103					
22. 42	51. 10	18. 14	·1108					
23. 3	54. 35	19. 9	·1092					
23. 30	56. 20	19. 38	·1100					
23. 40	58. 0	20. 15	·1096					
23. 45	57. 15	20. 56	·1099					
23. 59	57. 30	21. 34	·1096					
		21. 52	·1099					
		22. 32	·1083					
		23. 12	·1088					
		23. 22	·1095					
		23. 40	·1097					
		23. 59	·1102					
Sept. 3		Sept. 3		Sept. 3		Sept. 3		
0. 0	20. 57. 35	0. 0	·1102		(†)	0. 0	60·5	59·6
0. 30	57. 0	0. 12	·1108	0. 14	·02022	1. 0	61·4	60·4
	***		(†)	1. 27	·02000	2. 0	62·5	61·6
1. 14	58. 0	1. 0	·1113*	3. 4	·01867	3. 0	62·8	61·9
	***	2. 17	·1111	4. 33	·01963	6. 0	63·0	62·4
2. 3	55. 5	2. 32	·1102	4. 43	·01960	9. 0	61·5	61·8
2. 13	55. 50	2. 45	·1102	5. 14	·02032	12. 0	59·5	59·2
2. 22	55. 0	2. 53	·1105	5. 45	·02040	18. 0	54·1	54·5
2. 43	54. 0	3. 3	·1095	6. 9	·02058	21. 0	55·6	55·8
3. 12	52. 55	3. 18	·1111		·02618	22. 0	56·4	56·3
3. 37	50. 0	3. 28	·1116	7. 58	·02596	23. 0	57·3	57·0
3. 59	53. 5	3. 48	·1121	8. 9	·02562			
4. 14	52. 0	4. 0	·1112	8. 25	·02583			
4. 26	49. 0	4. 22	·1127	9. 0	·02536			
4. 34	51. 15	4. 40	·1107	9. 13	·02530			
5. 4	44. 0	5. 0	·1137	11. 6	·02618			
5. 38	52. 0	5. 33	·1106	12. 1	·02620			
5. 53	49. 50	5. 47	·1100	12. 18	·02646			
5. 58	51. 0	5. 55	·1108	12. 43	·02633			
6. 8	49. 25	6. 4	·1104	13. 33	·02694			
6. 15	50. 15	6. 11	·1111	14. 33	·02700			
6. 23	51. 0	6. 19	·1107	15. 29	·02782			
6. 30	52. 0	6. 25	·1110	16. 0	·02800			
6. 45	50. 20	6. 38	·1101	16. 27	·02798			
6. 57	51. 0	6. 46	·1105	18. 27	·02672			
7. 12	49. 0	6. 56	·1106	18. 30	·02650			
7. 18	49. 25	7. 12	·1103	18. 57	·02676			
7. 50	47. 20	7. 21	·1097	20. 4	·02620			
8. 0	48. 15	7. 36	·1100	20. 6	·02582			
8. 23	33. 40	7. 57	·1111	20. 44	·02610			
8. 57	51. 50	8. 10	·1093	20. 58	·02576			
9. 2	51. 5	8. 39	·1136	21. 37	·02584			
9. 12	53. 30	9. 12	·1092	21. 41	·02570			
9. 25	48. 25	9. 21	·1099	22. 2	·02577			
9. 30	48. 45	9. 35	·1098		(†)			
9. 41	47. 50	9. 50	·1104					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

September 1. The Photographic Traces for the Declination and Horizontal Force Magnets were too faint for use.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Sept. 3		Sept. 3						
h m	° ′ ″	h m		h m		h m	°	°
9.58	20.50.20	10. 3	·1098					
10.13	49.20	10.44	·1107					
10.43	52.15	10.53	·1106					
11. 4	52.55	11.16	·1114					
11.26	49.35	11.23	·1112					
11.31	49.20	11.36	·1115					
11.46	47.50	12. 1	·1106					
12. 2	40.25	12.13	·1117					
12.33	50.45	12.28	·1120					
12.56	45. 0	12.47	·1099					
13.14	45.30	13. 4	·1108					
14.30	54.30	13.18	·1100					
15. 9	53. 0	13.27	·1106					
	***	13.50	·1110					
15.14	53.35	14. 5	·1099					
16. 7	48.20	14.38	·1101					
16.22	49. 0	15. 6	·1115					
16.30	48. 0	15.17	·1111					
16.45	47.50	15.27	·1109					
16.52	48.35	15.45	·1101					
17. 4	48. 5	15.53	·1102					
17.32	48.30	16. 7	·1098					
17.39	47.50	16.26	·1100					
18.12	47.15	16.32	·1105					
18.15	48. 0	16.37	·1101					
18.22	46. 0	16.49	·1109					
18.42	47.10	17. 1	·1107					
19. 2	45.40	17.20	·1095					
19.20	48. 0	17.24	·1098					
20. 3	45. 0	17.33	·1094					
20.45	48. 0	17.56	·1097					
20.57	50.30	18.29	·1097					
21.41	53.55	18.54	·1081					
22.26	52.20	19.10	·1078					
23. 0	57. 0	19.29	·1081					
23.28	57.15	19.42	·1078					
	(†)	20. 4	·1083					
		20.51	·1067					
		21.33	·1074					
		21.45	·1072					
		21.50	·1074					
		22. 4	·1068					
		22.15	·1072					
		22.33	·1070					
		22.44	·1076					
		23. 0	·1071					
		23. 6	·1076					
		23.15	·1071					
		23.32	·1075					
			(†)					
Sept. 4		Sept. 4		Sept. 4		Sept. 4		
1. 0	20.55.45*	1. 0	·1098*		(†)	0. 0	58·4	58·0
3. 0	55. 4*	3. 0	·1095*	1. 0	·01931*	1. 0	59·5	59·5
9. 0	44. 8*	9. 0	·1114*	3. 0	·01821*	3. 0	61·7	62·0
21. 0	50.16*	21. 0	·1086*	9. 0	·02403*	9. 0	62·5	62·2
				13.33	·02627	21. 0	56·1	56·7
				14.20	·02649			

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
				Sept. 4				
h m	° ′ ″	h m		h m		h m	°	°
				14.56	·02695			
				15.21	·02693			
				17.14	·02826			
				18.44	·02955			
				19.43	·03044			
				20. 4	·03053			
				21.57	·02840			
				22.15	·02836			
				22.31	{·02795 ·02690}			
				22.54	·02677			
					(†)			
Sept. 5		Sept. 5		Sept. 5		Sept. 5		
	(†)		(†)	1. 0	·02651*	1. 0	59·9	60·0
0.20	20.54.35	0.19	·1108	3. 0	·02482*	3. 0	62·1	62·0
0.28	54.10	1.36	·1104	9. 0	·02153*	9. 0	62·8	63·5
1.32	55. 0	1.58	·1106	21. 0	·02548*	21. 0	59·0	59·1
1.51	56.30	2.26	·1102					
2. 0	54.10	2.34	·1115					
2. 2	54.50	2.51	·1111					
2.15	52.45	3. 3	·1116					
2.22	53.15	3.24	·1114					
2.39	52. 0	3.42	·1116					
2.48	52.20	4. 4	·1102					
3. 7	52. 0	4.15	·1108					
3.32	52.50	4.24	·1111					
	***	4.37	·1105					
3.59	51.35	4.45	·1109					
	***	5.10	·1111					
4.41	52. 5	5.46	·1122					
5.11	51. 0	6.10	·1111					
5.23	49.50	6.45	·1135					
5.48	50.25	7. 1	·1115					
6.23	41.30	7.22	·1119					
6.45	46.55	7.32	·1115					
7. 1	46.10	7.45	·1113					
7.23	49.45	7.58	·1118					
7.30	49.15	8.22	·1116					
8.16	51.10	8.29	·1118					
8.59	51. 0	8.59	·1118					
9.57	51.25	9.11	·1116					
11. 3	48.40	9.53	·1119					
11.25	45.25	10.28	·1120					
11.39	46.55	10.39	·1124					
12.42	46.35	10.58	·1120					
14. 3	53.35	11.21	·1128					
14.47	49.35	12.27	·1111					
14.59	49.25	12.39	·1112					
15.24	47.15	13. 5	·1108					
16.20	47.15	13.22	·1112					
16.45	48. 0	13.37	·1112					
19.12	46.10	13.59	·1125					
19.37	49. 0	14.28	·1118					
19.50	48.40	14.53	·1118					
20.37	49.45	15. 0	·1120					
21. 4	53.55	15.23	·1113					
21.35	53. 0	15.36	·1115					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

September 4. The Photographic Traces for the Declination and Horizontal Force Magnets were totally lost, owing to defects in the paper.

September 5. The Photographic Trace for the Vertical Force Magnet was too faint for use.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Sept. 5		Sept. 5						
h m	° ′ ″	h m		h m		h m	°	°
21.58	20.55. 0	15.53	·1113					
22.25	56. 0	16.17	·1115					
22.48	54.55	16.47	·1115					
23.59	54.40	17.19	·1111					
		17.48	·1109					
		18. 5	·1105					
		18.17	·1107					
		18.25	·1103					
		18.49	·1107					
		19. 9	·1104					
		19.33	·1103					
		20. 0	·1096					
		20.48	·1087					
		21. 2	·1081					
		21.23	·1077					
		21.48	·1090					
		22. 3	·1091					
		22.26	·1096					
		23. 6	·1098					
		23.59	·1107					
Sept. 6		Sept. 6		Sept. 6		Sept. 6		
0. 0	20.54.40	1. 0	·1108*		(†)	1. 0	61·2	61·5
0.35	54.20	3. 0	·1113*	0.21	·02584	3. 0	62·4	62·6
1.42	51.10	9. 0	·1116*	1.33	·02550	9. 0	63·5	63·6
3.44	48. 0	21. 0	·1080*	5.28	·02342	21. 0	60·1	60·2
4.28	47.10		(†)		(†)			
6.15	48.10	22.19	·1088	9. 0	·02189*			
6.46	47.15	22.27	·1093	21. 0	·02545*			
7.15	48. 5	22.44	·1093	23.10	·02546			
8. 3	47.40	23. 6	·1092	23.59	·02542			
9.38	47.40	23.52	·1104					
10.57	46.35	23.59	·1102					
12.28	48.30							
13.52	49. 0							
	(†)							
21. 0	47.11*							
22.19	52.35							
22.29	52.35							
23. 4	56. 0							
23.21	55.10							
23.53	56. 0							
23.59	55.50							
Sept. 7		Sept. 7		Sept. 7		Sept. 7		
0. 0	20.55.50	0. 0	·1102	0. 0	·02542	8.32	66·7	66·2
0.18	54.45	0.14	·1098	2.37	·02462	21. 0	60·0	60·5
0.45	56. 0	0.34	·1113	5.18	·02260			
1.36	53.10	1.37	·1092	7.21	·02142			
1.59	53.35	1.45	·1095	9.18	·02250			
2.12	53.10	2. 1	·1093	11. 5	·02292			
2.33	53.50	2.55	·1099	11.27	·02248			
	(†)	3. 4	·1100	14.15	·02358			
5.38	49. 0	3.53	·1100	14.36	·02353			
6. 8	48.55	4. 7	·1105	15.40	·02420			
6.37	45. 5	4.53	·1100	20.12	·02738			
7. 9	49. 0	5.12	·1096	22. 2	·02820			
	(†)	5.38	·1105	23.59	·02848			

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Sept. 7		Sept. 7						
h m	° ′ ″	h m		h m		h m	°	°
8. 0	20.47.15	5.58	·1103					
8.26	49. 0	6. 8	·1105					
9. 0	47.35	6.29	·1100					
9.19	48.20	6.43	·1106					
9.53	47. 0	7. 1	·1110					
10.27	48. 0	7.20	·1106					
10.45	47.40	7.48	·1104					
11. 7	49. 0	7.53	·1107					
11.30	46.55	8. 7	·1101					
11.52	48.20	8.33	·1103					
12.11	46.50	9. 0	·1102					
13. 4	47.20	9. 9	·1105					
13.39	46.30	9.54	·1101					
14. 3	53.25	10.15	·1107					
14.35	47. 0	10.32	·1102					
15.11	48.20	10.44	·1102					
15.30	47. 0	10.57	·1128					
16.16	46.30	11.24	·1102					
17.34	47.30	11.37	·1106					
19.22	46.10	12. 2	·1100					
21.25	48.25	12.34	·1107					
23.12	54.25	12.56	·1104					
23.59	54.10	13. 5	·1107					
		13.18	·1105					
		13.28	·1107					
		13.45	·1105					
		14.22	·1115					
		14.59	·1105					
		15.22	·1109					
		16.18	·1108					
		16.41	·1111					
		17.15	·1108					
		17.34	·1105					
		17.37	·1111					
		17.45	·1109					
		17.54	·1113					
		18.42	·1100					
		19.30	·1096					
		19.47	·1099					
		22. 4	·1100					
		22.16	·1098					
		22.40	·1099					
		23. 0	·1095					
		23. 9	·1099					
		23.48	·1100					
		23.59	·1101					
Sept. 8		Sept. 8		Sept. 8		Sept. 8		
0. 0	20.54.10	0. 0	·1101	0. 0	·02848	1. 0	63·5	63·6
2.45	49.40	0. 8	·1101	1.15	·02635	3. 0	65·9	65·8
3.45	49.30	0.35	·1108	3.21	·02424	9. 0	68·2	68·0
4. 7	48.50	0.50	·1106	5.57	·02280	21. 0	64·0	64·1
7.23	50.20	1.30	·1107	6.28	·02278			
7.37	49.50	1.45	·1106	6.48	·02250			
8.11	50.30	2. 5	·1106	8.12	·02192			
8.56	49. 0	2.45	·1102	12.10	·02222			
9.30	49.25	3.53	·1111	13.49	·02258			
10. 4	39. 0	4. 5	·1102	14.20	·02253			

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

September 6. The Photographic Trace for the Horizontal Force Magnet was too faint for use.

Greenwich Mean Solar Time.	Western Declination.
Sept. 8	
h m	° ′ ″
10. 59	20. 47. 25
11. 14	47. 0
11. 30	47. 35
11. 52	46. 50
13. 8	48. 0
13. 44	46. 40
13. 54	47. 10
14. 7	46. 20
14. 37	48. 20
15. 0	44. 15
15. 9	44. 20
15. 52	47. 20
15. 59	46. 0
16. 7	48. 15
16. 10	47. 0
16. 19	48. 40
16. 45	45. 0
17. 46	47. 10
18. 0	44. 10
18. 5	44. 50
18. 13	44. 0
18. 16	46. 25
	***
18. 45	47. 50
18. 56	46. 55
19. 0	47. 30
19. 6	45. 0
19. 19	44. 35
19. 24	45. 50
19. 31	44. 55
20. 13	48. 45
20. 40	57. 15
20. 46	56. 15
20. 53	57. 50
21. 0	57. 15
	***
21. 23	59. 35
21. 46	56. 0
21. 56	51. 0
22. 9	55. 20
22. 14	54. 40
22. 24	58. 5
22. 31	58. 50
22. 48	58. 20
22. 59	55. 0
23. 7	58. 10
23. 18	20. 56. 0
23. 37	21. 3. 0
23. 43	2. 35
23. 53	5. 45
23. 59	5. 10
Sept. 9	
0. 0	21. 5. 15
0. 30	6. 0
0. 33	7. 45
0. 51	6. 0
1. 0	9. 10
1. 26	8. 25
1. 27	11. 0
1. 38	3. 25
1. 53	0. 30
2. 10	0. 5
2. 14	21. 1. 10
2. 24	20. 59. 10
2. 33	21. 3. 30
2. 38	21. 0. 0
2. 54	20. 58. 10
2. 57	59. 0
3. 4	56. 5
3. 21	59. 45
3. 27	54. 20
3. 30	57. 30
3. 43	56. 55
3. 59	59. 35
4. 7	57. 0
4. 12	57. 25
4. 20	55. 40
4. 28	57. 10
4. 41	53. 5
5. 5	52. 0
5. 15	56. 55
5. 27	53. 45
5. 35	54. 50
5. 49	50. 15
6. 14	52. 20
6. 43	50. 5

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Sept. 8	
h m	
4. 15	·1104
4. 22	·1102
5. 32	·1105
5. 48	·1108
6. 3	·1105
6. 13	·1107
6. 23	·1105
6. 41	·1108
7. 7	·1103
7. 31	·1113
8. 15	·1105
8. 23	·1107
8. 40	·1105
9. 24	·1108
9. 40	·1097
10. 4	·1123
10. 26	·1108
10. 37	·1111
10. 51	·1110
11. 9	·1105
11. 18	·1107
11. 42	·1102
11. 55	·1104
12. 55	·1101
13. 3	·1109
13. 17	·1105
13. 28	·1107
13. 53	·1108
14. 0	·1115
14. 7	·1111
14. 15	·1116
14. 23	·1114
14. 34	·1116
14. 42	·1107
15. 9	·1104
15. 27	·1108
15. 33	·1105
15. 42	·1117
15. 47	·1108
15. 56	·1119
16. 0	·1117
16. 10	·1120
16. 43	·1108
17. 15	·1106
17. 25	·1113
17. 30	·1105
17. 53	·1125
18. 0	·1117
18. 36	·1102
18. 41	·1107
18. 45	·1102
18. 52	·1106
19. 2	·1101
19. 6	·1104
19. 27	·1098
19. 43	·1079
20. 14	·1065
20. 38	·1075
	***
21. 0	·1074
21. 16	·1079
21. 22	·1072
21. 44	·1099
21. 50	·1089
22. 5	·1112
	***
22. 28	·1090
22. 37	·1089
	***
22. 49	·1084
	***
23. 5	·1059
23. 8	·1077
23. 14	·1060
23. 17	·1072
	***
23. 28	·1058
23. 35	·1070
23. 56	·1077
	(†)
Sept. 9	(†)
1. 0	·1108*
1. 6	·1098
	***
1. 27	·1098
1. 42	·1078
2. 12	·1101
2. 18	·1117
2. 28	·1093
2. 33	·1121
2. 41	·1093
3. 1	·1106
3. 6	·1091
3. 22	·1116
3. 30	·1077
3. 35	·1101
3. 39	·1101
4. 1	·1145
4. 13	·1122
4. 16	·1120
4. 22	·1109
4. 33	·1118
4. 45	·1089
5. 0	·1090
5. 13	·1096
5. 17	·1109
5. 31	·1096
5. 36	·1111
5. 42	·1107
5. 48	·1084
5. 55	·1087
6. 2	·1176
6. 13	·1078
6. 21	·1085

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
Sept. 8	
h m	
15. 40	·02306
18. 51	·02502
22. 18	·02632
23. 34	·02608
	(†)
Sept. 9	(†)
0. 6	·02748
1. 31	·02720
1. 41	·02688
2. 22	·02672
2. 30	·02640
2. 37	·02658
2. 42	·02618
3. 12	·02560
3. 29	·02555
3. 37	·02507
3. 40	·02562
4. 6	·02690
4. 9	·02700
4. 35	·02802
4. 44	·02824
5. 34	·02933
5. 41	·02962
5. 54	·02970
6. 3	·02982
6. 38	·03017
6. 51	·03040
8. 9	·03043
9. 13	{ ·03036 ·03212
11. 2	·03220
12. 31	·03270
14. 40	·03376
15. 0	·03362
15. 8	·03377
15. 25	·03370
15. 38	·03392
16. 3	·03404
17. 58	·03580

Greenwich Mean Solar Time.	Readings of Thermometers. Of H.F. Magnet.	Of V.F. Magnet.
h m	°	°
Sept. 9		
1. 0	67 ·5	67 ·2
3. 0	69 ·3	69 ·0
9. 0	69 ·2	68 ·9
21. 0	62 ·7	63 ·1
22. 0	62 ·2	63 ·0
23. 0	62 ·0	62 ·8

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Sept. 9		Sept. 9		Sept. 9				
h m	° ′ ″	h m		h m		h m	°	°
7. 4	20. 52. 35	6. 28	·1079	20. 49	·03717			
7. 53	54. 30	6. 45	·1083	22. 41	·03840			
8. 14	53. 40	7. 5	·1111	23. 51	·03852			
8. 28	49. 45	7. 15	·1100		(†)			
8. 45	53. 35	7. 25	·1104					
9. 9	51. 0	7. 34	·1100					
9. 28	51. 25	7. 43	·1107					
9. 51	48. 25	7. 51	·1106					
11. 30	51. 25	8. 9	·1100					
12. 18	50. 40	8. 15	·1096					
12. 30	48. 30	8. 22	·1096					
12. 56	50. 0	8. 30	·1107					
14. 3	48. 55	8. 43	·1112					
14. 32	52. 5	9. 17	·1096					
14. 53	49. 45	9. 32	·1100					
15. 3	50. 30	9. 46	·1092					
15. 21	49. 40	9. 54	·1096					
15. 36	52. 20	10. 37	·1098					
16. 6	51. 10	10. 52	·1096					
16. 22	49. 20	11. 10	·1098					
16. 27	50. 5	11. 22	·1097					
16. 42	50. 10	11. 40	·1101					
16. 56	49. 20	11. 57	·1098					
17. 30	50. 20	12. 13	·1100					
18. 45	49. 35	12. 22	·1113					
18. 57	50. 25	12. 34	·1096					
19. 6	48. 35	12. 37	·1101					
19. 27	51. 10	12. 56	·1098					
19. 44	50. 20	13. 5	·1104					
19. 57	52. 30	13. 12	·1113					
20. 27	52. 40	13. 15	·1107					
23. 13	58. 20	13. 28	·1113					
23. 57	58. 20	13. 34	·1108					
	(†)	13. 50	·1113					
		13. 54	·1102					
		13. 58	·1106					
		14. 2	·1102					
		14. 31	·1100					
		14. 44	·1105					
		15. 0	·1099					
		15. 10	·1100					
		15. 24	·1096					
		15. 45	·1107					
		16. 23	·1101					
		16. 32	·1104					
		17. 25	·1099					
		18. 55	·1092					
		19. 4	·1096					
		19. 13	·1089					
		19. 24	·1096					
		19. 51	·1092					
		20. 1	·1093					
		21. 4	·1079					
		22. 20	·1084					
		22. 39	·1082					
		23. 7	·1073					
		23. 24	·1077					
		23. 33	·1077					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Sept. 9						
h m	° ′ ″	h m		h m		h m	°	°
		23. 47	·1081					
		23. 59	·1090					
Sept. 10		Sept. 10		Sept. 10		Sept. 10		
0. 0	20. 57. 35	0. 0	·1090		(†)	0. 0	62 ·0	62 ·6
1. 14	57. 25		(†)	0. 30	{ ·03852	1. 0	62 ·2	62 ·8
1. 27	58. 10	1. 0	·1081*		{ ·03124	2. 0	62 ·2	62 ·8
1. 55	56. 15	1. 7	·1089	3. 33	·03155	3. 0	62 ·3	62 ·8
2. 4	58. 0	1. 33	·1094	5. 2	·03088	6. 0	62 ·1	62 ·2
2. 18	56. 20	2. 0	·1096	8. 17	·03057	9. 0	60 ·2	61 ·0
2. 23	59. 40	2. 12	·1117	9. 38	·03117	12. 0	59 ·0	59 ·9
2. 31	56. 40	2. 22	·1107	11. 10	·03202	21. 0	53 ·5	54 ·5
2. 35	56. 50	2. 30	·1124	13. 19	·03278	22. 0	53 ·8	54 ·5
2. 45	54. 30		***	13. 41	·03270	23. 0	54 ·3	55 ·0
3. 45	49. 15	2. 39	·1109	14. 19	·03290			
3. 55	49. 20	2. 44	·1111	16. 33	·03172			
4. 4	48. 25	2. 59	·1102	19. 31	·02896			
4. 35	50. 35	3. 19	·1096	19. 50	·02912			
5. 18	49. 0	3. 34	·1100	20. 25	·02843			
5. 42	49. 10	3. 48	·1096	20. 39	·02854			
5. 59	50. 30	4. 9	·1110	21. 16	·02802			
6. 27	50. 30		***	21. 32	·02820			
6. 42	51. 0	4. 42	·1113	22. 6	·02788			
7. 3	49. 45	4. 53	·1112	22. 12	·02742			
7. 15	49. 40	5. 9	·1117	22. 57	·02777			
7. 23	50. 5	5. 16	·1109		(†)			
7. 34	49. 30	5. 42	·1114					
7. 53	50. 45	5. 52	·1125					
	***	6. 9	·1118					
9. 41	51. 0	6. 34	·1130					
10. 39	50. 0	7. 1	·1120					
11. 2	50. 55	7. 21	·1121					
12. 0	48. 10	7. 43	·1128					
12. 33	48. 0	8. 24	·1123					
13. 10	52. 25	9. 0	·1123					
13. 48	47. 0	9. 40	·1124					
14. 15	50. 0	9. 57	·1125					
15. 7	47. 10	10. 34	·1123					
15. 33	48. 0	11. 15:	·1128					
	***	11. 50	·1124					
17. 6	46. 40	12. 29	·1123					
17. 41	47. 15	13. 9	·1130					
	***	14. 7	·1120					
19. 38	47. 10	14. 39	·1125					
19. 57	48. 10	15. 0	·1122					
20. 38	47. 30	16. 38	·1123					
	***		***					
22. 38	54. 25	18. 26	·1122					
23. 47	55. 45	18. 40	·1119					
23. 59	55. 25	19. 30	·1114					
		19. 45	·1108					
		20. 10	·1105					
		20. 52	·1104					
		21. 8	·1100					
		21. 46	·1101					
		22. 10	·1096					
			***					
		22. 33	·1105					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Sept. 10						
h m	° ′ ″	h m		h m		h m	°	°
		22. 46	·1103					
		23. 7	·1106					
		23. 34	·1106					
		23. 59	·1086					
Sept. 11		Sept. 11		Sept. 11		Sept. 11		
0. 0	20. 55. 25	0. 0	·1086		(†)	0. 0	55·0	55·6
0. 3	55. 15	0. 15	·1092	1. 0	·02835*	1. 0	56·0	57·0
0. 27	54. 35	0. 19	·1086	1. 30	·02736	3. 0	58·8	59·0
0. 38	55. 20	0. 27	·1090	3. 22	·02614	9. 0	60·0	60·0
1. 35	53. 55	1. 28	·1095	7. 5	·02230	21. 0	54·5	55·0
1. 58	55. 30	1. 41	·1095	7. 20	·02222			
2. 28	53. 10	1. 53	·1107	9. 48	·02435			
3. 2	53. 55	2. 11	·1098	10. 0	·02438			
3. 23	52. 15	2. 28	·1097	10. 18	·02470			
3. 38	51. 55	3. 3	·1119	14. 15	·02560			
4. 15	48. 15	3. 25	·1109	14. 56	·02548			
4. 34	48. 30	3. 38	·1116	18. 7	·02684			
4. 53	48. 0	4. 12	·1105	22. 12	·02805			
5. 42	48. 10	4. 23	·1104	22. 54	·02772			
6. 54	46. 25	5. 15	·1122	23. 30	·02780			
7. 44	46. 45	5. 47	·1126		(†)			
8. 12	42. 35	6. 4	·1125					
8. 28	42. 55	6. 17	·1132					
8. 38	43. 35	6. 30	·1122					
8. 53	43. 10	6. 45	·1124					
9. 0	43. 50	6. 58	·1120					
9. 26	39. 10	7. 15	·1123					
9. 40	39. 45	7. 41	·1120					
9. 53	38. 40	8. 0	·1130					
10. 25	46. 10	8. 10	·1126					
10. 38	42. 45	8. 18	·1135					
10. 56	46. 10	8. 40	·1123					
11. 16	55. 45	8. 50	·1138					
11. 35	45. 25	9. 3	·1136					
11. 51	39. 50	9. 35	·1109					
12. 14	48. 35	9. 41	·1110					
	***	9. 56	·1098					
12. 42	46. 5	10. 8	·1103					
13. 18	48. 35	10. 19	·1100					
13. 28	48. 0	10. 44	·1112					
13. 43	49. 0	10. 58	·1105					
14. 0	48. 20	11. 16	·1117					
14. 4	46. 50	11. 26	·1108					
14. 30	50. 0	11. 45	·1122					
14. 53	49. 0	11. 54	·1113					
15. 27	53. 30	12. 6	·1121					
15. 47	51. 50	12. 24	·1110					
16. 2	48. 5	12. 33	·1112					
16. 52	50. 20	12. 55	·1108					
17. 42	48. 20	13. 45	·1115					
17. 51	48. 55	13. 50	·1113					
17. 58	46. 55	14. 9	·1118					
	***	14. 15	·1115					
19. 43	46. 25	14. 37	·1113					
19. 53	47. 35	14. 47	·1108					
20. 54	47. 0	15. 6	·1111					
21. 50	51. 0	15. 22	·1102					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Sept. 11		Sept. 11						
h m	° ′ ″	h m		h m		h m	°	°
22. 2	20. 50. 30	15. 52	·1114					
22. 16	53. 50	16. 15	·1114					
22. 28	52. 25	16. 33	·1109					
22. 53	55. 0	17. 13	·1118					
23. 8	55. 0	17. 53	·1122					
23. 26	56. 30	18. 0	·1115					
23. 59	55. 25	18. 11	·1119					
		18. 46	·1119					
		21. 1	·1105					
		21. 19	·1098					
		21. 50	·1093					
		22. 1	·1080					
		22. 27	·1085					
		22. 49	·1080					
		23. 4	·1081					
		23. 32	·1095					
		23. 42	·1097					
		23. 45	·1095					
		23. 59	·1096					
Sept. 12		Sept. 12		Sept. 12		Sept. 12		
0. 0	20. 55. 15	0. 0	·1096		(†)	1. 0	59·7	59·8
0. 26	54. 35	0. 29	·1099	0. 22	·02377	3. 0	63·0	63·6
2. 53	54. 35	0. 46	·1112	1. 42	·02296	9. 0	65·9	65·5
3. 26	53. 40	1. 11	·1127	3. 4	·01998	21. 0	62·8	62·7
5. 29	52. 20	1. 15	·1123	3. 43	{ ·01862			
	***	1. 35	·1127		·01888			
6. 45	52. 35	2. 11	·1123	4. 30	·02020			
	***	2. 47	·1128	7. 17:	·02516			
7. 21	51. 45	3. 26	·1122	10. 2	·02692			
7. 56	48. 25	3. 35	·1126	13. 4	·02744			
	***	4. 3	·1128	16. 20	·02870			
9. 15	52. 0	4. 15	·1126	18. 42	·02946			
	***	5. 2	·1122	21. 15	·03000			
12. 26	51. 0	5. 8	·1125	23. 59	·02957			
	***	5. 22	·1124					
14. 21	53. 0		***					
14. 54	52. 50	6. 42	·1124					
15. 28	51. 10	6. 54	·1121					
17. 44	49. 25	7. 30	·1120					
19. 56	44. 15	7. 45	·1125					
21. 44	50. 0	8. 7	·1119					
22. 30	51. 30	8. 43	·1120					
22. 53	53. 25	9. 0	·1123					
23. 45	57. 0	9. 8	·1121					
23. 52	57. 0	9. 25	·1121					
23. 59	57. 30	10. 31	·1118					
		11. 22	·1119					
		11. 37	·1118					
		13. 35	·1115					
		14. 7	·1117					
		14. 8	·1114					
		14. 22	·1113					
		15. 0	·1115					
		15. 37	·1113					
		16. 8	·1115					
		16. 23	·1115					
		17. 29	·1117					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Sept. 12

Greenwich Mean Solar Time. (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
19. 0	·1109
20. 41	·1091
21. 1	·1090
22. 3	·1091
23. 37	·1095
23. 48	·1095
23. 54	·1107
23. 59	·1107

Sept. 13

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
0. 0	20. 57. 30
0. 15	58. 30
1. 15	57. 50
1. 50	57. 55
2. 15	56. 0
3. 13	55. 25
5. 0	52. 30
6. 30	51. 0
6. 40	51. 40
6. 49	50. 40
6. 59	51. 20
7. 28	51. 0
8. 8	51. 35
8. 16	52. 20
9. 0	51. 0
9. 15	52. 25
11. 18	52. 25
11. 48	51. 0
12. 53	51. 25
13. 8	51. 0
13. 24	52. 45
14. 12	48. 50
14. 45	49. 30
15. 7	48. 40
15. 45	49. 0
16. 8	51. 0
16. 15	50. 30
16. 40	51. 10
16. 56	49. 0
17. 37	49. 10
19. 54	45. 10
21. 16	48. 0
23. 7	55. 0
23. 16	54. 35
23. 59	57. 5

Greenwich Mean Solar Time. (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
0. 0	·1107
0. 11	·1107
0. 30	·1114
1. 37	·1118
2. 9	·1115
3. 14	·1126
3. 37	·1123
4. 36	·1128
5. 1	·1125
5. 23	·1126
5. 39	·1131
5. 56	·1127
6. 22	·1128
6. 36	·1131
6. 48	·1116
7. 11	·1124
7. 21	·1116
7. 34	·1112
7. 50	·1116
8. 20	·1115
8. 34	·1116
9. 15	·1123
9. 34	·1121
10. 28	·1121
11. 17	·1123
11. 32	·1120
12. 51	·1118
13. 14	·1116
13. 52:	·1124
14. 40	·1115
15. 15	·1116
16. 3	·1113
16. 30	·1115
16. 54	·1120
17. 30	·1115
18. 26	·1112
20. 12	·1101
21. 0	·1091
22. 14	·1090
23. 30	·1092
23. 59	·1097

Greenwich Mean Solar Time. (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
0. 0	·02957
1. 43	·02888
2. 55	{ ·02756 ·03158
4. 21	{ ·03077 ·03123
5. 32	{ ·03040 ·03118
7. 13	·03037
10. 55	·03052
13. 49	·03137
14. 20	·03150
16. 43	·03246
17. 15	·03257
20. 3	·03367
21. 13	·03384
23. 59	·03435

Greenwich Mean Solar Time. (h m)	Readings of Thermometers. Of H. F. Magnet. (°)	Of V. F. Magnet. (°)
1. 0	65·2	64·8
3. 0	67·0	66·6
9. 0	67·0	66·7
22. 0	62·7	63·0

Sept. 14

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
0. 0	20. 57. 10
0. 45	58. 5 ***
2. 15	57. 20 ***
4. 58	20. 53. 0 ***
8. 57	50. 45 ***
9. 52	51. 0
10. 7	49. 15 ***
10. 52	51. 25
11. 51	51. 55
12. 7	50. 40
12. 36	50. 30
12. 49	51. 35
13. 59	50. 35
14. 34	47. 0
15. 5	49. 25
15. 41	59. 25
16. 0	56. 0
16. 23	54. 0
16. 57	48. 0
17. 8	47. 20
17. 40	48. 35
17. 54	47. 35
18. 2	48. 20
18. 20	47. 25
18. 57	47. 5
20. 30	20. 47. 0
22. 57	21. 0. 25
23. 49	2. 15
23. 59	2. 0

Greenwich Mean Solar Time. (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
0. 0	·1097
0. 44	·1106
0. 49	·1105
1. 9	·1108
1. 21	·1108
1. 33	·1111
2. 0	·1111
4. 18	·1123
4. 44	·1120
4. 55	·1121
5. 5	·1120
6. 10	·1121
6. 18	·1123
6. 28	·1122
7. 45	·1125
8. 57	·1124
9. 24	·1129
9. 46	·1127
10. 10	·1129
10. 31	·1127
11. 28	·1128
11. 36	·1127
11. 52	·1132
12. 5	·1128
12. 21	·1125
12. 35	·1128
12. 48	·1128
13. 4	·1132
13. 23	·1131
13. 50	·1134
14. 31	·1133
14. 43	·1127
15. 10	·1125
15. 30	·1118
16. 21	·1137
16. 37	·1139
17. 13	·1127
17. 52	·1122
18. 5	·1129
18. 15	·1126
18. 22	·1128 ***
19. 1	·1126
19. 36	·1124
20. 55	·1109
21. 48:	·1099 ***
22. 30	·1104 ***
22. 52:	·1101 ***
23. 30	·1112 (†)

Greenwich Mean Solar Time. (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
0. 0	·03435
1. 0	·03432
3. 59	·03355
7. 5	·03374
10. 25	·03432
14. 37	·03624
15. 40	·03676
15. 57	·03665
16. 37	·03678
16. 55	·03670
17. 58	·03658
20. 23	·03530
22. 37	·03300
23. 45	·03248
23. 59	·03233

Greenwich Mean Solar Time. (h m)	Readings of Thermometers. Of H. F. Magnet. (°)	Of V. F. Magnet. (°)
9. 0	63·0	63·2
21. 0	59·9	59·9

Sept. 15

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
0. 0	21. 2. 0
2. 53	20. 56. 30
3. 5	58. 10
3. 14	57. 10
4. 8	55. 10
4. 47	55. 0
5. 31	56. 10
6. 15	54. 10 ***

Greenwich Mean Solar Time. (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
	(†)
0. 46	·1126 ***
1. 20	·1127
1. 29	·1124 ***
2. 11	·1126 ***

Greenwich Mean Solar Time. (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
0. 0	·03233
1. 47	·03010
3. 51	·02612
5. 1	·02460
5. 9	·02503
6. 23	·02755
7. 45	{ ·02962 ·03080

Greenwich Mean Solar Time. (h m)	Readings of Thermometers. Of H. F. Magnet. (°)	Of V. F. Magnet. (°)
1. 0	65·4	65·0
3. 0	68·1	67·8
9. 0	68·0	68·7
21. 0	61·1	61·8

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.
Sept. 15 h m	° ′ ″
7. 11	20. 55. 50
7. 29	54. 25 ***
8. 22	54. 15
9. 2	52. 15
9. 26	52. 50
9. 57	51. 0
10. 47	51. 10
12. 30	48. 50
12. 51	51. 10
13. 37	49. 30
13. 45	50. 5
14. 0	48. 50
14. 13	49. 10
14. 27	47. 50
14. 45	49. 0
14. 54	48. 20
15. 27	50. 30
15. 36	49. 15
16. 0	50. 0
16. 15	48. 30
16. 30	49. 0
17. 0	48. 0
17. 9	49. 10
17. 32	48. 10
17. 53	48. 0
18. 15	48. 40 ***
19. 28	47. 0
19. 56	48. 25
20. 15	47. 50
21. 18	49. 10
21. 36	51. 20
21. 57	51. 15 ***
23. 27	56. 5
23. 34	57. 45
23. 42	56. 50
23. 59	57. 0
Sept. 16	
0. 0	20. 57. 0
0. 45	58. 10 ***

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Sept. 15 h m	
2. 27	·1134 ***
2. 50	·1128 ***
3. 2	·1135 ***
4. 0	·1123 ***
4. 23	·1133 ***
4. 41	·1125 ***
5. 6	·1124 ***
5. 47	·1104 ***
7. 0	·1111
7. 7	·1115
7. 20	·1111
7. 52	·1118
8. 8	·1112
8. 25	·1109
8. 34	·1115
8. 41	·1104 ***
9. 20	·1114 ***
9. 50	·1110 ***
11. 16	·1108 ***
11. 40	·1112 ***
12. 28	·1107 ***
13. 20	·1114 ***
15. 12	·1114 ***
16. 38	·1127 ***
18. 7	·1118 ***
18. 54	·1119 ***
19. 59	·1109 ***
21. 7	·1105
22. 6	·1105
22. 55	·1096 ***
23. 31	·1100
23. 43	·1106
23. 59	·1100
Sept. 16	
0. 0	·1100
0. 30	·1112

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
Sept. 15 h m	
9. 38	·03038
12. 3	·03097
18. 26	·03582
20. 0	·03670 (†)
21. 0	·03733*
22. 32	·03702
23. 59	·03688
Sept. 16	
0. 0	·03688
1. 30	·03710

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Sept. 16		
1. 0	62·9	63·1
3. 0	64·9	64·9

Greenwich Mean Solar Time.	Western Declination.
Sept. 16 h m	° ′ ″
2. 7	20. 54. 50 ***
3. 0	55. 10
3. 16	53. 50
3. 32	54. 50 ***
6. 41	53. 35
6. 59	54. 20 ***
7. 24	52. 20 ***
7. 57	53. 5
8. 17	48. 20
8. 45	51. 55
10. 14	51. 35
11. 15	44. 20
11. 30	47. 5
11. 45	46. 55
12. 30	48. 55
12. 38	48. 10
13. 15	49. 30
14. 0	49. 0
14. 10	48. 5
14. 18	49. 0
14. 27	48. 25
14. 42	50. 0
15. 10	48. 0
15. 47	51. 0
16. 12	49. 10
16. 19	49. 50
16. 37	49. 5
17. 28	50. 30
17. 43	50. 10
17. 46	50. 25
17. 56	49. 30
18. 0	50. 0
18. 14	47. 0 ***
18. 38	50. 50
18. 48	48. 0
19. 0	48. 5
19. 9	47. 15
19. 37	51. 35
19. 53	50. 10
20. 2	50. 30
20. 18	48. 30
20. 41	50. 30
20. 53	51. 35
21. 11	51. 30
21. 27	52. 25
22. 58	54. 45
23. 4	53. 45
23. 15	54. 45
23. 28	53. 10
23. 33	55. 0
23. 34	51. 20
23. 45	54. 0
23. 56	57. 0

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Sept. 16 h m	
0. 53	·1113
0. 55	·1116 (†)
1. 0	·1111*
1. 5	·1113
1. 56	·1125 ***
2. 50	·1132 ***
3. 13	·1118 ***
3. 22	·1126 ***
4. 35	·1126 ***
5. 7	·1124 ***
5. 37	·1124
5. 53	·1134 ***
6. 18	·1123 ***
6. 36	·1123 ***
6. 48	·1133 ***
7. 19	·1121 ***
7. 58	·1125 ***
8. 10	·1119 ***
8. 28	·1126 ***
9. 5	·1125
9. 38	·1131
10. 4	·1128
10. 9	·1133
10. 23	·1125
10. 40	·1125
10. 54	·1132
11. 10	·1129
11. 44	·1137
12. 0	·1134
12. 9	·1136
12. 24	·1127
12. 48	·1125
13. 25	·1129
14. 2	·1123
14. 24	·1128
14. 31	·1126
14. 38	·1129
14. 49	·1120
14. 56	·1125
15. 15	·1126
15. 19	·1120
15. 30	·1127
15. 40	·1128 ***

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
Sept. 16 h m	
2. 51	·03595
3. 1	·03563
5. 36	·03342
6. 1	·03317
8. 6	·03260
10. 22	·03255
10. 28	·03272
11. 3	{ ·03280 ·03316
12. 57 :	·03375
14. 45	·03566
17. 24	·03852
17. 30	·03820
18. 27	·03736
18. 37	·03703
18. 45	·03700
20. 55	{ ·03535 ·03120
23. 40	·03048
23. 49	·03058
23. 59	·03000

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Sept. 16 h m	°	°
9. 0	63·5	64·4
21. 0	57·0	57·6
22. 0	57·7	58·0
23. 0	58·6	58·5

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Greenwich Mean Solar Time.	Western Declination.
Sept. 16, h m	° ′ ″
23. 59	20. 56. 0
Sept. 17	
0. 0	20. 55. 50
0. 26	21. 0. 10
0. 45	20. 57. 45
0. 53	58. 20
1. 0	57. 0
1. 18	59. 0
1. 26	58. 0
1. 46	59. 45
2. 8	57. 25
2. 30	51. 45
2. 39	52. 25 ***
6. 3	49. 10 ***
6. 56	49. 25
7. 37	45. 25
8. 0	45. 0 ***
8. 28	47. 15 ***
9. 27	47. 40 ***
10. 44	49. 25 ***
11. 27	48. 15
11. 54	50. 20
Sept. 17	
13. 58	20. 46. 0
14. 35	49. 10 ***
16. 37	48. 55
17. 8	49. 30
17. 30	48. 0
17. 40	49. 0
17. 49	48. 25
18. 9	49. 20
19. 21	47. 20
19. 38	48. 35
20. 40	48. 25
21. 0	50. 0
21. 24	50. 20
22. 5	53. 25
22. 20	53. 0
22. 28	54. 50
22. 50	55. 20
23. 34	55. 0
23. 59	54. 50
Sept. 18	
0. 0	20. 54. 50
0. 14	57. 20
0. 30	55. 10
1. 0	57. 10
1. 22	55. 10
1. 39	55. 40
3. 0	52. 35
3. 29	53. 0
3. 49	51. 55 ***
5. 42	51. 35 ***
7. 20	52. 40
7. 50	49. 30
8. 38	51. 15
8. 48	50. 25
9. 8	50. 35
9. 35	49. 0 ***

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Sept. 16, h m	
15. 57	·1124
16. 5	·1129
16. 14	·1125 ***
16. 33	·1127 ***
17. 0	·1121 ***
18. 2	·1117 ***
18. 15	·1126 ***
18. 39	·1118 ***
20. 3	·1112 ***
20. 31	·1118 ***
20. 56	·1108
21. 15	·1106 ***
22. 5	·1094 ***
22. 49	·1114
22. 55	·1110
23. 10	·1118
23. 21	·1113
23. 39	·1118
23. 52	·1130
23. 59	·1130
Sept. 17	
0. 0	·1130
0. 6	·1131 ***
0. 22	·1114
0. 39	·1111
0. 57	·1118
1. 8	·1109 (†)
2. 31	·1122 ***
3. 5	·1123 ***
3. 51	·1118 ***
4. 13	·1124 ***
5. 17	·1123 ***
5. 43	·1128 ***
6. 35	·1123 ***
6. 46	·1129 ***
7. 10	·1128 ***
Sept. 17	
7. 32	·1123
7. 45	·1129
8. 7	·1133
8. 19	·1130
8. 45	·1132
9. 7	·1126
9. 58	·1129
10. 11	·1127
10. 53	·1134
11. 15	·1140
11. 32	·1130
12. 7	·1138 ***
13. 55	·1136 ***
14. 15	·1133 ***
15. 12	·1140 ***
15. 51	·1138 ***
17. 30	·1137
17. 48	·1139
17. 54	·1136 ***
18. 56	·1132
19. 4	·1130 ***
20. 30	·1123 ***
21. 25	·1114
21. 51	·1115
22. 15	·1109 ***
23. 2	·1118 (†)
Sept. 18	
	(†)
1. 0	·1126*
1. 25	·1127 ***
1. 58	·1128
2. 8	·1120 ***
2. 39	·1125 ***
3. 37	·1129
3. 57	·1121 ***
4. 26	·1126 ***
4. 45	·1125 ***
5. 39	·1131 ***
5. 53	·1127 ***

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
Sept. 17	
0. 0	·03000
0. 24	·03016
1. 28	·02962
1. 56	·02957
2. 9	·02942
2. 19	·02946
5. 21	·02672
6. 20	{·02613 ·02937}
9. 27	·02877
11. 48	·02875
13. 23	·02936
16. 28	·03186
18. 54	·03435
19. 33	·03426
21. 43	·03232
22. 39	·03094
23. 21	·03020
23. 59	·03000
Sept. 18	
0. 0	·03000
0. 32	{·02962 ·02286}
2. 35	{·02084 ·02362}
4. 48	·02124
6. 52	·02382
8. 8	·02500
11. 24	·02578
15. 6	·02777
17. 9	·02856
19. 32	·02917
22. 0	·02938
23. 25	·02875
23. 59	·02833

Greenwich Mean Solar Time.	Readings of Thermometers: Of H. F. Magnet.	Readings of Thermometers: Of V. F. Magnet.
h m	°	°
Sept. 17		
0. 0	59·4	59·0
1. 0	60·0	60·0
2. 0	61·3	61·0
3. 0	61·9	61·8
6. 0	62·9	62·9
9. 0	61·8	61·9
12. 0	59·1	60·0
18. 0	54·0	55·2
21. 0	54·0	54·9
22. 0	55·1	55·4
23. 0	56·3	56·3
Sept. 18		
0. 0	57·2	57·3
1. 0	58·9	58·8
2. 0	60·3	60·0
3. 0	61·7	61·1
9. 0	62·2	62·0
21. 0	59·7	59·7

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Sept. 18		Sept. 18						
h m	° ′ ″	h m		h m		h m	°	°
10. 45	20. 51. 20	6. 22	·1127					
11. 14	51. 5		***					
11. 27	52. 0	6. 47	·1130					
11. 39	51. 20	7. 15	·1135					
12. 2	53. 25		***					
12. 14	52. 25	7. 22	·1135					
12. 38	52. 0		***					
12. 57	53. 0	7. 36	·1126					
14. 19	50. 10	7. 41	·1126					
15. 8	50. 20	7. 59	·1116					
15. 39	48. 40	8. 34	·1130					
16. 6	48. 20	9. 6	·1124					
16. 47	50. 50	9. 12	·1127					
18. 8	50. 35	9. 21	·1124					
18. 27	49. 30	9. 53	·1125					
18. 30	50. 25	10. 22	·1130					
19. 17	48. 10	10. 52	·1130					
19. 37	50. 40	11. 0	·1132					
19. 54	49. 0	11. 29	·1128					
21. 3	50. 0	11. 50	·1127					
	***	12. 0	·1131					
22. 36	56. 55	12. 30	·1126					
22. 52	56. 0	12. 52	·1127					
23. 12	57. 15	13. 6	·1124					
23. 37	57. 0	13. 23	·1128					
23. 59	57. 0	14. 41	·1120					
		15. 15	·1126					
		15. 43	·1125					
		16. 44	·1129					
		17. 9	·1128					
		17. 19	·1132					
		17. 39	·1134					
		18. 15	·1131					
		18. 39	·1132					
		19. 0	·1128					
		19. 24	·1135					
			***					
		19. 39	·1127					
			***					
		20. 10	·1124					
			***					
		20. 41	·1124					
			***					
		20. 50	·1117					
			***					
		21. 20	·1122					
			***					
		22. 19	·1120					
			***					
		22. 36	·1127					
			***					
		23. 41	·1119					
			***					
		23. 59	·1121					
Sept. 19		Sept. 19		Sept. 19		Sept. 19		
0. 0	20. 57. 0	0. 0	·1121	0. 0	·02833	1. 0	64·5	63·9
0. 31	57. 30	0. 25	·1124	1. 3	·02736	3. 0	66·7	66·1

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Sept. 19		Sept. 19		Sept. 19		Sept. 19		
h m	° ′ ″	h m		h m		h m	°	°
0. 46	20. 58. 30	0. 52	·1123	2. 58	{ ·02443	9. 0	65·5	67·0
1. 44	55. 10	1. 15	·1130		·02592	21. 0	59·2	60·0
	***	1. 22	·1126	3. 25	·02640			
2. 22	57. 30	1. 30	·1119	4. 47	·02908			
2. 52	56. 0	2. 6	·1109	6. 7	·03123			
4. 3	56. 0	2. 16	·1115	6. 24	{ ·03142			
4. 17	56. 40	2. 30	·1115		·03178			
4. 40	55. 50	3. 4	·1097	7. 8	{ ·03154			
5. 34	56. 25	3. 25	·1100		·03220			
6. 44	53. 15	3. 54	·1110	7. 47	·03183			
7. 5	49. 20	4. 19	·1108	9. 0	{ ·03148			
7. 32	53. 50	4. 28	·1112		·03257			
7. 56	48. 55	5. 1	·1106	10. 22	·03302			
8. 6	50. 30	5. 23	·1109	13. 25	·03477			
8. 22	48. 10	5. 38	·1107	16. 19	·03740			
8. 40	51. 0	5. 47	·1108	17. 2	·03776			
9. 14	46. 0	6. 22	·1100	18. 51	·03957			
	***	6. 43	·1101	19. 9	·03920			
10. 14	51. 0	6. 49	·1105	21. 31	·03738			
11. 7	51. 45	7. 11	·1097	22. 8	·03715			
11. 45	50. 30	7. 37	·1105	22. 23	{ ·03674			
12. 46	57. 40	7. 56	·1101		·03496			
13. 29	52. 10	8. 30	·1116	23. 59	·03355			
14. 7	48. 0	8. 40	·1113					
14. 34	47. 30	9. 0	·1116					
15. 3	45. 0	9. 19	·1113					
15. 12	47. 55	9. 26	·1116					
15. 26	47. 15	9. 45	·1106					
15. 57	48. 10	10. 15	·1103					
16. 7	47. 35	10. 22	·1105					
16. 40	50. 30	10. 40	·1101					
16. 59	49. 30	11. 7	·1105					
17. 50	51. 0	12. 7	·1105					
	***	12. 19	·1108					
19. 40	47. 25	12. 55	·1107					
20. 26	48. 0	13. 6	·1110					
21. 31	52. 40	13. 29	·1109					
21. 55	53. 20	13. 51	·1113					
22. 45	57. 40	15. 9	·1113					
22. 53	57. 0	15. 13	·1116					
23. 12	59. 55	15. 23	·1109					
23. 27	20. 58. 25	16. 18	·1114					
23. 35	21. 0. 0	16. 36	·1112					
23. 42	20. 59. 5	17. 3	·1115					
23. 59	59. 0	17. 32	·1112					
		18. 15	·1116					
		19. 31	·1112					
		20. 21	·1111					
		21. 31	·1108					
		21. 54	·1107					
		22. 33	·1111					
		22. 38	·1108					
		22. 50	·1112					
		23. 7	·1108					
		23. 39	·1113					
		23. 59	·1108					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Sept. 20		Sept. 20		Sept. 20		Sept. 20		
h m	° ′ ″	h m		h m		h m	°	°
0. 0	20. 59. 0	0. 0	·1108	0. 0	·03355	1. 0	64·5	63·8
0. 15	20. 58. 0	0. 9	·1105	0. 53	·03317	3. 0	66·5	66·0
0. 19	21. 1. 15	0. 19	·1110	2. 5	·03178	9. 0	66·8	66·6
0. 25	20. 59. 0	0. 31	·1108	2. 10	·03150	21. 55	62·1	62·4
0. 53	21. 0. 45	0. 47	·1108	3. 35	·02938			
1. 8	20. 58. 40	0. 54	·1114	5. 0	·02760			
2. 1	58. 50	1. 7	·1105	6. 9	·02957			
2. 17	57. 55	1. 17	·1106	7. 13	·03124			
2. 46	57. 50	1. 37	·1104	7. 58	{ ·03162			
3. 31	58. 40	2. 7	·1109		·03268			
	***	2. 35	·1102	10. 33	·03237			
4. 0	57. 0	3. 34	·1107	12. 7	·03262			
	***	4. 5	·1098	18. 6	·03503			
4. 41	57. 30	4. 21	·1103	23. 59	·03690			
	***	5. 1	·1095					
5. 41	53. 50	5. 35	·1096					
6. 7	54. 20	5. 44	·1099					
7. 4	52. 30	6. 21	·1095					
7. 23	53. 0	6. 53	·1096					
8. 10	51. 20	7. 18	·1103					
8. 14	52. 0	7. 50	·1094					
8. 28	49. 0	8. 13	·1102					
8. 37	50. 10	8. 22	·1099					
9. 3	48. 15	8. 32	·1102					
9. 24	49. 0	8. 48	·1098					
10. 6	44. 50	9. 7	·1105					
10. 32	45. 15	9. 36	·1105					
10. 45	44. 0	9. 45	·1110					
11. 7	52. 0	10. 1	·1108					
11. 16	53. 5	10. 36	·1089					
11. 32	50. 40	10. 43	·1095					
12. 1	52. 40	11. 7	·1089					
12. 7	51. 45	11. 36	·1103					
12. 15	52. 20	12. 1	·1101					
12. 53	51. 30	12. 21	·1104					
13. 8	52. 0	12. 50	·1100					
	***	14. 15	·1100					
14. 17	51. 0	14. 32	·1102					
	***	15. 41	·1095					
14. 57	49. 0	16. 17	·1099					
15. 48	51. 55	17. 6	·1101					
16. 1	51. 10	17. 52	·1095					
16. 14	51. 35	18. 13	·1095					
16. 45	50. 0	18. 24	·1097					
17. 3	48. 25	19. 20	·1088					
18. 4	49. 55	20. 25	·1087					
18. 18	48. 0	21. 30	·1086					
18. 42	48. 35	21. 52	·1088					
19. 28	47. 35	22. 7	·1086					
21. 30	51. 40	22. 18	·1089					
21. 46	53. 0	22. 59	·1091					
22. 4	53. 0	23. 24	·1100					
22. 27	54. 25	23. 36	·1101					
22. 32	54. 0	23. 59	·1098					
23. 14	55. 35							
23. 37	57. 40							
23. 59	57. 0							

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Sept. 21		Sept. 21		Sept. 21		Sept. 21		
h m	° ′ ″	h m		h m		h m	°	°
0. 0	20. 57. 10	0. 0	·1098	0. 0	·03690	9. 0	62·2	63·0
0. 30	58. 20	0. 33	·1110	2. 45	·03754	21. 0	58·0	58·5
1. 3	57. 10	0. 45	·1107	4. 0	·03757			
1. 44	57. 20	1. 4	·1107	6. 42	·03678			
3. 54	52. 5	1. 29	·1109	8. 2	·03662			
4. 26	52. 30	1. 37	·1113	11. 7	·03680			
4. 48	51. 30	1. 59	·1113	11. 45	·03684			
4. 57	51. 35	2. 8	·1110	19. 22	·03974			
6. 0	50. 15	2. 23	·1112	21. 49	·03815			
6. 22	50. 15	2. 31	·1103	23. 17	·03792			
6. 41	48. 35		***		(†)			
7. 14	49. 15	3. 16	·1098					
8. 31	48. 10	3. 51	·1103					
8. 45	49. 25	4. 7	·1098					
9. 2	47. 50	4. 25	·1102					
9. 15	48. 10	4. 52	·1100					
9. 36	47. 5	5. 10	·1097					
9. 56	48. 30	5. 24	·1104					
10. 28	48. 0	5. 47	·1100					
10. 44	48. 40	5. 55	·1102					
10. 52	51. 0	6. 34	·1100					
11. 4	49. 20	6. 56	·1108					
11. 15	53. 0	7. 13	·1104					
11. 48	52. 30	7. 34	·1105					
12. 3	53. 10	7. 48	·1102					
13. 13	51. 30	8. 7	·1102					
13. 27	51. 55	8. 36	·1106					
13. 37	50. 40	9. 18	·1101					
13. 57	51. 0	10. 3	·1111					
14. 10	49. 50	10. 11	·1107					
14. 30	51. 5	10. 40	·1102					
14. 45	50. 40	10. 45	·1107					
15. 30	52. 0	10. 51	·1105					
16. 9	52. 10	11. 18	·1113					
16. 32	51. 45	11. 36	·1106					
17. 0	49. 35	11. 53	·1111					
17. 11	50. 0	12. 4	·1108					
17. 49	48. 25	12. 37	·1111					
18. 31	49. 20	13. 0	·1108					
18. 45	48. 20	13. 44	·1106					
19. 7	49. 0	14. 15	·1107					
19. 22	48. 20	14. 31	·1103					
19. 40	49. 10	15. 6	·1104					
20. 7	49. 0	15. 49	·1103					
20. 25	48. 0	16. 15	·1107					
	***	16. 59	·1110					
21. 24	49. 35		***					
22. 11	51. 0	17. 28	·1109					
22. 22	52. 25	17. 51	·1108					
22. 52	53. 50		***					
22. 59	55. 20	18. 46	·1101					
23. 24	57. 0	19. 8	·1107					
23. 39	56. 0	19. 34	·1105					
23. 59	56. 40		***					
		20. 22	·1096					
			***					
		21. 43	·1097					
		22. 15	·1087					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Sept.21						
h m	° ′ ″	h m		h m		h m	°	°
		22. 30	·1092					
		22. 43	·1090					
		23. 5	·1096					
		23. 14	·1095					
		23. 50	·1094					
			(†)					
Sept.22		Sept.22		Sept.22		Sept.22		
0. 0	20. 56. 45		(†)		(†)	1. 0	60·0	59·9
0. 17	57. 0	0. 3	·1099	0. 28	·03442	3. 0	61·0	60·8
2. 15	58. 0	0. 50	·1109	2. 13	·03377	9. 0	61·5	61·7
2. 32	56. 0	1. 40	·1099	7. 22	·03158	21. 0	53·5	54·5
3. 56	52. 30	2. 0	·1101	10. 51	·03130			
4. 48	52. 5	2. 28	·1110	13. 4	·03176			
5. 12	52. 30	2. 46	·1098	15. 20	·03255			
5. 33	51. 5		***	17. 37	·03408			
7. 7	51. 40	3. 57	·1104	19. 46	·03618			
7. 32	48. 15	4. 26	·1104	20. 13	·03693			
8. 3	50. 45		***	21. 59	·03440			
8. 26	51. 0	5. 40	·1103	23. 9	·03352			
9. 0	47. 25	5. 52	·1107	23. 59	·03322			
	***	6. 5	·1106					
10. 35	51. 20		***					
	***	7. 3	·1109					
12. 22	51. 10	7. 24	·1103					
12. 31	53. 50	7. 48	·1113					
13. 7	51. 5	8. 10	·1105					
13. 33	53. 15		***					
14. 9	50. 15	8. 55	·1116					
14. 40	52. 10		***					
14. 50	51. 50	10. 55	·1110					
15. 28	52. 25	13. 38	·1119					
15. 41	53. 30	14. 9	·1110					
17. 13	49. 45	14. 37	·1116					
17. 35	50. 0	15. 11	·1112					
17. 48	49. 0	15. 20	·1114					
	***	15. 28	·1110					
20. 2	44. 30	16. 0	·1115					
21. 28	50. 30		***					
	***	17. 25	·1117					
21. 46	51. 15	19. 4	·1103					
23. 19	59. 20	19. 12	·1099					
23. 39	58. 30	19. 20	·1101					
23. 59	58. 50	19. 51	·1099					
		20. 30	·1087					
		20. 53	·1087					
		21. 5	·1083					
		21. 23	·1082					
		21. 55	·1088					
			***					
		22. 15	·1085					
			***					
		22. 48	·1088					
		23. 0:	·1083					
		23. 45	·1097					
		23. 59	·1096					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Sept.23		Sept.23		Sept.23		Sept.23		
h m	° ′ ″	h m		h m		h m	°	°
0. 0	20. 58. 40	0. 0	·1097	0. 0	·03322	1. 0	58·0	57·8
0. 26	59. 30	0. 12	·1099	1. 43	·03260	3. 0	60·0	60·0
0. 45	59. 0	1. 8	·1101	2. 15	·03224	9. 0	62·0	61·9
1. 0	58. 30	1. 40	·1109	2. 21	·03230	21. 0	56·0	57·0
1. 17	58. 45	2. 30	·1107	2. 27	·03203	22. 0	57·4	57·7
2. 38	57. 0	3. 29	·1129	4. 10	·03030	23. 0	58·5	58·2
2. 45	58. 30	3. 53	·1112	4. 34	·03015			
3. 5	57. 10	4. 13	·1115	5. 21	·02923			
3. 26	59. 10	4. 42	·1112	6. 35	·02822			
3. 40	57. 0	5. 3	·1136	7. 40	·02755			
4. 4	56. 50	5. 24	·1127	7. 53	·02854			
4. 30	55. 20	5. 35	·1114	8. 3	·02736			
4. 50	57. 0	6. 10	·1106	10. 7	·02692			
5. 11	56. 35	6. 27	·1107	12. 27	·02690			
5. 16	57. 10	6. 47	·1117	14. 0	·02733			
5. 26	56. 55	6. 58	·1117	14. 18	·02734			
5. 33	57. 0	7. 7	·1122	18. 5	·02932			
5. 44	55. 10	7. 29	·1110	20. 6	·03054			
5. 56	55. 10	7. 42	·1118	22. 14	·03138			
6. 30	52. 20	7. 51	·1116	22. 50	{ ·03123			
6. 59	51. 50	8. 5	·1100		·02555			
7. 30	51. 50	8. 24	·1114	23. 59	·02723			
7. 47	45. 0	8. 44	·1114					
7. 57	47. 50	8. 53	·1116					
8. 15	44. 0	9. 3	·1115					
8. 45	49. 0	9. 10	·1106					
9. 10	49. 10	9. 16	·1112					
9. 38	50. 55	10. 2	·1115					
10. 30	50. 5	10. 19	·1112					
11. 7	50. 30	10. 35	·1113					
11. 24	49. 30	11. 9	·1120					
11. 45	44. 40	11. 26	·1120					
12. 8	45. 0	11. 50	·1133					
13. 7	49. 20	12. 15	·1125					
13. 23	49. 30	12. 37	·1114					
13. 52	52. 45	13. 53	·1118					
14. 12	50. 40	14. 7	·1126					
14. 48	50. 10	14. 42	·1119					
15. 0	49. 30	14. 52	·1121					
15. 16	50. 10	15. 4	·1119					
16. 16	50. 10	15. 53	·1121					
16. 53	52. 45	16. 39	·1118					
17. 38	52. 15	17. 7	·1122					
17. 52	51. 0	18. 18	·1113					
18. 14	51. 0	18. 37	·1116					
18. 34	52. 10	19. 15	·1107					
19. 34	48. 0	20. 11	·1094					
20. 3	48. 20	20. 22	·1097					
20. 14	47. 10	20. 43	·1094					
20. 25	48. 30	21. 0	·1094					
20. 47	48. 0	21. 15	·1091					
20. 55	48. 10	22. 0	·1090					
21. 4	47. 45	22. 46	·1094					
22. 45	54. 0	23. 0	·1088					
23. 0	56. 50	23. 15	·1091					
23. 45	56. 55	23. 53	·1109					
23. 54	58. 0	23. 59	·1106					
23. 59	57. 5							

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Sept. 24		Sept. 24		Sept. 24		Sept. 24		
h m	° ′ ″	h m		h m		h m	°	°
0. 0	20. 57. 5	0. 0	·1106		(†)	0. 0	59·2	59·0
0.15	57.10	0. 5	·1102	1. 0	·02697*	1. 0	60·5	60·0
0.30	55.25	0.19	·1106	1.25	·02692	2. 0	61·5	61·0
0.34	56.10	0.30	·1099	2.17	·02642	3. 0	62·5	62·0
0.45	58. 0	0.44	·1106	2.28	·02664	6. 0	64·4	63·6
1.14	53. 0	0.48	·1116	2.37	·02638	9. 0	64·6	64·0
1.52	57. 0	1. 0	·1100	2.58	·02658	12. 0	64·1	64·0
2.33	52.35	1. 8	·1097	3.13	·02702	18. 0	63·2	63·2
2.40	58. 0	1.58	·1119	3.21	·02686	21. 0	63·0	64·0
2.52	20. 56. 5	2. 1	·1114	3.33	·02717	22. 0	63·5	64·0
3.17	21. 1.20	2.13	·1112	3.45	·02712	23. 0	64·1	64·0
3.32	20. 58.20	2.35	·1102	4. 0	·02900			
3.41	21. 1. 5	2.41	·1134	4. 7	·02722			
3.49	20. 58.35	2.52	·1106	4.37	·02695			
4. 1	21. 3. 0	3. 2	·1122	4.55	·02720			
	***	3. 7	·1112	5. 9	·02815			
4.15	20. 48.15	3.26	·1132	5.20	·02756			
4.20	54. 0	3.33	·1125	5.44	·02735			
4.27	54.40	3.41	·1143	5.52	·02680			
4.40	48.25	3.49	·1129	6. 1	·02717			
4.48	50.30	3.52	·1132	6. 7	·02696			
4.57	45.30	3.56	·1124	6.10	·02717			
5.12	53.30	4. 3	·1147	6.15	·02696			
5.20	38. 0	4. 5	·1145	6.26	·02752			
5.36	51.20	4.14	·1152	6.39	·02648			
5.47	37.35	4.17	·1137	6.51	·02574			
6. 9	53.35	4.18	·1140	7.13	·02482			
6.15	46.10	4.35	·1087	7.24	·02496			
6.28	52.45	4.44	·1100	7.49	·02410			
6.30	45. 0	4.53	·1092	8. 8	·02398			
6.38	39.35	5. 4	·1112	8.34	·02366			
6.45	40.25	5.19	·1087	9. 0	{ ·02360			
6.49	39.45	5.25	·1108		·02727 }			
7. 7	45.35	5.33	·1110	11.39	·02650			
7.27	42.15	5.39	·1094	11.55	·02657			
7.36	36. 0	5.48	·1102	12.32	·02566			
7.51	43.10	5.59	·1084	12.55	·02584			
8. 4	41.50	6. 3	·1086	13.23	·02577			
8.27	47.45	6. 8	·1058	14.29	·02616			
8.31	47.30	6.20	·1086	18. 5	·02679			
8.47	49. 0	6.23	·1057	22. 8	·02704			
9. 8	48.25	6.27	·1060	23. 7	·02694			
9.20	49.20	6.29	·1050		(†)			
	***	6.57	·1070					
10.53	49.55	7. 5	·1071					
	***	7.11	·1061					
11.55	48.35	7.16	·1062					
12.22	56. 0	7.20	·1056					
12.44	53.10	7.34	·1079					
13. 4	56. 0	7.50	·1059					
13.50	49.40	8. 0	·1070					
14.28	49.10	8.21	·1073					
14.45	50. 0	8.39	·1068					
17. 2	47.30	8.45	·1070					
17.50	48.10	8.53	·1071					
18. 3	49.30	9.28	·1073					
18.19	48.10	9.35	·1071					
18.48	50.50	9.49	·1074					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Sept. 24		Sept. 24						
h m	° ′ ″	h m		h m		h m	°	°
19.33	20. 48.30	9.59	·1078					
19.38	49.25	10.37	·1082					
19.45	48.25	10.53	·1079					
20. 7	49.30	11.11	·1079					
20.16	51.15	11.40	·1107					
20.32	50. 0	12.16	·1077					
20.48	50. 0	13.30	·1085					
21.28	50.10	13.41	·1084					
22. 7	50.50	14. 1	·1087					
22.23	56.10	14.24	·1085					
22.38	55.10	15.37	·1087					
22.43	56. 0	16. 7	·1090					
23. 3	53.45	16.30	·1088					
23.59	53.30	17. 3	·1081					
		17.14	·1081					
		17.33	·1075					
		17.48	·1078					
		18. 0	·1077					
		18.22	·1065					
		18.43	·1062					
		18.53	·1078					
		18.58	·1072					
			(†)					
		21. 0	·1080*					
Sept. 25		Sept. 25		Sept. 25		Sept. 25		
0. 0	20. 53.30		(†)		(†)	0. 0	64·4	64·2
0.27	54. 0	0.15	·1246	0.50	·03000	1. 0	64·9	64·9
0.44	57. 0	0.39	·1253	2. 6	{ ·03023	2. 0	65·6	65·2
1. 8	57.15	0.56	·1246		·02973 }	3. 0	66·1	66·0
1.31	56. 0	1.22	·1242	3. 2	·02960	9. 0	67·0	66·4
1.42	56.10	1.54	·1224	4.49	·02847	21. 0	62·0	62·0
2. 0	53.15	2. 1	·1228	5. 0	·02850			
2.12	53.50	2.25	·1234	5.24	·02803			
2.30	51.45	2.41	·1249	5.54	·02805			
4. 3	53.30	2.57	·1239	6.21	·02846			
4.19	52.20	3.54	·1265	6.58	·02860			
4.36	52.15	4.14	·1265	7. 8	·02857			
4.58	48.15	4.38	·1241	9.18	{ ·02942			
5.12	49. 0	5. 0	·1256		·03685 }			
5.41	47.25	5.15	·1250	11.25	·03664			
6. 0	41.50	5.25	·1260	14.10	·03740			
6. 8	41.10	5.36	·1257	16. 4	·03925			
6.18	43.30	5.41	·1252	16.47	·03946			
6.27	43. 0	5.46	·1252	17. 0	·03975			
6.43	46.40	6. 6	·1273	17.44	·03958			
6.58	43.10	6.20	·1266	19. 0	{ ·04036			
7.13	47.25	6.25	·1267		·03957 }			
8. 3	48.40	6.39	·1258	19.29	{ ·03958			
8.13	49.30	6.54	·1273		·03740 }			
9.12	47. 0	7. 8	·1263	21.31	{ ·03823			
9.37	47.20	7.17	·1264		·03750 }			
9.57	50.40	7.25	·1259	23.14	·03737			
10.23	46.55	7.41	·1251	23.59	·03750			
10.33	47.50	8. 3	·1263					
10.44	47.25	8.29	·1258					
10.57	50. 0	8.48	·1265					
11.24	50.45	9.18	·1267					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

September 25. A sudden change took place in the position of the Horizontal Force Magnet at the time of changing the photographic sheets, causing the readings in the series beginning September 25 to be about 0·016 greater than those in the series ending September 24.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Sept.25		Sept.25						
h m	° ′ ″	h m		h m		h m	°	°
11.47	20. 49. 40	9. 37	·1280					
12. 9	50. 25	10. 3	·1266					
12. 53	49. 5	10. 32	·1282					
13. 16	47. 0	10. 39	·1288					
13. 53	49. 0	10. 49	·1278					
14. 2	48. 30	10. 54	·1277					
14. 18	50. 0	11. 3	·1267					
14. 45	49. 15	11. 36	·1262					
14. 53	50. 0	11. 52	·1273					
15. 11	47. 35	12. 8	·1277					
15. 48	46. 50	12. 23	·1269					
16. 0	48. 0	12. 40	·1268					
16. 12	47. 10	13. 4	·1260					
16. 42	50. 5	13. 39	·1274					
17. 0	56. 45	14. 17	·1263					
17. 12	55. 20	14. 25	·1266					
17. 23	55. 50	14. 32	·1263					
17. 33	58. 0	14. 40	·1275					
17. 57	55. 15	14. 50	·1272					
18. 4	56. 0	14. 54	·1274					
18. 14	53. 30	15. 4	·1274					
18. 27	51. 30	15. 23	·1267					
18. 30	53. 10	15. 33	·1269					
18. 38	49. 0	16. 3	·1268					
18. 45	49. 55	16. 39	·1260					
18. 57	48. 10	16. 46	·1264					
19. 5	50. 0	17. 0	·1293					
19. 30	47. 40	17. 10	·1290					
19. 51	47. 40	17. 22	·1298					
20. 3	45. 35	17. 35	·1288					
20. 6	47. 0	17. 40	·1291					
20. 24	46. 0	17. 47	·1287					
20. 33	47. 30	17. 59	·1296					
20. 36	46. 0	18. 30	·1274					
20. 40	48. 25	18. 45	·1269					
20. 48	47. 30	18. 55	·1275					
21. 0	47. 0	19. 0	·1268					
21. 40	53. 30	19. 8	·1273					
21. 48	56. 0	19. 15	·1265					
21. 55	54. 50	19. 38	·1263					
22. 0	20. 56. 20	20. 19	·1240					
	***	20. 30	·1242					
23. 0	21. 1. 25	20. 37	·1236					
23. 36	20. 59. 20	20. 52	·1237					
23. 44	21. 0. 0	21. 25	·1226					
23. 52	20. 58. 45	21. 31	·1226					
23. 59	59. 40	21. 38	·1231					
		21. 52	·1218					
		21. 54	·1226					
		22. 15	·1224					
		22. 45	·1217					
		22. 59	·1223					
		23. 15	·1219					
		23. 21	·1223					
		23. 39	·1225					
			(†)					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Sept.26		Sept.26		Sept.26		Sept.26		
h m	° ′ ″	h m		h m		h m	°	°
0. 0	20. 59. 30		(†)	0. 0	·03750	1. 0	65·6	65·0
0. 44	57. 0	0. 58	·1277	0. 30	{ ·03732	3. 0	67·4	64·9
1. 0	58. 30	1. 5	·1282		·03538	9. 0	68·0	67·6
1. 31	57. 50	2. 15	·1226	2. 36	{ ·03426	21. 0	63·0	63·5
1. 38	58. 25	2. 37	·1256		·03300			
2. 11	53. 0	3. 3	·1250	4. 8	·03160			
2. 30	53. 35	3. 21	·1253	4. 39	·03148			
2. 49	52. 40	3. 53	·1262	5. 47	·03070			
3. 39	54. 20	4. 28	·1236	6. 36	{ ·03112			
4. 10	53. 20	4. 35	·1234		·03248			
4. 45	41. 15	5. 7	·1263	7. 56	·03200			
4. 51	42. 10	5. 30	·1256	8. 20	·03161			
5. 0	42. 30	5. 40	·1259	9. 24	·03180			
5. 16	45. 0	5. 49	·1254	9. 38	·03158			
5. 44	46. 50	5. 56	·1259	10. 32	·03147			
5. 53	48. 20	6. 25	·1242	12. 50	·03216			
6. 0	47. 50	6. 38	·1243	12. 56	·03205			
6. 12	48. 30	6. 53	·1271	13. 35	·03240			
6. 29	44. 20	7. 12	·1258	14. 9	·03240			
6. 44	38. 0	7. 21	·1262	14. 38	·03280			
7. 0	44. 45	8. 0	·1241	17. 43	·03484			
7. 13	43. 35	8. 11	·1266	20. 5	·03598			
7. 34	47. 35	8. 22	·1262	22. 21	·03633			
	***	8. 44	·1246	23. 42	·03620			
7. 54	49. 0	8. 53	·1252		(†)			
8. 0	48. 50	9. 43	·1254					
8. 10	52. 10	9. 51	·1249					
8. 23	53. 10	10. 6	·1270					
8. 46	48. 40	10. 15	·1267					
8. 57	49. 40	10. 23	·1270					
8. 59	47. 20	10. 39	·1258					
9. 0	49. 50	10. 49	·1261					
9. 25	53. 10	11. 10	·1249					
9. 44	52. 35	11. 30	·1245					
10. 0	47. 30	11. 47	·1254					
10. 33	52. 0	11. 57	·1251					
10. 46	51. 0	12. 37	·1257					
11. 0	52. 15	12. 46	·1253					
11. 46	49. 0	12. 53	·1257					
11. 53	49. 0	13. 7	·1250					
12. 20	46. 10	13. 18	·1253					
12. 41	53. 35	13. 33	·1247					
13. 8	51. 0	13. 42	·1251					
13. 30	56. 15	13. 56	·1247					
14. 1	53. 20	14. 9	·1250					
14. 9	53. 25	14. 21	·1248					
14. 55	51. 0	15. 9	·1264					
15. 3	51. 30	15. 22	·1257					
15. 50	49. 30	17. 15	·1255					
16. 36	49. 30	17. 38	·1259					
18. 3	48. 0	17. 46	·1257					
	***	18. 45	·1251					
19. 14	45. 30	18. 50	·1252					
	***	19. 21	·1247					
19. 45	46. 25	19. 51	·1243					
19. 53	45. 0	20. 25	·1240					
20. 0	45. 50	21. 12	·1228					
20. 11	44. 35	22. 21	·1219					
	***							

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Sept. 26		Sept. 26						
h m	° ′ ″	h m		h m		h m	°	°
20. 34	20. 47. 25	22. 44	·1229					
20. 46	46. 50	23. 8	·1222					
21. 0	48. 20	23. 21	·1240					
21. 28	50. 30		***					
21. 38	49. 30	23. 59	·1243					
22. 14	51. 30							
	***							
22. 45	53. 50							
22. 53	55. 15							
23. 7	52. 50							
23. 10	54. 15							
23. 23	52. 10							
23. 39	54. 0							
23. 45	53. 20							
23. 49	54. 15							
23. 59	55. 0							
Sept. 27		Sept. 27		Sept. 27		Sept. 27		
0. 0	20. 55. 0	0. 0	·1243		(†)	1. 0	66 ·2	65 ·9
0. 7	56. 0	0. 17	·1244	1. 0	·03646*	3. 0	67 ·4	67 ·0
0. 21	54. 0		(†)	3. 0	·03594*	9. 0	67 ·1	66 ·9
	(†)	1. 0	·1250*	5. 24	·03415	21. 0	64 ·6	64 ·7
1. 0	56. 40*	3. 0	·1253*	7. 2	·03350			
3. 0	53. 16*	9. 0	·1286*	9. 37	·03316			
9. 0	38. 56*	21. 0	·1242*	11. 55	·03250			
21. 0	48. 40*			14. 53	·03332			
	(†)			17. 8	·03368			
22. 43	54. 0			20. 48	·03546			
23. 38	55. 45			23. 39	·03647			
23. 59	55. 45			23. 59	·03646			
Sept. 28		Sept. 28		Sept. 28		Sept. 28		
0. 0	20. 55. 40		(†)	0. 0	·03646	8. 30	67 ·9	67 ·8
2. 4	52. 0	2. 48	·1249	2. 4	·03640	21. 0	64 ·8	65 ·0
3. 0	51. 30	3. 45	·1252	3. 26	·03614			
4. 3	48. 5	4. 39	·1247	4. 23	·03526			
5. 29	48. 40	5. 31	·1249	7. 49	·03368			
6. 22	50. 0	6. 36	·1254	12. 21	·03322			
6. 53	50. 0	7. 36	·1254	14. 41	·03306			
7. 42	49. 0	8. 0	·1248	14. 48	·03364			
8. 12	50. 50	10. 22	·1251	18. 6	·03478			
8. 49	48. 10	10. 35	·1249	21. 28	·03547			
9. 5	48. 50	10. 55	·1254	23. 59	·03565			
9. 24	47. 20	11. 15	·1251					
9. 55	48. 0	11. 31	·1253					
10. 34	46. 10	12. 5	·1250					
11. 4	47. 10	12. 28	·1266					
11. 35	48. 0	12. 52	·1253					
12. 22	51. 45	17. 3	·1260					
12. 45	49. 0	17. 43	·1262					
13. 10	50. 20	19. 3	·1254					
13. 21	50. 0	19. 37	·1253					
14. 12	51. 35	20. 15	·1246					
14. 16	52. 40	21. 36	·1237					
14. 56	49. 15	21. 48	·1239					
15. 26	49. 30	23. 34	·1241					
15. 41	50. 15		(†)					
16. 44	49. 30							

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Sept. 28								
h m	° ′ ″	h m		h m		h m	°	°
17. 4	20. 50. 20							
17. 53	49. 10							
18. 39	49. 10							
19. 14	49. 30							
20. 6	48. 0							
20. 42	48. 10							
20. 59	49. 5							
21. 30	49. 10							
22. 3	51. 20							
22. 43	51. 50							
23. 59	53. 25							
Sept. 29		Sept. 29		Sept. 29		Sept. 29		
0. 0	20. 53. 25		(†)	0. 0	·03565	1. 0	66 ·9	66 ·7
0. 30	54. 0	0. 47	·1245	2. 8	·03553	3. 0	67 ·0	67 ·2
0. 44	53. 15	1. 36	·1249	6. 33	·03398	9. 0	66 ·8	67 ·0
0. 56	53. 25	1. 40	·1247	9. 0	·03392	21. 0	63 ·0	64 ·0
1. 29	54. 10	2. 3	·1256	11. 55	·03430			
1. 53	52. 45	2. 22	·1254	12. 8	·03407			
3. 9	50. 20	3. 15	·1253	14. 43	·03468			
3. 36	47. 50	3. 30	·1248	17. 32	·03692			
4. 23	47. 0	5. 14	·1257	21. 20	·03916			
4. 49	47. 30	5. 54	·1259	22. 44	{·03905			
4. 58	47. 5	6. 16	·1255		·03703			
5. 55	48. 15	6. 42	·1262	23. 22	·03702			
6. 18	46. 0	8. 38	·1260		(†)			
7. 44	50. 0	9. 18	·1262					
8. 2	50. 10	9. 59	·1258					
8. 25	51. 0	10. 37	·1262					
8. 45	50. 50	10. 59	·1259					
9. 20	52. 45	11. 15	·1263					
10. 17	52. 25	11. 29	·1260					
11. 1	54. 15	11. 42	·1266					
11. 32	54. 50	11. 52	·1262					
11. 45	58. 15	13. 26	·1258					
12. 7	53. 20	14. 21	·1255					
12. 55	51. 40	16. 2	·1256					
13. 58	53. 15	16. 26	·1254					
14. 25	53. 0	16. 43	·1255					
14. 34	52. 25	17. 16	·1254					
16. 26	55. 10	17. 48	·1256					
17. 12	55. 0	19. 45	·1249					
19. 50	46. 55	19. 57	·1243					
20. 57	47. 50	20. 27	·1246					
21. 26	49. 0	20. 32	·1243					
21. 49	48. 30	21. 0	·1241					
22. 12	49. 30	23. 13	·1242					
23. 3	54. 10	23. 59	·1245					
23. 14	53. 30							
23. 59	53. 40							
Sept. 30		Sept. 30		Sept. 30		Sept. 30		
0. 0	20. 53. 40	0. 0	·1245	1. 0	·03720*	1. 0	65 ·9	64 ·9
0. 29	52. 30	0. 17	·1242	3. 0	·03041*	3. 0	67 ·0	66 ·1
0. 56	52. 50	1. 15	·1249	9. 0	·02834*	9. 0	64 ·2	64 ·8
1. 30	51. 0	1. 32	·1247	21. 0	·03325*	21. 0	54 ·6	55 ·2
1. 38	51. 0	2. 18	·1254			22. 0	55 ·0	55 ·5
1. 50	50. 20	2. 33	·1250			23. 0	55 ·8	56 ·0

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

September 27. The Photographic Traces for the Declination and Horizontal Force Magnets were too faint for use.

September 30. The time-piece giving motion to the Vertical Force Cylinder was away for repair.

Sept. 30

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
3. 0	20. 49. 5
3. 15	50. 0
4. 16	50. 0
	***
4. 24	49. 40
4. 48	50. 10
	***
5. 3	49. 30
5. 30	51. 0
	***
6. 33	51. 30
6. 45	51. 0
	***
9. 27	48. 15
10. 18	50. 20
11. 7	50. 35
11. 48	52. 55
12. 25	46. 55
12. 33	46. 15
	***
13. 13	48. 10
	***
13. 59	47. 25
14. 27	48. 25
14. 49	47. 0
15. 7	47. 20
15. 33	46. 5
15. 45	48. 0
16. 7	46. 20
16. 20	47. 15
16. 26	46. 50
16. 38	48. 0
16. 52	47. 20
17. 10	48. 30
17. 22	48. 25
18. 1	51. 20
20. 8	44. 50
20. 37	47. 25
20. 54	47. 40
	***
21. 45	53. 45
	***
22. 30	54. 55
23. 26	54. 20
23. 41	53. 50
23. 59	54. 5

Greenwich Mean Solar Time. (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
2. 40	·1252
2. 53	·1249
3. 37	·1258
4. 25	·1255
4. 54	·1256
5. 6	·1252
5. 54	·1260
7. 37	·1262
7. 48	·1264
8. 0	·1262
8. 10	·1264
8. 32	·1261
8. 48	·1261
10. 7	·1267
11. 33	·1271
11. 52	·1281
12. 16	·1268
13. 15	·1265
14. 17	·1265
15. 9	·1268
15. 24	·1273
16. 41	·1271
17. 17	·1274
17. 46	·1272
18. 11	·1280
19. 4	·1271
19. 29	·1275
20. 17	·1270
20. 37	·1262
20. 45	·1262
21. 11	·1258
22. 6	·1259
22. 52	·1257
23. 27	·1261
23. 45	·1256
23. 59	·1256

Oct. 1

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
0. 0	20. 54. 5
0. 30	54. 15
1. 25	53. 0
1. 41	54. 25
2. 30	51. 0
2. 36	51. 10
3. 36	49. 50
4. 28	51. 0
4. 58	50. 0
5. 7	50. 10
5. 42	20. 47. 50
7. 46	52. 10
8. 15	48. 10
	***
9. 0	48. 20
	***
9. 51	46. 55
10. 10	48. 35
10. 26	48. 25
10. 49	50. 40
11. 30	49. 0
12. 8	51. 40
12. 49	51. 35
13. 3	56. 55
13. 29	50. 0
13. 57	47. 10
14. 28	47. 0
14. 51	48. 5
15. 45	48. 35
16. 22	48. 0
16. 35	48. 35
16. 52	48. 30
16. 59	49. 0
17. 22	53. 0
18. 15	49. 25
18. 34	49. 5
18. 55	47. 30
19. 38	47. 25
20. 5	46. 15
20. 45	47. 30
21. 10	50. 0
21. 48	50. 10
23. 23	53. 30
23. 59	53. 45

Greenwich Mean Solar Time. (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
0. 0	·1256
0. 30	·1259
0. 45	·1255
	(†)
1. 0	·1257*
3. 0	·1260*
4. 13	·1262
5. 17	·1264
5. 45	·1252
6. 36	·1262
7. 34	·1260
7. 48	·1266
8. 8	·1249
8. 22	·1253
8. 49	·1250
9. 4	·1255
9. 38	·1254
10. 8	·1261
10. 34	·1250
10. 51	·1256
11. 34	·1254
11. 53	·1251
12. 36	·1251
	***
12. 48	·1254
13. 8	·1250
13. 20	·1263
13. 31	·1266
13. 59	·1240
	***
14. 40	·1244
14. 55	·1239
	***
16. 5	·1246
	***
17. 0	·1249
17. 22	·1243
18. 27	·1248
19. 8	·1242
20. 7	·1237
20. 51	·1228
21. 0	·1223
21. 52	·1224
22. 19	·1222
23. 12	·1228
23. 38	·1225
23. 50	·1226
	(†)

Greenwich Mean Solar Time. (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
1. 0	·02992*
3. 0	·02810*
9. 33	·02557*
21. 0	·02850*

Greenwich Mean Solar Time. (h m)	Readings of Thermometers: Of H. F. Magnet. (°)	Of V. F. Magnet. (°)
0. 0	56·6	56·5
1. 0	57·7	57·2
2. 0	58·5	57·9
3. 0	59·4	58·9
6. 0	60·6	59·8
9. 33	59·0	58·4
12. 0	58·0	57·5
18. 0	59·0	58·0
21. 0	59·9	58·6
22. 0	60·5	59·0
23. 0	61·0	60·5

Oct. 2

Greenwich Mean Solar Time. (h m)	Western Declination. (° ′ ″)
0. 0	20. 53. 30
0. 20	53. 20
1. 15	54. 50
1. 57	52. 30
2. 12	52. 10
2. 17	52. 35
	***
5. 5	47. 15
5. 40	49. 0
8. 37	49. 30
9. 18	48. 0
9. 34	44. 15
10. 3	49. 10
10. 50	46. 50
10. 58	47. 15
11. 26	45. 10
11. 43	44. 45
12. 8	45. 30
	***

Greenwich Mean Solar Time. (h m)	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
	(†)
0. 5	·1228
0. 23	·1228
1. 0	·1235
1. 31	·1231
1. 51	·1229
2. 15	·1233
2. 33	·1228
2. 54	·1228
3. 18	·1232
3. 47	·1226
4. 28	·1231
5. 1	·1220
5. 31	·1227
5. 50	·1227
6. 15	·1232
7. 43	·1232
8. 27	·1234

Greenwich Mean Solar Time. (h m)	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
	(†)
1. 0	·02784*
2. 49	·02732
5. 33	·02600
7. 11	·02468
9. 39	·02364
10. 1	·02340
12. 34	·02287
13. 8	·02293
13. 37	·02282
16. 2	·02313
16. 57	·02302
19. 4	·02350
21. 3	·02346
	(†)

Greenwich Mean Solar Time. (h m)	Readings of Thermometers: Of H. F. Magnet. (°)	Of V. F. Magnet. (°)
0. 0	61·5	60·8
1. 0	62·0	60·8
2. 0	62·7	61·5
3. 0	63·3	61·9
9. 0	65·1	64·6
21. 0	64·5	64·0

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

September 30, and October 1. The time-piece giving motion to the Vertical Force Cylinder was away for repair.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.	
							Of H. F. Magnet.	Of V. F. Magnet.
Oct. 2		Oct. 2						
h m	° ′ ″	h m		h m		h m	°	°
13. 11	20. 43. 55	8. 52	·1231					
13. 28	44. 25	9. 6	·1231					
13. 47:	40. 45	9. 26	·1226					
14. 21	46. 10	9. 43	·1238					
14. 50	43. 50	10. 8	·1225					
15. 15	48. 30	10. 49	·1230					
15. 42	51. 10	11. 8	·1224					
16. 0	50. 30	12. 3	·1224					
16. 22	54. 30	12. 38	·1229					
17. 26	49. 10	13. 1	·1221					
18. 7	49. 30	13. 41	·1229					
18. 46	47. 50	14. 14	·1227					
19. 1	48. 25	14. 41	·1220					
19. 52	48. 20	15. 24	·1229					
20. 20	49. 0	15. 43	·1220					
21. 8	51. 35	16. 54	·1230					
21. 48	52. 45	17. 7	·1229					
22. 36	53. 30	17. 31	·1233					
	***	17. 57	·1229					
23. 34	56. 30	18. 33	·1228					
23. 50	56. 40	19. 4	·1230					
23. 59	56. 55	19. 33	·1223					
		20. 27	·1208					
		21. 3	·1203					
		21. 19	·1203					
		23. 59	·1210					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force.	Greenwich Mean Solar Time.	Vertical Force.	Greenwich Mean Solar Time.	Of H. F. Magnet.	Of V. F. Magnet.
Oct. 3		Oct. 3		Oct. 3		Oct. 3		
0. 0	20. 56. 55	0. 0	·1210		(†)	1. 0	67·2	66·9
0. 20	57. 10	2. 0	·1220	0. 7	·02302	3. 0	68·8	68·5
0. 33	57. 35	2. 19	·1212	0. 18	·02290	9. 0	66·8	67·5
1. 1	56. 55	3. 12	·1226	0. 37	·02300	21. 0	62·8	59·0
1. 12	57. 0	4. 3	·1228	1. 30	{ ·02300			
1. 36	56. 25	4. 45	·1234		·02356			
1. 54	56. 35	4. 51	·1233	1. 43	·02368			
3. 30	50. 35	5. 8	·1239	2. 42	·02517			
5. 0	48. 45	5. 42	·1233	3. 3	{ ·02582			
5. 23	49. 35	6. 19	·1242		·03810			
6. 0	49. 10	6. 45	·1238	6. 58	·03868			
6. 8	48. 50	6. 52	·1243	7. 3	·03920			
6. 28	49. 50	6. 58	·1239	7. 5	·03875			
6. 57	49. 0	7. 0	·1244	7. 11	·03878			
7. 1	45. 0	7. 9	·1303	7. 28	·03820			
7. 11	49. 45	7. 13	·1285	8. 1	·03897			
7. 45	21. 20	7. 18	·1294	8. 12	·03842			
8. 5	29. 10	7. 36	·1240	8. 19	·03836			
8. 19	26. 40	7. 51	·1256	8. 31	·03772			
8. 27	27. 20	7. 53	·1254	8. 50	·03833			
8. 34	25. 20	8. 7	·1274	8. 56	·03882			
9. 16	40. 40	8. 22	·1250	9. 33	·03485			
9. 18	38. 45	8. 28	·1254	9. 40	·03402			
9. 30	43. 5	8. 41	·1220	9. 46	·03324			
9. 48	21. 0	8. 55	·1228	9. 54	·03420			
9. 57	18. 20	9. 4	·1243	10. 1	·03643			
10. 6	1. 10	9. 12	·1233	10. 22	·03505			
10. 26	38. 50	9. 23	·1247	10. 35	·03678			
10. 40	11. 20	9. 43	·1092	10. 46	·03612			
10. 59	27. 20	9. 57	·1133	10. 55	·03604			

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.	
							Of H. F. Magnet.	Of V. F. Magnet.
Oct. 3		Oct. 3		Oct. 3				
h m	° ′ ″	h m		h m		h m	°	°
11. 15	20. 20. 40	10. 18	·1238	11. 9	·03622			
11. 26	26. 0	10. 28	·1125	11. 16	·03686			
11. 57	31. 50	10. 43	·1185	11. 26	·03696			
12. 11	29. 40	10. 52	·1194	11. 31	·03717			
12. 22	21. 20	11. 0	·1154	11. 45	·03730			
12. 35	28. 25	11. 8	·1135	11. 49	·03708			
12. 50	54. 20	11. 17	·1147	11. 58	·03716			
12. 56	33. 10	11. 34	·1149	12. 0	·03686			
13. 25	30. 0	11. 43	·1155	12. 3	·03686			
13. 56	31. 5	11. 48	·1151	12. 20	·03557			
14. 7	39. 40	11. 57	·1159	12. 26	·03636			
14. 32	29. 30	12. 4	·1060	12. 32	·03587			
14. 43	34. 25	12. 19	·1124	12. 34	·03623			
14. 49	33. 50	12. 25	·1137	12. 43	·03382			
14. 57	38. 0	12. 28	·1132	12. 49	·03360			
15. 15	45. 0	12. 35	·1150	12. 57	·03111			
	***	12. 42	·1093	13. 21	·03750			
15. 50	48. 35	12. 50	·1122	13. 33	·03938			
15. 57	51. 20	12. 55	·1062	14. 7	·04044			
16. 3	20. 50. 10	13. 11	·1132	14. 15	·04062			
16. 15	21. 8. 10	13. 28	·1197	14. 24	·04108			
16. 30	9. 40	13. 54	·1257	14. 30	·04115			
16. 41	5. 50	14. 0	·1246	14. 38	·04174			
16. 52	10. 0	14. 3	·1254	14. 57	·04200			
16. 57	9. 20	14. 14	·1236	15. 12	·04235			
17. 8	14. 0	14. 17	·1240	15. 51	·04245			
	(†)	14. 27	·1229	15. 56	·04222			
19. 16	14. 20	14. 34	·1238	16. 14	·04216			
19. 32	9. 15	14. 45	·1218	16. 38	·04042			
19. 41	14. 0	14. 55	·1209	17. 15	·03990			
	(†)	15. 10	·1221	17. 34	·03912			
19. 57	21. 14. 0	15. 25	·1221	17. 47	·03906			
20. 7	20. 56. 0	15. 37	·1212	17. 50	·03925			
20. 18	20. 52. 40	15. 53	·1206	17. 58	·03858			
20. 32	21. 13. 25	15. 58	·1199	18. 8	·03916			
20. 42	7. 20	16. 2	·1204	18. 23	·03895			
20. 51	11. 30	16. 12	·1202	18. 28	·03830			
21. 23	7. 10	16. 34	·1229	18. 34	·03876			
21. 26	21. 9. 25	16. 40	·1222	18. 42	·03860			
21. 59	20. 58. 35	16. 47	·1229	18. 49	·03777			
22. 15	57. 10	17. 0	·1212	19. 2	·03895			
22. 21	57. 35	17. 10	·1196	19. 10	·03858			
22. 30	54. 15	17. 17	·1217	19. 20	·03894			
22. 38	58. 40	17. 32	·1193	19. 32	·03897			
22. 46	57. 30	17. 47	·1209	19. 40	·03974			
22. 55	58. 45	18. 0	·1147	19. 46	·03992			
23. 2	55. 0	18. 9	·1170	20. 7	·03913			
23. 3	59. 15	18. 15	·1159	20. 27	·04006			
23. 9	56. 20	18. 26	·1170	20. 38	·04008			
23. 20	57. 20	18. 33	·1142	20. 46	·04042			
23. 28	59. 25	18. 37	·1149	21. 19	·04035			
23. 34	57. 10	18. 41	·1142	21. 33	·04044			
23. 52	57. 10	18. 48	·1152	21. 56	·04060			
23. 59	58. 15	18. 59	·1132	22. 12	·04118			
		19. 7	·1160	23. 52	·04122			
		19. 19	·1111		(†)			
		19. 25	·1100					
		19. 28	·1104					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

October 3. The Photographic Trace for the Declination Magnet was off the sheet in the direction of increasing declination, from $17^h. 8^m.$ to $19^h. 16^m.$, and again from $19^h. 41^m.$ to $19^h. 57^m.$

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	° ′ ″	Oct. 3 h m		h m		h m	°	°
		19.37	·1091					
		20. 8	·1116					
		20.21	·1106					
		20.30	·1109					
		20.38	·1070					
		21.10	·1108					
		21.22	·1097					
		22.20	·1176					
		22.28	·1179					
		22.41	·1142					
		22.50	·1176					
		22.54	·1171					
		23. 3	·1202					
		23. 7	·1185					
			(†)					
		23.55	·1216					
		23.59	·1220					
Oct. 4		Oct. 4		Oct. 4		Oct. 4		
0. 0	20.58.20	0. 0	·1221	1. 0	·04226*	1. 0	60·2	60·4
0. 5	21. 0. 0	0.10	·1237	3. 0	·04218*	3. 0	61·5	62·0
0.15	20.58. 0	0.18	·1228	9. 0	·03685*	9. 0	63·7	63·9
0.22	59.10	0.22	·1236	22. 7	·03897*	22. 7	59·9	60·0
0.37	55.25	1.22	·1223					
0.44	57.25	1.30	·1220					
0.50	57.20	1.35	·1230					
0.57	58.20	1.53	·1225					
1. 6	56.35	2. 4	·1227					
1.22	58.20	2.15	·1242					
1.32	57.10	2.21	·1237					
1.38	58. 5	2.36	·1245					
1.56	20.57. 0	2.42	·1230					
2.15	21. 1. 0	2.48	·1233					
2.22	0. 0	2.53	·1219					
2.29	1.45	3. 4	·1214					
2.33	0.55	3.25	·1290					
2.39	21. 2.15	3.32	·1246					
2.56	20.55.25	3.35	·1252					
3. 0	55.20	3.39	·1244					
3. 8	52.40	3.48	·1265					
3.21	52.50	4. 0	·1233					
3.29	54.45	4. 9	·1241					
3.36	44.50	4.18	·1234					
3.48	41.50	4.23	·1240					
3.58	48.25	4.31	·1229					
4. 7	44.15	4.34	·1236					
4.14	45.45	4.39	·1229					
4.25	44.40	4.44	·1236					
4.32	45. 0	4.52	·1227					
4.42	43.50	4.57	·1244					
5. 1	49.10	5. 5	·1256					
5. 9	54.45	5.16	·1226					
5.20	50. 0	5.25	·1246					
5.27	51.40	5.37	·1225					
5.38	46.35	5.43	·1226					
5.45	47.15	5.55	·1211					
6.11	36.45	6.13	·1223					
6.20	43.15	6.19	·1214					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Oct. 4 h m	° ′ ″	Oct. 4 h m		h m		h m	°	°
6.30	20.41. 0	6.27	·1211					
6.37	43.40	6.38	·1244					
6.42	38.30	6.43	·1236					
6.50	49.35	6.48	·1253					
7. 3	43.20	6.58	·1204					
7. 9	44.40	7. 7	·1217					
7.21	38.20	7.15	·1210					
7.38	51. 0	7.27	·1243					
7.45	48. 0	7.31	·1237					
7.50	48.45	7.34	·1241					
8. 0	43.30	7.41	·1222					
8. 8	44.40	7.47	·1229					
8.12	48.50	7.58	·1215					
8.22	43. 5	8. 9	·1230					
8.31	41.35	8.17	·1212					
8.38	46.25	8.29	·1222					
8.49	44. 0	8.34	·1233					
9. 0	47.20	9. 0	·1208					
9. 9	41. 0	9. 5	·1208					
9.30	47. 0	9.10	·1217					
9.38	46. 5	9.15	·1214					
9.43	46.20	9.23	·1221					
9.52	45.15	9.32	·1210					
10. 1	47. 0	9.43	·1208					
10.12	44.15	9.49	·1216					
10.21	42.55	9.56	·1217					
10.32	39.15	10. 0	·1212					
10.50	38.50	10.24	·1219					
10.59	37.10	10.30	·1211					
11.25	41. 0	10.36	·1215					
11.35	39.25	10.46	·1212					
12. 1	44.15	11. 8	·1228					
12.12	42. 5	11.22	·1222					
12.19	44.30	11.43	·1227					
12.32	37.35	12. 0	·1220					
12.45	44.25	12. 7	·1227					
12.55	39.50	12.20	·1210					
13.29	45. 0	12.27	·1251					
13.44	43.25	12.44	·1222					
13.57	41. 0	12.53	·1220					
14. 3	44.30	13. 0	·1222					
14.17	43.40	13.21	·1236					
14.30	46.50	13.31	·1229					
14.42	47.35	13.54	·1212					
14.57	44.50	14. 9	·1228					
15. 3	45.45	14.23	·1213					
	***	14.43	·1212					
15.38	45.20	15.10	·1224					
16.22	47.10	15.38	·1222					
16.30	46.20	16. 4	·1226					
17.25	46.50		***					
17.31	47.50	16.30	·1222					
17.34	46. 0		***					
17.45	46.25	17. 6	·1225					
17.56	46. 0	17.21	·1220					
18. 2:	47.10	18. 0	·1223					
18.14	46. 0	18. 5	·1226					
18.25	46. 5	18.16	·1222					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

October 4 to 8. The Vertical Force time-piece was in the hands of Mr. Dent for repair.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 4		Oct. 4						
h m	° ′ ″	h m		h m		h m	°	°
18. 32	20. 45. 10	18. 38	·1221					
18. 40	47. 15	18. 43	·1228					
19. 38	45. 25	18. 52	·1220					
	***	19. 18	·1215					
21. 47	51. 30	19. 46	·1219					
	***	20. 3	·1216					
22. 40	56. 55	20. 53	·1216					
22. 51	56. 10	21. 7	·1220					
23. 11	57. 35	21. 28	·1222					
23. 54	55. 0	21. 55	·1216					
23. 59	54. 55	22. 8	·1222					
		22. 17	·1220					
		22. 33	·1225					
		22. 54	·1223					
		23. 17	·1225					
		23. 28	·1228					
		23. 34	·1236					
		23. 59	·1232					
Oct. 5		Oct. 5		Oct. 5		Oct. 5		
0. 0	20. 54. 55	0. 0	·1232	9. 0	·03783*	9. 0	63·0	63·1
0. 39	54. 35	0. 10	·1234	21. 0	·04296*	21. 0	59·1	59·0
0. 49	53. 50		***					
0. 55	58. 5	1. 3	·1238					
1. 18	53. 40	1. 11	·1233					
1. 31	55. 45	1. 20	·1258					
1. 41	54. 15	1. 37	·1223					
1. 55	58. 35	1. 52	·1244					
2. 30	52. 25	2. 3	·1242					
2. 36	54. 10	2. 22	·1272					
3. 7	54. 40	2. 37	·1246					
3. 31	53. 30	2. 44	·1253					
3. 46	51. 0	2. 51	·1240					
4. 10	53. 0	3. 2	·1262					
4. 35	52. 40	3. 24	·1240					
4. 47	53. 40	3. 30	·1248					
5. 19	53. 0	3. 36	·1237					
5. 30	54. 0	3. 40	·1242					
5. 41	51. 35	3. 44	·1238					
5. 57	52. 30	3. 51	·1250					
6. 20	49. 35	3. 58	·1238					
6. 45	36. 10	4. 2	·1240					
6. 55	33. 40	4. 6	·1233					
7. 8	23. 40	4. 19	·1259					
7. 45	42. 40	4. 22	·1257					
8. 0	42. 40	4. 29	·1262					
8. 7	42. 0	4. 39	·1253					
8. 25	46. 25	4. 41	·1256					
8. 31	45. 20	4. 51	·1249					
8. 46	49. 30	5. 2	·1267					
12. 7	48. 30	5. 12	·1261					
12. 18	49. 15	5. 17	·1264					
12. 25	47. 20	5. 28	·1258					
12. 45	48. 15	5. 30	·1266					
13. 38	47. 40	5. 38	·1266					
14. 13	49. 0	5. 46	·1274					
16. 0	49. 0	5. 52	·1265					
16. 34	56. 0	5. 56	·1275					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 5		Oct. 5						
h m	° ′ ″	h m		h m		h m	°	°
17. 31	20. 52. 15	6. 0	·1270					
17. 38	53. 15	6. 31	·1252					
17. 46	53. 0	6. 39	·1255					
18. 0	20. 54. 50	6. 41	·1243					
18. 19	21. 2. 0	6. 53	·1238					
18. 29	0. 25	6. 58	·1227					
19. 30	21. 0. 10	7. 4	·1231					
19. 38	20. 58. 45	7. 8	·1227					
19. 44	58. 45	7. 28	·1253					
20. 8	53. 40	7. 37	·1258					
20. 19	54. 35	7. 43	·1253					
20. 36	52. 30	7. 54	·1258					
20. 46	55. 0	8. 14	·1250					
20. 55	53. 50	8. 25	·1259					
21. 0	57. 0	8. 42	·1252					
21. 17	55. 10	8. 52	·1273					
21. 27	56. 0	9. 7	·1263					
21. 31	53. 35	9. 18	·1272					
21. 35	55. 20	9. 30	·1271					
21. 54	53. 15	9. 39	·1262					
22. 28	55. 25	9. 52	·1264					
22. 45	53. 0	10. 1	·1263					
22. 52	54. 20	10. 18	·1267					
23. 0	53. 20	10. 26	·1262					
23. 11	55. 20	10. 30	·1270					
23. 24	56. 0	10. 36	·1268					
23. 28	58. 45	10. 41	·1271					
23. 32	56. 45	10. 54	·1263					
23. 41	57. 25	11. 6	·1267					
	***	11. 15	·1267					
23. 59	54. 0	11. 24	·1275					
		11. 31	·1264					
		11. 36	·1268					
		11. 47	·1271					
		11. 57	·1265					
		12. 8	·1265					
		12. 24	·1274					
		12. 31	·1259					
		12. 45	·1265					
		13. 4	·1263					
		13. 39	·1262					
		14. 11	·1260					
		14. 21	·1264					
		14. 52	·1263					
		15. 5	·1266					
		15. 22	·1261					
		15. 33	·1264					
		15. 39	·1261					
		15. 54	·1265					
		16. 10	·1266					
		16. 18	·1261					
		16. 22	·1263					
		16. 31	·1259					
		16. 42	·1262					
		17. 4	·1277					
		17. 17	·1275					
		17. 20	·1277					
		17. 30	·1270					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
h m	° ′ ″	Oct. 5 h m		h m		h m	°	°
		17.35	·1271					
		17.46	·1257					
		17.54	·1258					
		18. 5	·1248					
		18.36	·1269					
		18.45	·1262					
		19.50	·1222					
		20. 0	·1208					
		20.10	·1208					
		20.16	·1200					
		20.23	·1208					
		20.29	·1193					
		20.37	·1196					
		20.41	·1191					
		20.45	·1194					
		20.56	·1174					
		21. 1	·1198					
		21.15	·1206					
		21.20	·1182					
		21.25	·1198					
		21.31	·1189					
		21.38	·1199					
		21.51	·1186					
		22. 7	·1201					
		22.15	·1194					
		22.18	·1203					
		22.21	·1198					
		22.26	·1208					
		22.31	·1196					
		22.42	·1198					
		22.46	·1190					
		23. 0	·1189					
		23.12	·1202					
		23.22	·1203					
		23.26	·1192					
		23.31	·1220					
		23.33	·1213					
			(†)					
Oct. 6		Oct. 6		Oct. 6		Oct. 6		
0. 0	20.54. 0		(†)	1. 0	·04242*	1. 0	62·2	62·0
0.18	48.10	0.23	·1228	3. 0	·04147*	3. 0	64·6	64·4
0.29	51.45	0.37	·1244	9. 0	·03752*	9. 0	65·2	64·6
0.37	49.40	0.46	·1230	21. 0	·04353*	21. 0	57·0	57·0
0.42	52.20	0.56	·1242					
0.55	51.25	1.14	·1225					
0.57	53.30	1.26	·1228					
1.11	52.15	1.35	·1218					
1.29	55.50	1.44	·1233					
1.32	55.10	1.50	·1228					
1.41	57.40	2. 0	·1240					
1.49	55.15	2. 8	·1238					
1.57	57.45	2.15	·1249					
2. 4	57. 0	2.20	·1250					
2.12	59.10	2.25	·1260					
2.23	54.30	2.28	·1253					
2.25	55.40	2.30	·1260					
2.33	51.35	2.34	·1252					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 6 h m	° ′ ″	Oct. 6 h m		h m		h m	°	°
2.43	20.55.40	2.38	·1262					
2.50	20.55.30	2.47	·1235					
2.57	21. 0. 0	3.21	·1308					
3. 5	20.46. 5	3.23	·1272					
3. 8	50.30	3.31	·1294					
3.14	47.10	3.46	·1266					
3.16	53. 0	3.50	·1272					
3.25	35.30	3.57	·1260					
3.32	32.40	4. 6	·1233					
3.39	35.30	4.14	·1238					
3.41	35. 5	4.21	·1230					
4. 0	47.30	4.25	·1210					
4. 7	45.55	4.35	·1233					
4.15	49.20	4.38	·1205					
4.22	51.30	4.44	·1206					
4.27	46.30	4.52	·1236					
4.36	54.50	4.59	·1223					
4.48	37.35	5. 8	·1222					
4.55	47.10	5.14	·1212					
5. 3	44. 5	5.22	·1219					
5.10	46.25	5.27	·1211					
5.19	41.40	5.37	·1217					
5.23	42.40	5.48	·1206					
5.27	41.45	5.52	·1207					
5.39	44. 5	6. 0	·1200					
5.46	43.40	6. 9	·1210					
5.53	45.15	6.17	·1209					
6. 4	43.15	6.24	·1244					
6. 7	43.25	6.37	·1185					
6.14	42.10	6.48	·1234					
6.24	56. 0	6.53	·1224					
6.38	28.40	7. 8	·1250					
6.45	35.25	7.20	·1212					
6.56	33.10	7.24	·1233					
7. 8	45.15	7.30	·1221					
7.18	37. 0	7.35	·1224					
7.23	45. 0	7.44	·1194					
7.38	50.35	7.58	·1219					
7.51	41.30	8.12	·1213					
8. 0	44.35	8.20	·1210					
8.18	40.10	8.42	·1200					
8.34	42. 0	9. 6	·1208					
8.57	39.50	9.24	·1208					
9.13	40.40	9.40	·1198					
9.22	39.30	9.45	·1201					
9.52	40. 0	9.55	·1191					
10. 8	38.25		***					
10.40	43.45	10.59	·1225					
10.52	46.50	11. 3	·1224					
11. 5	48.20	11.15	·1229					
11.35	47.20	12. 2	·1228					
11.48	48.10	12.14	·1232					
12.20	48.20	12.44	·1231					
13. 5	49.20		***					
13.37	49.20	15. 8	·1233					
14.34	50. 0	15.16	·1230					
14.57	48.10	15.52	·1238					
15. 2	48.20	16.23	·1232					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 6		Oct. 6						
h m	° ′ ″	h m		h m		h m	°	°
15. 15	20. 47. 0	16. 52	·1235					
15. 32	47. 50	17. 0	·1234					
15. 57	46. 45	17. 15	·1239					
16. 54	50. 20		***					
17. 37	47. 0	18. 45	·1240					
19. 37	45. 5		***					
20. 3	44. 0	19. 35	·1239					
	***		***					
21. 23	47. 40	21. 39	·1227					
21. 34	47. 15	21. 51	·1229					
23. 30	55. 45	21. 56	·1225					
23. 59	55. 25		***					
		22. 30	·1227					
			***					
		23. 3	·1231					
			***					
		23. 59	·1233					
Oct. 7		Oct. 7		Oct. 7		Oct. 7		
0. 0	20. 55. 25	0. 0	·1233	1. 0	·04185*	1. 0	58 ·3	57 ·0
0. 39	56. 15	0. 18	·1237	3. 0	·04093*	3. 0	59 ·0	57 ·9
	***		(†)	9. 0	·03594*	9. 0	57 ·3	57 ·8
3. 41	50. 30	1. 0	·1238*	21. 0	·03728*	21. 0	57 ·6	56 ·9
	***	3. 0	·1244*			22. 0	58 ·0	57 ·0
5. 52	49. 25	9. 0	·1249*			23. 0	58 ·9	57 ·8
6. 4	50. 0	9. 26	·1251					
	***	9. 51	·1254					
8. 37	49. 0	10. 13	·1250					
8. 48	48. 15	10. 34	·1252					
9. 19	48. 30	11. 4	·1248					
10. 6	46. 30	11. 36	·1250					
10. 53	48. 15	11. 50	·1248					
11. 12	48. 0	12. 12	·1249					
11. 38	48. 30	12. 20	·1247					
13. 16	48. 0	12. 45	·1248					
13. 30	50. 35	12. 56	·1247					
14. 4	48. 25	13. 13	·1249					
19. 15	47. 50	13. 24	·1257					
20. 49	47. 25	14. 20	·1247					
22. 8	50. 40	16. 44	·1252					
22. 24	52. 10	18. 34	·1252					
22. 45	52. 15	19. 33	·1247					
23. 12	53. 30	21. 48	·1238					
23. 59	53. 50	22. 34	·1238					
		23. 45	·1239					
		23. 59	·1240					
Oct. 8		Oct. 8		Oct. 8		Oct. 8		
0. 0	20. 53. 50	0. 0	·1240	1. 0	·03184*	0. 0	59 ·9	58 ·6
0. 27	53. 45	0. 23	·1241	3. 0	·03114*	1. 0	61 ·0	59 ·8
0. 35	54. 50	0. 30	·1242	9. 0	·03655*	2. 0	62 ·0	60 ·7
0. 53	53. 20	0. 40	·1246	21. 0	·03973*	3. 0	63 ·1	61 ·7
	***	1. 2	·1243			6. 0	64 ·0	62 ·5
5. 46	50. 10	1. 16	·1244			9. 0	63 ·0	62 ·0
6. 3	46. 50	2. 6	·1245			12. 0	61 ·2	60 ·9
6. 26	44. 45	2. 36	·1250			18. 0	59 ·0	58 ·5
7. 6	48. 40	3. 10	·1245			21. 0	58 ·7	58 ·2
	***	3. 47	·1248			22. 0	59 ·0	58 ·2

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 8		Oct. 8				Oct. 8		
h m	° ′ ″	h m		h m		h m	°	°
8. 39	20. 48. 20	4. 14	·1246			23. 0	59 ·5	58 ·4
9. 0	46. 20	4. 24	·1246					
9. 3	48. 5	4. 34	·1244					
10. 13	48. 10	4. 58	·1245					
10. 28	47. 35	5. 9	·1248					
10. 38	48. 10	5. 23	·1245					
11. 1	48. 0	5. 30	·1246					
11. 29	50. 0	5. 43	·1241					
11. 53	50. 0	5. 47	·1241					
12. 30	48. 10	5. 57	·1232					
16. 27	49. 0	6. 7	·1236					
16. 57	48. 0	6. 14	·1234					
17. 53	47. 35	6. 31	·1243					
18. 6	46. 50	7. 14	·1241					
19. 15	44. 50	7. 41	·1245					
19. 25	44. 0	7. 53	·1241					
19. 50	44. 25	8. 9	·1246					
19. 54	46. 0	8. 20	·1245					
20. 0	43. 40	9. 17	·1248					
20. 12	44. 40	9. 30	·1245					
20. 35	44. 15	9. 47	·1248					
22. 30	52. 20	10. 6	·1246					
22. 41	52. 50	10. 27	·1250					
23. 15	58. 35	10. 51	·1250					
23. 30	59. 25	11. 12	·1259					
23. 38	58. 30	11. 30	·1259					
23. 53	59. 0	11. 57	·1254					
23. 59	59. 0	12. 49	·1252					
		13. 7	·1255					
		13. 16	·1250					
		13. 40	·1251					
		13. 55	·1250					
		15. 40	·1252					
		16. 13	·1252					
		16. 47	·1255					
		17. 22	·1253					
		18. 12	·1255					
		18. 30	·1253					
		19. 11	·1250					
		20. 15	·1240					
		21. 2	·1221					
		21. 18	·1227					
		21. 40	·1228					
		22. 10	·1228					
		22. 28	·1225					
		23. 1	·1231					
			(†)					
Oct. 9		Oct. 9		Oct. 9		Oct. 9		
0. 0	20. 59. 0		(†)		(†)	0. 0	60 ·0	58 ·8
0. 7	59. 10	0. 53	·1240	1. 0	·03617*	1. 0	61 ·0	59 ·8
0. 19	58. 15	1. 1	·1251	2. 6	·03903	2. 0	61 ·8	60 ·8
0. 27	58. 40	1. 7	·1248	2. 50	·03862	3. 0	62 ·8	62 ·8
0. 33	20. 58. 30	1. 11	·1251	4. 27	·03640	9. 0	63 ·1	64 ·7
0. 42	21. 0. 0	1. 31	·1253		(†)	21. 0	58 ·5	60 ·4
0. 48	20. 59. 35	1. 55	·1264	6. 0	·03943			
0. 56	21. 1. 0	2. 2	·1242	6. 31	·04078			
1. 5	0. 0	2. 10	·1231	6. 56	·04138			

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.	
							Of H. F. Magnet.	Of V. F. Magnet.
Oct. 9		Oct. 9		Oct. 9				
h m	° ′ ″	h m		h m		h m	°	°
1. 16	21. 1. 30	2. 25	·1248	7. 55	·04130			
1. 28	1. 10	2. 27	·1247	8. 44	·04062			
1. 39	21. 1. 50	2. 34	·1255	9. 6	{·04052			
1. 43	20. 58. 45	2. 38	·1252		·04200}			
1. 54	57. 10	2. 58	·1253	15. 0	·04122			
2. 12	57. 50	3. 2	·1250	20. 5	·04314			
2. 18	59. 10	3. 13	·1256		(†)			
2. 50	54. 30	3. 25	·1247	21. 0	·04416*			
3. 4	57. 0	3. 40	·1254					
3. 17	53. 10	3. 52	·1249					
3. 22	57. 0	4. 6	·1248					
3. 35	20. 58. 10	4. 19	·1244					
3. 48	21. 0. 30	4. 42	·1236					
4. 5	20. 59. 25	4. 49	·1236					
4. 13	21. 0. 40	4. 59	·1233					
4. 30	21. 0. 40	5. 7	·1237					
4. 45	20. 58. 40	5. 15	·1233					
5. 20	58. 25	5. 22	·1235					
5. 40	51. 30	5. 33	·1225					
6. 14	54. 30	5. 40	·1209					
6. 40	49. 15	6. 7	·1257					
7. 0	53. 30	6. 25	·1234					
7. 14	51. 25	6. 33	·1244					
7. 19	51. 20	6. 38	·1236					
7. 25	50. 45	6. 43	·1243					
7. 33	52. 30	6. 55	·1233					
7. 56	42. 55	7. 0	·1237					
8. 2	43. 10	7. 5	·1231					
8. 15	42. 25	7. 11	·1241					
8. 30:	45. 50	7. 21	·1233					
8. 43	39. 30	7. 25	·1236					
8. 50	41. 40	7. 42	·1214					
9. 4	37. 10	7. 56	·1227					
9. 17	40. 30	8. 5	·1227					
9. 57	36. 20	8. 10	·1233					
10. 9	39. 10	8. 26	·1223					
10. 27	39. 50	8. 36	·1231					
10. 38	43. 30	8. 43	·1223					
10. 57	45. 40	8. 58	·1231					
11. 28	46. 0	9. 14	·1229					
11. 35	46. 20	9. 24	·1234					
11. 41	46. 5	9. 31	·1242					
12. 9	47. 50	9. 45	·1244					
12. 22	47. 25	9. 50	·1250					
13. 16	49. 35	10. 1	·1242					
13. 24	50. 25	10. 20	·1238					
13. 38	49. 15	10. 29	·1245					
14. 9	48. 40	10. 38	·1242					
14. 22	50. 0	10. 57	·1252					
14. 26	48. 50	11. 2	·1245					
14. 34	50. 10	11. 4	·1250					
14. 45	49. 20	11. 18	·1240					
15. 2	48. 55	11. 40	·1246					
15. 6	49. 25	13. 22	·1244					
15. 14	48. 40	13. 30	·1248					
15. 32	48. 55	13. 35	·1245					
15. 40	48. 15	14. 14	·1244					
15. 51	49. 5	14. 20	·1250					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.	
							Of H. F. Magnet.	Of V. F. Magnet.
Oct. 9		Oct. 9						
h m	° ′ ″	h m		h m		h m	°	°
15. 59	20. 48. 20	14. 27	·1245					
16. 11	49. 50	14. 37	·1253					
16. 17	49. 0	14. 45	·1250					
17. 22	48. 30	15. 33	·1254					
17. 29	49. 20	15. 40	·1250					
	***	15. 50	·1244					
18. 58	47. 45	16. 1	·1250					
19. 50	46. 0	16. 14	·1254					
	***	16. 19	·1252					
21. 31	49. 35	17. 26	·1252					
	***	17. 42	·1257					
22. 45	55. 30		***					
	***	19. 5	·1252					
23. 42	55. 25	19. 51	·1246					
23. 59	54. 0	21. 0	·1239					
		21. 15	·1237					
		21. 50	·1236					
		22. 25	·1234					
		22. 37	·1239					
		22. 44	·1239					
		22. 48	·1242					
		23. 0	·1239					
		23. 18	·1243					
		23. 36	·1243					
		23. 47	·1246					
		23. 59	·1241					
Oct. 10		Oct. 10		Oct. 10		Oct. 10		
0. 0	20. 54. 0	0. 0	·1241		(†)	1. 0	62·5	64·2
0. 21	54. 30	0. 21	·1247	1. 0	·03187*	3. 0	65·0	66·0
0. 30	53. 20	0. 31	·1242	2. 7	·03005	9. 0	64·0	65·0
0. 37	54. 5	0. 36	·1246	2. 53	·02877	21. 0	59·9	60·5
1. 17	53. 25	1. 22	·1248	4. 45	{·02945			
1. 25	54. 5	1. 30	·1245		·03010}			
1. 31	53. 10	1. 37	·1250	5. 9	{·02957			
1. 44	54. 0	2. 5	·1252		·03102}			
3. 12	52. 10	2. 29	·1248	6. 10	{·03008			
3. 20	52. 35	2. 51	·1252		·03138}			
3. 28	51. 40	3. 34	·1248	9. 34:	·03118			
4. 30	51. 40	3. 49	·1250	13. 1	·03410			
4. 41	52. 25	4. 22	·1250	16. 55	·03300			
4. 51	51. 50	4. 36	·1244	17. 9	·03247			
	***	4. 49	·1254	17. 50	{·03278			
6. 0	52. 35	5. 13	·1243		·03238}			
	***	5. 33	·1250	18. 17	·03188			
10. 5	49. 30	5. 38	·1259	19. 33	·03255			
10. 13	50. 0	5. 54	·1250	23. 31	·03263			
10. 24	49. 30	6. 0	·1254	23. 39	·03290			
11. 45	49. 0	6. 10	·1255	23. 45	·03277			
	***	6. 18	·1250	23. 59	·03272			
15. 2	49. 55	6. 30	·1255					
15. 26	50. 20	6. 49	·1252					
15. 30	52. 0	7. 24	·1256					
15. 39	50. 35	7. 30	·1260					
16. 0	50. 55	7. 37	·1254					
16. 28	54. 10	8. 24	·1257					
16. 34	53. 45	8. 41	·1254					
16. 48	20. 56. 0	9. 7	·1256					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

VERTICAL FORCE.—October 10. The adjustments were altered, so that the readings were diminished by $6^{div}\cdot 95$., or by 0·010994 parts of the whole Vertical Force.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 10		Oct. 10						
h m	° ′ ″	h m		h m		h m	°	°
17. 11	21. 3. 55	9. 11	·1254					
17. 16	1. 20	9. 22	·1259					
17. 21	1. 20	9. 36	·1256					
17. 26	0. 0	9. 41	·1252					
17. 32	21. 0. 0	10. 2	·1256					
17. 39	20. 59. 10	10. 16	·1266					
17. 51	21. 4. 40	10. 22	·1256					
17. 56	4. 35	10. 32	·1262					
17. 58	11. 20	10. 38	·1256					
	(†)	10. 42	·1262					
18. 24	21. 11. 15	10. 49	·1259					
18. 46	20. 47. 55	10. 59	·1266					
19. 0	44. 20	11. 7	·1257					
19. 12	46. 50	11. 12	·1262					
19. 30	46. 20	11. 16	·1259					
19. 40	45. 10	11. 23	·1264					
19. 50	45. 50	11. 36	·1261					
20. 0	45. 10	11. 39	·1265					
20. 34	46. 0	11. 45	·1254					
20. 49	45. 30	11. 50	·1259					
21. 5	48. 40	12. 0	·1259					
21. 18	48. 55	12. 7	·1256					
21. 30	50. 50	12. 28	·1261					
21. 46	49. 50	12. 41	·1259					
	***	13. 0	·1260					
22. 51	55. 45	13. 3	·1264					
23. 0	54. 35	13. 8	·1260					
23. 2	56. 15	14. 56	·1263					
23. 12	55. 10	15. 19	·1263					
23. 15	57. 10	15. 22	·1268					
23. 17	56. 35	15. 35	·1265					
23. 31	57. 0	16. 14	·1268					
23. 43	58. 0	16. 26	·1276					
23. 54	54. 30	16. 37	·1275					
23. 59	53. 10	17. 2	·1263					
		17. 8	·1270					
		17. 32	·1206					
		17. 47	·1186					
		18. 7	·1228					
		18. 10	·1223					
		18. 14	·1255					
		18. 18	·1250					
		18. 25	·1268					
		18. 52	·1228					
		19. 0	·1227					
		19. 4	·1234					
		19. 17	·1226					
		19. 36	·1220					
		19. 47	·1223					
		19. 59	·1220					
		20. 11	·1220					
		20. 47	·1210					
		21. 5	·1222					
		21. 20	·1217					
		21. 26	·1222					
		22. 14	·1207					
		22. 28	·1216					
		22. 32	·1208					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Oct. 10						
h m	° ′ ″	h m		h m		h m	°	°
		22. 38	·1213					
		22. 44	·1206					
		22. 49	·1210					
		22. 59	·1203					
		23. 3	·1214					
		23. 8	·1209					
		23. 35	·1211					
			(†)					
Oct. 11		Oct. 11		Oct. 11		Oct. 11		
0. 0	20. 53. 5		(†)		(†)	1. 0	62 ·0	62 ·0
0. 3	55. 0	1. 0	·1218*	1. 0	·03290*	3. 0	63 ·4	64 ·2
0. 18	53. 35	1. 3	·1238	1. 41	·03192	9. 0	63 ·3	63 ·7
0. 33	59. 30	1. 24	·1222	2. 10	·03180	21. 5	60 ·3	60 ·5
0. 39	56. 15	1. 40	·1245	2. 42	·03198			
0. 55	54. 0		(†)	3. 45	·02944			
1. 0	54. 10	3. 0	·1249*	4. 15	·02833			
1. 12	20. 58. 0	3. 18	·1249	5. 33	·02877			
1. 37	21. 1. 5	3. 34	·1242	7. 56	·02930			
1. 48	1. 0	3. 47	·1243	9. 5	{·02926			
2. 9	4. 10	3. 54	·1238		{·02982			
2. 23	21. 1. 5	4. 7	·1240	9. 57	·02976			
2. 50	20. 43. 15	4. 18	·1237	10. 55	·03008			
3. 0	44. 10	4. 26	·1240	12. 12	·03000			
3. 35	51. 35	4. 35	·1237	13. 14	·03058			
	***	4. 48	·1241	17. 0	·03320			
4. 38	49. 10	5. 0	·1240	17. 56	·03345			
	***	5. 26	·1243	22. 22	·03254			
5. 15	50. 25	5. 51	·1235	23. 15	·03284			
5. 59	49. 5	6. 11	·1247	23. 59	·03290			
6. 12	49. 25	6. 21	·1236					
6. 37:	45. 50	6. 36	·1229					
6. 56	47. 30	6. 55	·1242					
7. 8	43. 55	7. 6	·1232					
7. 15	44. 50	7. 15	·1233					
7. 20	41. 45	7. 20	·1228					
7. 28	43. 25	7. 27	·1238					
7. 43	40. 10	7. 33	·1229					
7. 56	40. 50	7. 44	·1236					
8. 8	44. 10	7. 51	·1230					
8. 15	43. 45	8. 2	·1238					
8. 22	45. 15	8. 25	·1237					
8. 45	46. 25	8. 32	·1232					
8. 57	43. 45	8. 38	·1234					
8. 59	45. 25	8. 49	·1231					
9. 4	47. 0	9. 19	·1237					
9. 15	46. 30	9. 28	·1247					
9. 29	48. 20	9. 45	·1247					
9. 33	48. 10	9. 58	·1239					
9. 52	51. 25	10. 10	·1238					
10. 10	48. 45	10. 25	·1239					
10. 19	49. 0	10. 36	·1237					
10. 41	47. 40	11. 3	·1252					
11. 1	44. 35	11. 19	·1242					
11. 23	46. 15	11. 31	·1252					
11. 35	45. 10	11. 43	·1251					
11. 57	49. 0	11. 58	·1247					
12. 21	46. 50		***					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

October 10. The Photographic Trace for the Declination Magnet was off the sheet in the direction of increasing declination from $17^{h}. 58^{m}.$ to $18^{h}. 24^{m}.$

Greenwich Mean Solar Time.	Western Declination.
Oct. 11 h m	° ′ ″
12. 25	20. 47. 15
12. 42	46. 40
13. 10	48. 10
13. 54	47. 10
14. 0	48. 10
	(†)
14. 36	46. 15
14. 44	47. 20
14. 50	46. 25
15. 5	46. 20
15. 17	45. 30
15. 22	46. 25
15. 32	45. 20
15. 41	45. 50
15. 55	45. 20
16. 3	45. 40
16. 27	44. 0
16. 37	45. 0
16. 52	44. 30
17. 29	47. 40
17. 49	46. 35 ***
18. 39	49. 30
18. 55	47. 50
19. 29	46. 40
19. 35	47. 0
19. 40	46. 30
19. 44	47. 25
19. 57	45. 20
20. 36	47. 15
20. 58	48. 50
21. 39	49. 50
21. 45	51. 30
	(†)
22. 54	51. 20
22. 57	52. 10
23. 14	51. 10
23. 18	52. 35
23. 35	51. 45
23. 57	52. 30
23. 59	52. 20
Oct. 12	
0. 0	20. 52. 10
0. 26	52. 0
0. 49	52. 40
1. 10	51. 40
1. 49	51. 55
2. 16	49. 50
2. 26	50. 20
2. 45	49. 30
2. 57	50. 0
3. 15	48. 15
3. 18	48. 50
3. 36	48. 0
3. 44	48. 20
3. 55	48. 0
4. 49	47. 50
6. 1	20. 48. 50
6. 18	45. 15
6. 29	45. 0
6. 36	46. 10
6. 49	45. 0
7. 7	46. 30
7. 19	41. 50
7. 30	24. 0
7. 37	39. 10
7. 58	34. 20
8. 16	37. 25
8. 33	38. 40
8. 43	37. 15
9. 24:	42. 10
10. 11:	37. 0
10. 32	40. 0
10. 42	40. 0
11. 8	45. 20
11. 22	44. 30
11. 57	44. 35
12. 11	46. 0
12. 59	47. 0
13. 15	49. 0
13. 41	45. 45
13. 58:	46. 40
15. 8	43. 5
18. 41	43. 10
19. 17	45. 55
19. 39	46. 0
19. 43	46. 55
20. 5	45. 10
20. 20	46. 25
20. 37	44. 35
21. 3	45. 15
21. 35	44. 30
22. 10	47. 40
22. 25	47. 35
22. 47	48. 30
	(†)

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Oct. 11 h m	
12. 10	·1238 ***
12. 53	·1244
13. 14	·1241
13. 33	·1245
13. 40	·1243
13. 56	·1247
14. 9	·1241
14. 35	·1239
14. 45	·1243
15. 7:	·1237
15. 28	·1242 ***
15. 46	·1242 ***
17. 7	·1237
17. 21	·1233 ***
17. 43	·1235 ***
18. 36	·1235
19. 13	·1244
19. 19	·1242
19. 30	·1242
19. 40	·1246
19. 49	·1233
20. 4	·1244
21. 30	·1232
21. 43	·1238
21. 55	·1233
22. 2	·1235
22. 20	·1229
22. 42	·1235
23. 0	·1225
23. 25	·1237
23. 35	·1234
23. 59	·1235
Oct. 12	
0. 0	·1235 ***
0. 30	·1234
0. 42	·1231
0. 55	·1233
1. 15	·1232
2. 0	·1233
2. 27	·1238
2. 43	·1246
2. 57	·1242
3. 13	·1245
3. 27	·1237
4. 5	·1231
4. 15	·1237 ***
4. 30	·1236 ***
4. 49	·1242 ***
5. 22	·1242
5. 35	·1246 ***
6. 14	·1232
6. 36	·1243
6. 56	·1243
7. 23	·1215
7. 38	·1287
7. 48	·1290
7. 55	·1288
8. 32	·1238
8. 40	·1247
8. 54	·1242
9. 7	·1242 ***
9. 30:	·1245 ***
9. 50	·1241 ***
10. 34	·1246
10. 47	·1240
11. 30:	·1254
11. 54	·1248
12. 22	·1257
12. 34	·1253
12. 38	·1258 ***
13. 5	·1243 ***
13. 20	·1251 ***
14. 14	·1250 ***
16. 15	·1256 ***
17. 37	·1261 ***
18. 1	·1259
18. 12	·1260 ***
18. 55	·1245
19. 5	·1250
19. 15	·1237
19. 22	·1246
19. 37	·1246
19. 44	·1243
20. 0	·1252
20. 22	·1254 ***
21. 1	·1253 ***
21. 47	·1252 ***
21. 51	·1255 ***

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
Oct. 12 h m	
0. 0	·03290
6. 13	·03156
6. 51	·03158
7. 22	·03092
7. 30	·03117
8. 7	·03035
8. 30	·03016
9. 51	·03040
11. 6	·03098
13. 37	·03268
16. 34	·03255
20. 37	·03140
22. 9	{ ·03003 ·02757
23. 30	·02756
23. 59	·02735

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Oct. 12		
9. 0	61·6	62·0
21. 0	55·6	56·2

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Oct. 12						
h m	° ′ ″	h m		h m		h m	°	°
		22. 46	·1251					
		22. 52	·1256					
			***					
		23. 11	·1254					
		23. 59	·1258					
Oct. 13		Oct. 13		Oct. 13		Oct. 13		
	(†)	0. 0	·1258	0. 0	·02735	1. 0	57·8	58·0
0. 45	20. 49. 10		(†)	1. 38	·02722	3. 0	59·8	60·1
1. 2	49. 0	0. 39	·1257	4. 54	·02378	9. 0	60·3	61·0
1. 16	50. 20	1. 0	·1259	6. 35	·02532	21. 0	61·8	62·0
1. 50	46. 40	1. 12	·1265	9. 1	·02636			
2. 8	45. 50	1. 43	·1260	9. 38	·02623			
2. 16	46. 0	1. 47	·1265	10. 18	·02668			
2. 42	45. 0	2. 58	·1262	12. 35	·02722			
3. 1	46. 0	3. 14	·1264	12. 48	·02738			
3. 20	45. 35	3. 28	·1260	13. 16	·02723			
3. 31	46. 30	3. 44	·1266	13. 31	·02734			
3. 54	46. 0	4. 1	·1260	15. 21	·02626			
4. 5	47. 0	4. 13	·1263	15. 57	·02675			
4. 35	46. 0	4. 34	·1259	17. 11	·02684			
5. 1	46. 20	4. 56	·1260	18. 23	·02652			
5. 18	45. 0	5. 16	·1257	18. 40	·02666			
5. 31	45. 50	5. 29	·1261	19. 51	·02658			
5. 42	45. 0	5. 40	·1257	20. 21	·02693			
6. 0	44. 30	5. 55	·1265	22. 56	·02715			
6. 8	43. 0	6. 11	·1258	23. 59	·02738			
6. 37	44. 50	6. 18	·1265					
6. 56	41. 20	6. 45	·1268					
7. 2	42. 40	6. 53	·1266					
7. 26	39. 15	7. 8	·1274					
7. 58	42. 50	7. 17	·1269					
8. 27	42. 10	7. 24	·1278					
8. 33	42. 25	7. 38	·1280					
8. 53	40. 10	8. 3	·1266					
9. 8	43. 35	8. 33	·1265					
9. 31	44. 25	9. 2	·1280					
10. 11	39. 35	9. 34	·1262					
10. 57	43. 0	9. 57	·1254					
11. 1	42. 25	10. 21	·1260					
11. 4	43. 20	10. 28	·1258					
11. 25	42. 15	11. 2	·1261					
11. 41	43. 10	11. 10	·1259					
12. 7	41. 15	11. 25	·1262					
12. 22	41. 20	11. 47	·1253					
12. 56	36. 0	12. 5	·1261					
13. 7	39. 10	12. 24	·1249					
13. 17	39. 15	12. 46	·1277					
13. 37	41. 20	13. 3	·1251					
13. 53	45. 20	13. 30	·1292					
14. 2	43. 50	13. 58	·1279					
14. 15:	44. 50	14. 8	·1289					
15. 22:	36. 25	14. 29	·1282					
16. 5	40. 0	15. 0	·1278					
16. 36	40. 30	15. 18	·1268					
16. 44	40. 10	15. 30	·1257					
16. 56	41. 45	15. 50	·1253					
17. 3	44. 15	16. 4	·1254					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 13		Oct. 13						
h m	° ′ ″	h m		h m		h m	°	°
17. 28	20. 42. 50	16. 14	·1250					
17. 46	43. 10	16. 47	·1253					
17. 58	42. 40	16. 57	·1257					
18. 33	46. 0	17. 11	·1250					
18. 42	48. 0	17. 36	·1258					
18. 59	47. 0	18. 15	·1226					
19. 19	44. 0	18. 39	·1234					
19. 24	46. 0	19. 8	·1235					
19. 43	44. 20	19. 21	·1248					
19. 47	43. 0	19. 30	·1244					
	***	19. 34	·1247					
21. 0	42. 25	19. 43	·1240					
21. 19	44. 25	19. 48	·1244					
21. 27	44. 0	22. 0	·1230					
	***	22. 15	·1238					
22. 6	44. 25	22. 22	·1234					
22. 16	48. 0	22. 28	·1237					
22. 23	47. 55	22. 38	·1228					
22. 30	49. 0	22. 48	·1234					
22. 41	47. 15	22. 56	·1230					
22. 49	48. 50	23. 1	·1232					
22. 58	48. 20	23. 18	·1229					
23. 8	49. 50	23. 32	·1235					
23. 15	48. 55	23. 51	·1225					
23. 21	50. 25	23. 59	·1225					
23. 26	49. 50							
23. 36	52. 0							
23. 43	51. 20							
23. 46	52. 0							
23. 59	51. 15							
Oct. 14		Oct. 14		Oct. 14		Oct. 14		
0. 0	20. 51. 15	0. 0	·1225	0. 0	·02738	1. 0	63·5	63·6
0. 15	49. 40		(†)	2. 55	·02942	3. 0	64·5	64·0
0. 16	56. 0	1. 0	·1233*	4. 9	·02817	9. 0	65·0	65·8
0. 45	54. 25	1. 2	·1241	9. 48	·02936	21. 0	65·5	65·1
1. 4	55. 25	1. 10	·1248	10. 22	·02880	22. 0	67·2	65·8
1. 24	20. 59. 5	1. 25	·1242	13. 40	·02898	23. 0	66·9	66·5
1. 52	21. 0. 5	1. 36	·1244	14. 31	·02862			
2. 1	1. 25	1. 45	·1240	16. 33	·02918			
2. 5	1. 10	1. 57	·1244	21. 24	·02955			
2. 15	21. 5. 10	2. 2	·1239	22. 23	·02912			
2. 38	20. 51. 10	2. 27	·1250	23. 26	{ ·02916			
2. 49	53. 30	2. 30	·1235		·03212			
2. 58	52. 30	2. 45	·1260	23. 59	·03212			
3. 0	54. 20	3. 16	·1242					
3. 10	52. 35	3. 22	·1247					
3. 15	53. 40	3. 58	·1244					
3. 21	53. 20	4. 8	·1239					
3. 29	55. 30	5. 11	·1247					
4. 2	56. 45	5. 35	·1245					
4. 18	55. 10	6. 20	·1243					
5. 3	53. 10	6. 45	·1246					
7. 19	51. 10	6. 49	·1243					
7. 35	51. 45	7. 2	·1249					
8. 8	49. 0	7. 28	·1237					
9. 5	46. 0	8. 6	·1232					
9. 34	49. 20	8. 35	·1241					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 14		Oct. 14						
h m	° ′ ″	h m		h m		h m	°	°
9. 46	20. 48. 35	9. 11	·1234					
9. 57	51. 0	9. 36	·1243					
10. 3	50. 45	9. 58	·1267					
10. 18	54. 0	10. 23	·1244					
10. 43	48. 20	10. 38	·1254					
11. 1	51. 10	10. 57	·1243					
11. 22	47. 40	11. 54	·1246					
11. 31	48. 20	12. 4	·1238					
11. 38	48. 10	12. 17	·1243					
11. 49	49. 10	12. 33	·1237					
12. 22	47. 50	12. 53	·1243					
12. 43	53. 0	13. 0	·1239					
12. 55	53. 10	13. 21	·1240					
13. 22	51. 25	13. 32	·1243					
13. 37	51. 40	13. 55	·1235					
13. 57	55. 35	14. 31	·1242					
14. 37	51. 20	15. 38	·1233					
15. 0	52. 0	15. 46	·1235					
15. 8	51. 45	16. 2	·1232					
15. 23	52. 40	16. 54	·1238					
15. 44	51. 20	17. 46	·1240					
15. 58	52. 0	18. 7	·1246					
16. 29	50. 25		***					
17. 1	51. 20	19. 7	·1240					
17. 27	50. 15	19. 58	·1238					
17. 53	51. 15	20. 17	·1235					
19. 7	50. 25	20. 30	·1235					
19. 52	48. 15	20. 51	·1231					
20. 11	49. 5	21. 10	·1229					
20. 28	49. 10	21. 49	·1228					
21. 24	54. 25	22. 49	·1208					
21. 32	54. 10	23. 11	·1225					
	***	23. 30	·1217					
22. 13	57. 50	23. 59	·1226					
	***							
23. 9	20. 58. 30							
	***							
23. 28	21. 2. 10							
	***							
23. 59	20. 58. 45							
Oct. 15		Oct. 15		Oct. 15		Oct. 15		
0. 0	20. 58. 45	0. 0	·1226	0. 0	·03212	0. 0	67·6	67·0
	***	0. 12	·1231	1. 52	{ ·03146	1. 0	68·1	67·6
0. 30	21. 1. 50	0. 17	·1227		·03298	2. 0	68·8	68·0
0. 35	0. 20		***	3. 0	{ ·03218	3. 0	69·1	68·5
0. 46	2. 10	0. 49	·1227		·03312	6. 0	66·9	67·3
	***	0. 55	·1234	3. 45	{ ·03238	9. 0	63·8	64·9
1. 3	1. 0	1. 0	·1227		·03320	12. 0	61·3	62·0
	***	1. 10	·1224	4. 27	{ ·03222	18. 0	57·6	58·4
1. 17	3. 0		(†)		·03308	21. 0	56·5	57·0
1. 27	2. 25	1. 58	·1234	5. 24	{ ·03264	22. 0	57·4	57·9
1. 55	21. 1. 35	2. 25	·1230		·03342	23. 0	57·8	58·0
2. 14	20. 59. 0	2. 41	·1237	6. 31	·03306			
3. 0	57. 35	3. 0	·1236	6. 42	·03327			
3. 36	57. 20	3. 46	·1241	8. 42:	·03353			
4. 9	58. 25	4. 15	·1237	11. 13	·03550			
4. 46	56. 0	4. 32	·1230	13. 43	·03428			

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 15		Oct. 15		Oct. 15				
h m	° ′ ″	h m		h m		h m	°	°
5. 5:	20. 53. 15	4. 59	·1233	20. 2	·03321			
5. 37	55. 40	5. 15	·1242	22. 11	{ ·03240			
5. 46	54. 35	5. 46	·1240		·02792			
5. 59	55. 40	6. 15	·1242	23. 59	·02764			
6. 16	54. 0	6. 33	·1232					
6. 29	51. 35	6. 48	·1272					
6. 44	39. 50	7. 0	·1253					
6. 53	48. 10	7. 20	·1243					
7. 10	51. 25	7. 29	·1251					
7. 24	49. 50	7. 47	·1244					
7. 30	51. 50	8. 21	·1249					
8. 10	53. 40	8. 30	·1254					
9. 30	49. 5	8. 40	·1248					
9. 43	50. 0	8. 56	·1248					
9. 51	49. 20	9. 7	·1252					
10. 3	49. 20	9. 22	·1248					
10. 15	48. 20	9. 39	·1249					
10. 32	48. 15	9. 50	·1259					
10. 44	49. 0	9. 54	·1256					
10. 53	47. 55	10. 5	·1258					
11. 9	48. 40	11. 0	·1244					
11. 38	53. 40	11. 56	·1261					
11. 50	52. 35	12. 32	·1269					
11. 55	53. 10	12. 53	·1270					
12. 10	50. 5	13. 4	·1266					
12. 32:	52. 0	13. 14	·1267					
12. 47	51. 20	14. 0	·1258					
13. 15	53. 0	14. 10	·1261					
13. 23	52. 30	14. 24	·1257					
13. 29	53. 0	14. 48	·1260					
13. 48	50. 40	15. 1	·1258					
14. 22	52. 5	15. 57	·1263					
14. 30	51. 0	16. 9	·1268					
15. 12:	53. 0	16. 30	·1261					
15. 28	51. 10	17. 25	·1258					
16. 4	51. 35	17. 47	·1254					
16. 18	53. 5	18. 7	·1258					
16. 35	52. 50	18. 31	·1256					
17. 15	54. 30	19. 12	·1257					
17. 30	53. 55	19. 21	·1261					
17. 53	54. 40	19. 35	·1257					
18. 16	53. 40	20. 38	·1255					
18. 28	53. 50	21. 24	·1245					
19. 0	52. 0	22. 4	·1243					
19. 8	52. 45	23. 8	·1246					
19. 18	51. 30	23. 46	·1246					
19. 27	51. 30	23. 59	·1251					
19. 57	48. 55							
20. 18	50. 0							
20. 30	49. 50							
21. 0	52. 30							
21. 22	20. 52. 30							
	***							
22. 46	21. 2. 10							
	***							
23. 9	1. 15							
23. 17	4. 0							
23. 30	3. 25							

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.
Oct. 15	
h m	° ′ ″
23. 45	21. 4. 10
23. 59	3. 10
Oct. 16	
0. 0	21. 3. 10
0. 12	2. 30
0. 22	4. 0
0. 43	2. 10
	***
1. 23	2. 50
1. 53	1. 50
1. 57	2. 50
2. 12	2. 50
2. 27	3. 50
2. 38	1. 50
2. 46	1. 40
2. 57	0. 50
3. 3	21. 1. 15
	***
4. 24	20. 59. 45
4. 37	58. 10
	***
5. 20	56. 50
5. 42	58. 0
6. 0	57. 25
6. 43	57. 40
6. 57	56. 50
	***
7. 30	56. 45
8. 8	52. 55
8. 27	54. 50
8. 46	55. 5
9. 1	51. 25
9. 12	52. 30
9. 31	51. 5
9. 45	51. 40
10. 0	48. 10
10. 38	47. 0
10. 53	45. 15
11. 7	48. 40
11. 18	47. 15
11. 29	48. 25
11. 41	45. 25
11. 45	46. 10
12. 12	44. 10
12. 56	51. 35
13. 23	53. 15
13. 48	51. 10
14. 22	56. 5
15. 3	53. 40
15. 24	54. 50
15. 44	53. 50
	***
18. 37	51. 55
18. 49	51. 15
19. 12	51. 45
19. 30	50. 45
20. 7	52. 15

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
h m	
Oct. 16	
0. 0	·1251
0. 23	·1248
1. 3	·1252
1. 55	·1245
2. 29	·1255
2. 59	·1246
3. 25	·1250
3. 40	·1245
3. 49	·1247
4. 26:	·1243
5. 0	·1250
5. 45	·1250
6. 7	·1246
6. 36	·1247
6. 48	·1243
7. 2	·1248
7. 13	·1245
7. 37	·1243
7. 44	·1245
7. 59	·1243
8. 21	·1247
8. 44	·1244
9. 4	·1270
9. 26	·1244
10. 8	·1271
10. 45	·1257
11. 0	·1243
11. 23	·1232
11. 35	·1246
11. 45	·1246
12. 2	·1254
12. 14	·1247
12. 30	·1241
12. 33	·1244
12. 46	·1235
12. 57	·1235
	***
13. 5	·1240
	***
13. 12	·1238
	***
13. 37	·1239
13. 54	·1235
14. 16	·1242
	***
14. 41	·1242
14. 55	·1240
	***
16. 22	·1242
	***
18. 34	·1240
18. 41	·1238
18. 48	·1241
	***

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
Oct. 16	
0. 0	·02764
0. 37	·02760
0. 52	·02736
1. 13	{ ·02732
	{ ·02634
2. 52	·02420
3. 6	{ ·02460
	{ ·02897
4. 15	·02738
4. 47	·02817
6. 45	{ ·02824
	{ ·02918
7. 56	·02892
10. 37	·02950
12. 25	·03067
15. 2	·03258
20. 10	·03196
23. 59	·03067

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
h m	°	°
Oct. 16		
0. 0	58 ·8	58 ·9
1. 0	60 ·3	60 ·1
2. 0	61 ·6	61 ·9
3. 0	62 ·4	63 ·1
9. 0	61 ·0	61 ·0
21. 0	56 ·5	57 ·0

Greenwich Mean Solar Time.	Western Declination.
Oct. 16	
h m	° ′ ″
20. 20	20. 51. 30
20. 32	52. 45
20. 47	52. 5
21. 56	54. 20
22. 27	55. 0
22. 37	56. 0
23. 50	57. 35
23. 59	58. 25
Oct. 17	
0. 0	20. 58. 40
0. 8	20. 58. 25
0. 26	21. 1. 0
0. 37	21. 0. 0
0. 47	20. 59. 0
0. 53	21. 0. 0
1. 22	20. 59. 0
1. 28	57. 45
	***
2. 10:	54. 30
	***
3. 12	58. 35
3. 27	58. 5
3. 55	59. 0
3. 59	57. 30
4. 3	57. 25
4. 8	54. 30
4. 14	54. 30
4. 26	51. 55
4. 35	51. 20
4. 57	48. 25
5. 16	53. 0
5. 25	52. 45
5. 41	54. 40
6. 8	55. 55
6. 22	55. 30
6. 42	56. 40
7. 12:	50. 35
7. 24	53. 40
7. 50	55. 10
8. 4	54. 30
8. 13	55. 10
8. 23	54. 40
8. 45	56. 20
9. 30	55. 0
9. 46	55. 15
10. 0	54. 10
10. 33	54. 15
10. 57	55. 50
11. 12	55. 25
11. 20	56. 0

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Oct. 16	
h m	
19. 14	·1234
	***
19. 51	·1231
19. 59	·1233
20. 16	·1232
20. 22	·1235
20. 29	·1232
20. 51	·1229
21. 20	·1222
21. 44	·1224
21. 54	·1228
22. 2	·1227
	***
23. 53	·1227
	(†)
Oct. 17	
	(†)
0. 43	·1223
0. 54	·1227
1. 18	·1212
	(†)
2. 15	·1220
2. 27	·1228
2. 56	·1233
3. 4	·1237
3. 41:	·1228
4. 1	·1231
4. 22	·1215
5. 0	·1231
5. 3	·1229
5. 12	·1234
5. 22	·1236
5. 26	·1230
5. 53	·1228
6. 4	·1231
6. 24	·1228
6. 45	·1230
7. 5	·1225
7. 20	·1251
8. 2	·1233
8. 30	·1237
8. 45	·1230
9. 38	·1237
9. 49	·1236
	***
10. 26	·1243
10. 39	·1239
	***
12. 5	·1238
	***
12. 19	·1243
12. 41	·1243
12. 54	·1240
13. 0	·1243
13. 31	·1236
13. 40	·1238
13. 54	·1238

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
Oct. 17	
0. 0	·03067
2. 34	·02888
4. 12	·02670
5 43	·02586
7. 15	·02678
8. 2	·02670
9. 18	·02707
13. 39	·02900
17. 51	·03184
21. 1	·03078
	(†)

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
h m	°	°
Oct. 17		
1. 0	59 ·5	59 ·0
3. 0	60 ·8	60 ·2
9. 0	58 ·3	58 ·4
21. 0	51 ·9	52 ·9

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 17		Oct. 17						
h m	° ′ ″	h m		h m		h m	°	°
11. 30	20. 55. 25	14. 2	·1243					
11. 48	56. 50	14. 7	·1239					
12. 18	53. 35		***					
12. 37	54. 25	16. 2	·1240					
12. 52	58. 40		***					
13. 31	55. 20	16. 50	·1247					
13. 45	56. 10	17. 16	·1242					
14. 19	53. 55	18. 9	·1242					
14. 31	54. 10	18. 26	·1238					
15. 0	53. 10	19. 50	·1240					
15. 5	54. 15	20. 15	·1236					
15. 26	53. 30	20. 20	·1238					
15. 35	55. 0	20. 35	·1234					
15. 45	54. 0	22. 16	·1222					
15. 58	54. 55	22. 25	·1226					
16. 15	54. 0	22. 37	·1223					
16. 19	54. 30		***					
16. 25	54. 20	23. 17	·1227					
16. 31	55. 25	23. 50	·1225					
17. 9	53. 10	23. 59	·1225					
17. 40	53. 55 ***							
18. 39	54. 30 ***							
19. 46	52. 25							
21. 7	52. 5							
21. 19	52. 50							
22. 12	53. 0							
22. 24	55. 5							
22. 33	54. 0 ***							
22. 53	55. 30							
23. 0	54. 0							
23. 4	55. 10							
23. 8	54. 35							
23. 15	56. 0							
23. 31	56. 0							
23. 38	56. 50							
23. 53	55. 20							
23. 59	55. 50							
Oct. 18		Oct. 18		Oct. 18		Oct. 18		
0. 0	20. 55. 45	0. 0	·1225		(†)	1. 0	54·2	54·1
0. 59	56. 50	0. 29	·1228	1. 0	·02673*	3. 0	55·9	55·2
1. 55	55. 20		(†)	3. 0	·02562*	9. 0	53·0	54·3
2. 0	55. 55	1. 0	·1228*	9. 0	·02364*	21. 0	47·0	48·1
2. 10	55. 10	3. 0	·1229*	21. 0	·02554*			
2. 15	55. 55	9. 0	·1238*	23. 8	·02197			
3. 27	54. 10	21. 0	·1231*	23. 59	·02210			
3. 38	54. 35							
4. 43	54. 55							
5. 13	56. 50							
5. 37	54. 45							
5. 52	55. 5							
6. 4	54. 30							
7. 22	55. 10							
8. 22	53. 30							
9. 0	53. 40							

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 18								
h m	° ′ ″	h m		h m		h m	°	°
9. 53	20. 53. 10							
10. 5	52. 0							
10. 53	52. 15							
11. 15:	49. 30							
11. 31	51. 5							
11. 44	50. 30							
12. 3	51. 35							
12. 26	49. 0							
12. 55	51. 0							
13. 12	54. 0							
14. 16	52. 0							
14. 33	53. 0							
15. 0	52. 20							
15. 8	53. 25							
15. 46	52. 30							
16. 4	53. 0							
16. 29	51. 35							
17. 12	53. 40							
17. 25	52. 40							
18. 39	52. 25							
18. 50	51. 50							
19. 45	51. 40							
20. 24	50. 0							
21. 0	51. 20 (†)							
22. 0	55. 5							
22. 25	57. 0							
22. 18	57. 25							
22. 57	59. 0							
23. 14	59. 20							
23. 28	58. 5							
23. 52	57. 55							
23. 59	58. 5							
Oct. 19		Oct. 19		Oct. 19		Oct. 19		
0. 0	20. 58. 0		(†)	0. 0	·02210	9. 0	53·3	54·0
0. 12	58. 30	4. 58	·1238	0. 45	·02166	21. 0	53·0	54·6
0. 46	57. 55	5. 9	·1235		(†)			
1. 17	58. 10	6. 7	·1240	4. 32	·02062			
1. 53	57. 15	6. 34	·1239	8. 9	·01930			
3. 0	56. 40	7. 8	·1243	9. 36	·01895			
3. 25	57. 0	7. 20	·1238	10. 47	·01900			
4. 42	52. 50	8. 8	·1240	12. 21	·01842			
4. 50	53. 5	8. 47	·1243	15. 8	·01977			
5. 5	52. 30	8. 55	·1243	16. 15	·02068			
5. 37	52. 30	9. 10	·1239	18. 41	·02135			
6. 0	53. 10	9. 31	·1249	20. 47	·02156			
9. 0	52. 50	10. 0	·1239	21. 23	·02177			
9. 32	46. 10	10. 21	·1238	22. 26	·02190			
10. 8	50. 0	10. 36	·1234		(†)			
10. 45	51. 40	11. 1	·1241					
11. 10	50. 0	11. 20	·1239					
11. 46	52. 0	11. 54	·1235					
12. 35	52. 30	12. 11	·1236					
12. 52	51. 55	13. 35	·1231					
13. 5	52. 20	14. 46	·1231					
14. 41	51. 55	15. 14	·1228					
15. 23	50. 20	16. 9	·1226					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

October 18. The Photographic Traces for the Horizontal Force and Vertical Force Magnets were too faint for use.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 19		Oct. 19						
h m	° ′ ″	h m		h m		h m	°	°
16.30	20.50.10	16.25	·1228					
17.31	52.25	16.40	·1228					
20.24	48.20	16.59	·1226					
21. 6	49.50	17.10	·1228					
23.59	56. 0	17.23	·1224					
		18. 0	·1228					
		18.23	·1232					
		19.56	·1228					
		20.18	·1225					
		20.53	·1218					
		22.15	·1223					
			(†)					
Oct. 20		Oct. 20		Oct. 20		Oct. 20		
0. 0	20.56. 0		(†)		(†)	1. 0	55·5	56·1
0. 9	57.10	1.23	·1120*	1. 0	·02168*	3. 0	56·7	57·5
0.46	55.50	1.44	·1134	2. 1	·02422	9. 0	53·7	56·0
1. 0	56.30	2.10	·1142	3.21	·02500	21. 0	48·6	50·8
1.55	56.50	3.49	·1141	6.31	·02782			
2.23	56. 0	4. 0	·1142	9.13	·02874			
3.50	55.10	5.10	·1142	16. 0	·03150			
5.14	55.25	5.47	·1144	21.40	·03376			
5.37	54.50	6.49	·1142	23.51	·03297			
8. 0	54.10	7. 1	·1144		(†)			
8.36	53. 0	8.47	·1143					
8.43	52.30	9. 6	·1144					
8.52	52.40	9.19	·1147					
9.16	51.35	10.14	·1143					
9.40	52.45	10.50	·1142					
10.44	53.25	11.40	·1145					
11.25	52.50	11.59	·1148					
11.38	53. 0	13.38	·1142					
11.52	52.20		(†)					
12. 4	52.50	21. 0	·1140*					
13. 3	52.30							
13.37	51.40							
14.22	54.30							
14.58	54. 0							
15.27	54.15							
15.44	53.25							
16.45	53.50							
18.41	52.45							
21. 6	50. 0							
22. 8	52.20							
	(†)							
Oct. 21		Oct. 21		Oct. 21		Oct. 21		
	(†)		(†)		(†)	1. 0	51·6	52·9
0.37	20.56. 0	0.52	·1138	1. 0	·03264*	3. 0	54·1	55·2
0.53	57.45	0.57	·1144	1. 9	·02642	9. 0	55·0	56·5
1. 2	57.10	1. 5	·1144	2. 2	·02617	21. 0	55·9	56·7
1.25	57.50	1.11	·1136	2.57	{·02458	22. 0	56·4	56·9
1.50	56.45	1.39	·1144		·02732	23. 0	57·0	57·3
2.38	55.15	2. 2	·1146	4. 8	·02618			
5.23	56.25	2. 8	·1155	5.58	·02815			
6.12	57.50		(†)	11.50	·02928			
6.45	57.15	3. 0	·1146*	19.59	·03098			
6.59	57.30	3.12	·1149	21.13	·03092			

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 21		Oct. 21		Oct. 21				
h m	° ′ ″	h m		h m		h m	°	°
7. 0	20.58.20	4.13	·1156	21.54	·03120			
7.12	57.50	4.48:	·1152	22.12	·03184			
7.18	57.10	5.20	·1158	22.20	·03160			
7.38	57. 0	5.49	·1154		***			
7.52	57.25	5.59	·1155	22.48	·03247			
8.14	53.30	6.28	·1150	23.23	·03266			
8.23	53.20	8. 0	·1147	23.27	·03257			
8.45	46.10	8.28	·1136	23.59	·03272			
8.52	47. 0	8.47	·1144					
9.21	42. 0	8.58	·1155					
9.40	44.10	9.17	·1141					
10. 0	43. 5	9.23	·1145					
10.15	44.20	9.31	·1144					
10.27	44. 0	9.41	·1138					
10.38	45.10	9.47	·1143					
11. 0	44. 0	9.59	·1145					
11.33	45.15	10.20	·1130					
11.55	47.35	10.34	·1133					
12. 2	47.50	11.14	·1134					
12.12	48.30	11.37	·1127					
12.35	48.40	12. 7	·1135					
12.42	48.15	12.38	·1131					
13. 8	50. 0	12.57	·1135					
13.27	50.20	13.37	·1137					
13.46	49.25	14. 3	·1131					
14. 5	49.40	14.29	·1131					
14.34:	52.15	14.51	·1141					
15.15	47.40	15. 1	·1139					
15.39	47.30	15.30	·1144					
15.42	49.10	15.41	·1140					
15.51	48.50	15.45	·1147					
16. 0	50. 0	15.53	·1143					
16. 5	49.10	16. 1	·1144					
16.14	50.40	16. 7	·1138					
16.22	50.35	16.13	·1147					
16.28	51.20	16.18	·1142					
17.16	53.15	16.29	·1147					
17.37	51.40	16.36	·1143					
17.45	52.25	16.46	·1149					
18. 1	51.35	17. 2	·1145					
18. 9	52.15	17.31	·1143					
18.14	52. 5	17.51	·1151					
18.22	52.40	18. 4	·1146					
18.40	50.45	18. 8	·1150					
	***	18.16	·1143					
19.30	51.55	18.22	·1146					
19.45	51.20	18.30	·1143					
19.57	20.56. 5		***					
20.30	21. 0.30	18.54	·1152					
20.52	20.59. 0		***					
21.18	54. 5	19.34	·1147					
21.26	56. 5		***					
21.30	55.20	21. 2	·1111					
21.34	56. 5	21.23	·1104					
21.40	55.10	21.32	·1113					
21.47	59.50	21.46	·1099					
21.57	20.59. 0	21.58	·1115					
22. 0	21. 0.35	22. 3	·1100					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

HORIZONTAL FORCE.—October 20. The numbers in the series beginning this day are smaller by 0·01, nearly, than those of the series ending October 19.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 21		Oct. 21						
h m	° ′ ″	h m		h m		h m	°	°
22. 8	20. 59. 10	22. 18	·1103					
22. 15	21. 5. 55	22. 27	·1131					
22. 22	4. 0	22. 37	·1105					
22. 28	5. 30	22. 47	·1132					
22. 34	11. 30	22 50	·1111					
22. 39	8. 30	22. 57	·1111					
22. 45	6. 50	23. 2	·1102					
22. 59	1. 40	23. 3	·1107					
23. 0	3. 0	23. 10	·1100					
23. 8	1. 45	23. 14	·1106					
23. 15	1. 25	23. 31	·1104					
23. 24	4. 15	23. 35	·1112					
23. 31	1. 0	23. 43	·1098					
23. 45	2. 55	23. 54	·1110					
	(†)	23. 59	·1107					
Oct. 22		Oct. 22		Oct. 22		Oct. 22		
	(†)	0. 0	·1107	0. 0	·03272	0. 0	57·9	58·1
0. 22	20. 58. 25	0. 41	·1100	0. 50	·03226	1. 0	58·7	58·8
0. 40:	21. 0. 0	0. 58	·1113	1. 21	·03292	2. 0	59·7	59·9
0. 52	20. 58. 5	1. 13	·1109	2. 17	·03236	3. 0	60·7	61·1
1. 0	21. 0. 0	1. 17	·1103	3. 20	·03222	6. 0	60·9	61·8
1. 13	20. 56. 35	1. 22	·1104	3. 28	·03325	9. 0	59·6	60·9
1. 23	21. 1. 35	1. 32	·1108	3. 41	·03260	12. 0	57·8	60·2
1. 30	20. 56. 10	1. 47	·1117	4. 3	·03383	18. 0	54·0	56·1
1. 42	54. 45	1. 57	·1103	4. 40	·03290	21. 0	53·5	55·1
1. 43	56. 10	2. 2	·1117	4. 58	·03304	22. 0	53·7	55·0
1. 52	54. 30	2. 5	·1114	5. 48	·03178	23. 0	54·4	55·0
1. 57	56. 0	2. 14	·1126	5. 53	·03220			
2. 13	51. 10	2. 19	·1117	6. 32	·03176			
2. 18	56. 30	2. 22	·1126	6. 37	·03278			
2. 30	52. 45	2. 25	·1115	7. 0	·03204			
2. 35	57. 45	2. 39	·1112	7. 31	·03182			
2. 48	55. 20	2. 45	·1126	7. 39	·03243			
2. 56	59. 5	2. 48	·1110	8. 16	·03218			
3. 10	20. 49. 0	2. 52	·1123	8. 29	·03277			
3. 15	21. 0. 5	2. 55	·1116	9. 47	·03200			
3. 40	20. 45. 15	3. 0	·1120	10. 31	·03062			
3. 41	53. 25	3. 4	·1109	10. 49	·03131			
3. 48	50. 40	3. 23	·1129	11. 6	·03150			
3. 57	56. 40	3. 31	·1120	11. 17	·03242			
4. 2	45. 30	3. 34	·1123	11. 45	·03195			
4. 7	47. 15	3. 37	·1120	12. 1	·03177			
4. 19	34. 30	3. 40	·1126	12. 16	·03216			
4. 25	38. 10		(†)	12. 28	·03218			
4. 26	34. 40	3. 57	·1102	12. 39	·03196			
4. 27	37. 5	4. 0	·1095	13. 12	·03255			
4. 33	35. 25	4. 16	·1194	14. 12	·03302			
4. 38	40. 35	4. 18	·1108	17. 2	·03463			
4. 39	40. 0	4. 33	·1152	18. 1	·03426			
4. 46	51. 50	4. 39	·1116	18. 38	·03457			
4. 53	48. 45	4. 47	·1126	19. 4	{ ·03448			
4. 54	53. 35	4. 57	·1104		{ ·03155			
5. 0	49. 10	5. 3	·1116	21. 17	·03226			
5. 7	54. 0	5. 11	·1100	22. 10	·03297			
5. 14	49. 25	5. 22	·1113	23. 59	·03336			
5. 15	51. 15	5. 32	·1085					
5. 20	49. 10	5. 45	·1097					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 22		Oct. 22						
h m	° ′ ″	h m		h m		h m	°	°
5. 25	20. 50. 35	5. 52	·1089					
5. 32	48. 25	6. 28	·1113					
5. 42	51. 20	6. 41	·1090					
6. 7	48. 50	7. 6	·1116					
6. 24	37. 25	7. 15	·1087					
6. 57	45. 10	7. 32	·1105					
7. 7	42. 40	7. 41	·1093					
7. 16	42. 50	8. 7	·1112					
7. 42	35. 0		(†)					
7. 52	39. 0	9. 0	·1098*					
7. 57	40. 20	9. 49	·1100					
8. 8	46. 30	10. 6	·1081					
8. 14	45. 35	10. 15	·1085					
8. 24	48. 0	10. 21	·1062					
8. 40	43. 15	10. 37	·1089					
8. 52	44. 0	10. 46	·1081					
9. 3	40. 0	10. 56	·1099					
9. 18	42. 30		(†)					
9. 30	38. 30	11. 37	·1126					
9. 37	39. 30	11. 49	·1083					
9. 46	38. 30	12. 6	·1109					
9. 52	39. 25	12. 22	·1092					
10. 1	47. 0	12. 38	·1126					
10. 7	45. 40	12. 55	·1116					
10. 11	47. 20	13. 30	·1134					
10. 19	44. 45	13. 56	·1127					
10. 23	46. 10	14. 8	·1129					
10. 40	38. 10	14. 18	·1125					
10. 45	38. 5	14. 24	·1133					
11. 0	29. 30	14. 30	·1122					
11. 25	43. 20	15. 3	·1118					
11. 33	43. 50	16. 39	·1110					
11. 45	49. 30	17. 0	·1122					
11. 57	46. 5	17. 5	·1122					
12. 20	55. 0	17. 24	·1136					
12. 46	51. 45	17. 40	·1133					
12. 53	52. 20	17. 53	·1133					
13. 1	51. 25	18. 8	·1127					
	***	18. 19	·1114					
13. 23	51. 0	18. 31	·1129					
13. 26	51. 30	18. 43	·1124					
14. 22	44. 40	19. 3	·1128					
14. 28	47. 10	20. 0	·1103					
14. 33	46. 20	20. 30	·1115					
14. 53	48. 30	21. 2	·1109					
14. 57	48. 0	21. 15	·1094					
15. 35	49. 30	21. 24	·1110					
15. 55	48. 15	21. 45	·1103					
16. 11	49. 10	21. 53	·1108					
16. 19	51. 30	22. 20	·1105					
16. 48	55. 25	22. 30	·1110					
17. 0	56. 10	22. 36	·1107					
17. 15:	55. 40	22. 59	·1104					
17. 26	57. 20	23. 9	·1111					
17. 36	56. 5	23. 59	·1120					
17. 38	56. 30							
17. 50	54. 55							
18. 6	51. 20							

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Oct. 22								
h m	° ′ ″	h m		h m		h m	°	°
18. 17	20. 51. 0							
18. 29	47. 45							
18. 41	49. 20							
19. 1	50. 30							
19. 3	49. 40							
19. 8	51. 55							
19. 23	50. 5							
19. 43	50. 15							
19. 49	52. 5							
19. 58	51. 0							
20. 15	48. 55							
20. 24	49. 0							
20. 29	48. 20							
20. 52	50. 0							
20. 57	49. 30							
21. 6	51. 0							
21. 26	48. 30							
21. 29	51. 10							
21. 50	49. 45							
22. 17	54. 30							
22. 25	54. 40							
22. 30	57. 50							
22. 40	56. 35							
22. 50	58. 35							
23. 13	58. 15							
23. 16	59. 5							
23. 40	56. 5							
23. 49	56. 20							
23. 59	58. 30							

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Oct. 23		Oct. 23		Oct. 23		Oct. 23		
0. 0	20. 58. 40	0. 0	·1120	0. 0	·03336	0. 0	55 ·5	56 ·0
0. 15	59. 30	0. 33	·1116	0. 58	·03274	1. 0	56 ·1	56 ·6
0. 37	56. 0	0. 45	·1116		·03043	2. 0	57 ·0	57 ·2
1. 0	57. 30	0. 57	·1123	3. 34	·02996	3. 0	57 ·9	57 ·9
1. 11:	59. 30	1. 8	·1123	4. 4	·02935	9. 0	56 ·9	58 ·0
1. 23	57. 30	1. 15	·1128	4. 39	·02912	21. 0	48 ·5	52 ·1
1. 36	58. 5	1. 29	·1127	5. 18	·02915			
1. 49	56. 0	1. 38	·1111		·03007			
	(†)	1. 47	·1111	7. 15	·02926			
3. 0	50. 50	1. 48	·1119		·03000			
3. 23	52. 0	2. 1	·1119	9. 1	·02943			
3. 39	49. 0	2. 9	·1126	10. 0	·02838			
3. 50	49. 20		(†)	12. 22	·02874			
3. 57	46. 20	3. 0	·1130*	13. 4	·02865			
4. 7	47. 10	3. 16	·1131	14. 26	·02958			
4. 12	44. 35	3. 45	·1111	14. 58	·03017			
4. 30	43. 25	3. 56	·1117	18. 7	·03205			
5. 25:	50. 55	4. 4	·1113	19. 2	·03277			
5. 57	45. 30	4. 17	·1125	22. 44	·03130			
6. 16	47. 10	4. 25	·1121		·03040			
6. 37	46. 30	4. 51	·1142	23. 59	·03038			
7. 3	49. 0	5. 12	·1128					
7. 22	46. 10	5. 20	·1127					
7. 49	48. 0	5. 37	·1116					
8. 15	43. 15	5. 58	·1117					
8. 25	43. 30	6. 18	·1130					
8. 31	43. 0	6. 55	·1125					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Oct. 23		Oct. 23						
h m	° ′ ″	h m		h m		h m	°	°
8. 42	20. 44. 45	7. 20	·1132					
9. 0	46. 50	7. 27	·1126					
9. 20	51. 55	7. 44	·1126					
9. 27	48. 50	7. 53	·1131					
9. 35	48. 40	8. 0	·1128					
9. 42	49. 30	8. 13	·1127					
9. 45	52. 20	8. 37	·1139					
9. 55	53. 0	8. 49	·1132					
10. 7	48. 0	9. 0	·1144					
10. 15	48. 10	9. 17	·1130					
10. 35	46. 10	9. 23	·1140					
10. 44	46. 0	9. 31	·1138					
10. 57	43. 45	9. 43	·1143					
11. 16	47. 20	9. 55	·1140					
11. 30	47. 15	10. 7	·1148					
11. 48	45. 30	10. 26	·1136					
11. 57	46. 25	10. 43	·1141					
12. 10	45. 10	11. 0	·1142					
12. 27	48. 10	11. 15	·1135					
12. 38	46. 10	11. 33	·1132					
12. 49	48. 20	11. 54	·1134					
13. 5	48. 45	12. 6	·1130					
13. 11	52. 10	12. 20	·1138					
13. 28	50. 30	12. 46	·1145					
13. 50	49. 0	13. 7	·1136					
14. 15:	46. 30	13. 32	·1143					
14. 45	48. 40	13. 44	·1142					
14. 58	48. 15	13. 59	·1145					
15. 32	48. 30	14. 14	·1141					
15. 55	47. 30	14. 43	·1138					
16. 16	49. 25	15. 39	·1141					
16. 31	49. 0	15. 50	·1140					
17. 22	53. 5	16. 14	·1145					
17. 37	51. 25	16. 26	·1144					
17. 46	50. 50	16. 40	·1146					
17. 52	51. 0	16. 52	·1140					
18. 5	49. 30	17. 17	·1129					
18. 27	50. 0	17. 30	·1133					
18. 38	50. 0	17. 34	·1133					
19. 11	50. 5		***					
19. 32	51. 35	18. 1	·1140					
20. 15:	49. 0		***					
20. 31	50. 0	18. 40	·1136					
21. 1	49. 20	18. 45	·1141					
	***	18. 51	·1138					
22. 46	57. 25		***					
23. 5	56. 30	19. 42	·1141					
23. 45	57. 0		***					
23. 59	58. 30	20. 4	·1133					
			***					
		20. 40	·1131					
		20. 59	·1129					
		21. 39	·1130					
		21. 51	·1126					
		21. 59	·1131					
		22. 5	·1128					
		22. 20	·1134					
		22. 37	·1130					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	° ′ ″	Oct. 23 h m		h m		h m	°	°
		22. 49	·1135					
		23. 21	·1128					
		23. 45	·1130					
		23. 59	·1134					
Oct. 24		Oct. 24		Oct. 24		Oct. 24		
0. 0	20. 58. 30	0. 0	·1134	0. 0	·03038	1. 0	52 ·5	54 ·0
0. 8	57. 40	0. 5	·1135	0. 31	·02995	3. 0	54 ·9	55 ·8
0. 29	57. 0	0. 28	·1134		(†)	9. 0	53 ·9	55 ·2
0. 43	56. 25	0. 30	·1130	2. 7	·02312	21. 0	45 ·0	46 ·9
0. 53	57. 0	1. 16	·1136	3. 39	·02305			
1. 7	56. 0	1. 37	·1129	6. 31:	·02504			
1. 28	57. 25	2. 10	·1126	9. 13	·02535			
2. 6	53. 10	2. 29	·1131	10. 2	{ ·02576			
2. 10	52. 20	2. 32	·1126		{ ·02648			
2. 23	52. 30	2. 43	·1138	10. 41	·02662			
2. 27	51. 20	3. 2	·1137	13. 0	·02777			
2. 34	52. 0	3. 17	·1128	14. 1	·02824			
2. 39	51. 30	3. 28	·1130	18. 7	·03182			
2. 45	52. 0	3. 43	·1127	22. 48	·02764			
2. 50	50. 30	3. 51	·1131	23. 59	·02763			
2. 59	51. 30	4. 4	·1129					
3. 14	50. 0	4. 19	·1133					
3. 23	50. 30	4. 50	·1134					
3. 29	51. 40	5. 5	·1136					
3. 33	51. 30	5. 40	·1137					
3. 46	52. 30	6. 28	·1135					
4. 0	52. 0	6. 52	·1138					
4. 15	52. 40	7. 22	·1134					
5. 15	50. 50	7. 39	·1135					
5. 40	51. 20	8. 14	·1133					
5. 46	50. 50	8. 37	·1135					
5. 59	51. 50	9. 35	·1131					
	***	10. 3	·1139					
7. 29	51. 50	10. 35	·1137					
8. 22	50. 20	11. 7:	·1132					
8. 33	50. 50	11. 37	·1134					
8. 55	49. 0	12. 1	·1133					
9. 0	50. 40	12. 21	·1135					
9. 15	50. 20	12. 30	·1133					
9. 56	50. 50	12. 45	·1136					
10. 7	51. 30	13. 7	·1132					
10. 47:	50. 0	13. 45	·1151					
11. 30	51. 40	14. 38	·1139					
12. 7	50. 30	15. 54	·1146					
12. 28	50. 50	16. 43	·1144					
12. 43	49. 30	17. 41	·1149					
13. 19	56. 55	18. 25	·1145					
13. 48	53. 25	19. 1	·1144					
13. 54	54. 0	19. 38	·1131					
14. 16	50. 40	21. 29	·1132					
14. 48	49. 30	22. 14	·1127					
15. 23	50. 30	22. 48	·1125					
15. 43	51. 30	22. 58	·1130					
16. 21	50. 30	23. 3	·1127					
17. 0	51. 0		(†)					
17. 18	50. 30							
18. 30	50. 0							

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Oct. 24 h m	° ′ ″	h m		h m		h m	°	°
19. 15	20. 48. 35							
19. 42	49. 10							
19. 57	48. 15							
20. 30	48. 20							
20. 37	48. 50							
20. 55	48. 10							
21. 10	49. 10							
21. 21	47. 55							
22. 21	51. 30							
22. 33	51. 25							
22. 49	53. 35							
23. 9	54. 40							
23. 18	56. 25							
23. 59	53. 50							
Oct. 25		Oct. 25		Oct. 25		Oct. 25		
0. 0	20. 53. 35		(†)	0. 0	·02763	1. 0	49 ·0	50 ·2
0. 14	54. 40	1. 0	·1140*	0. 49	·02756	3. 0	52 ·2	53 ·0
0. 27	53. 50	1. 28	·1138	1. 16	·02700	9. 0	55 ·9	56 ·0
0. 40	54. 35	1. 48	·1136	5. 33	·02317	22. 7	57 ·8	58 ·6
1. 33	52. 0	2. 26	·1143	9. 26	·02124			
2. 28	53. 20	2. 39	·1138	10. 57	·02204			
2. 46	52. 20	3. 15	·1145	14. 7	·02275			
3. 2	53. 5	3. 30	·1138	14. 46	·02257			
3. 31	52. 30	4. 22	·1141	16. 38	·02320			
4. 13	52. 20	4. 39	·1135	18. 36	·02332			
4. 33	51. 0	4. 44	·1136	20. 32	·02360			
4. 40	50. 0	5. 3	·1127	21. 43	·02350			
4. 50	49. 50	5. 29:	·1137	21. 47	·02368			
5. 8	48. 15	5. 36	·1132	23. 59	·02444			
5. 27	50. 30	6. 3	·1156					
5. 50	42. 5	6. 31	·1135					
6. 22	49. 40	7. 1	·1134					
6. 35	49. 30	7. 31	·1140					
6. 44	49. 40	7. 43	·1139					
7. 7	49. 0	7. 56	·1141					
7. 18	49. 25	8. 35	·1137					
8. 45	48. 25	9. 4	·1138					
9. 7	46. 0	9. 17	·1157					
9. 15	43. 30	9. 54:	·1143					
9. 27	45. 20	10. 8	·1143					
10. 6	43. 35	10. 30	·1137					
10. 18	44. 20	10. 38	·1140					
10. 34	44. 0	10. 59	·1133					
10. 56	46. 0	11. 13	·1139					
11. 9	46. 10	12. 9:	·1129					
11. 28	44. 0	12. 38	·1133					
11. 45	43. 35	12. 59	·1131					
12. 34	48. 10	13. 8	·1133					
12. 58	48. 50	13. 30	·1129					
13. 30:	48. 0	14. 15	·1141					
13. 52	53. 30	14. 45	·1135					
14. 5	54. 50	15. 17	·1139					
14. 44	48. 30	15. 32	·1137					
15. 25	48. 0	15. 50	·1139					
16. 20	50. 0	16. 17	·1135					
16. 52	48. 10	16. 56	·1143					
18. 16	55. 0	17. 19	·1138					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 25		Oct. 25						
h m	° ′ ″	h m		h m		h m	°	°
18. 38	20. 53. 0	17. 43	·1136					
19. 8	51. 10	18. 15	·1137					
19. 22	49. 10	18. 42	·1133					
19. 34	48. 10	19. 8	·1135					
19. 39	48. 20	19. 49	·1128					
19. 50	47. 25	19. 58	·1124					
20. 0	47. 35	20. 4	·1126					
20. 18	46. 10	20. 17	·1123					
20. 32	47. 30	20. 22	·1125					
21. 18	47. 20	20. 27	·1123					
21. 49	49. 40	20. 36	·1126					
22. 2	48. 35	21. 15	·1114					
22. 7	49. 0	21. 38	·1108					
22. 15	48. 25		(†)					
23. 22	52. 0	23. 0	·1106					
23. 59	52. 10	23. 29	·1110					
		23. 59	·1110					
Oct. 26		Oct. 26		Oct. 26		Oct. 26		
0. 0	20. 52. 10	0. 0	·1110	0. 0	·02442	8. 30	57 ·0	59 ·0
0. 8	51. 40	0. 13	·1110	1. 22	·02520	21. 0	51 ·0	52 ·8
0. 33	53. 10	0. 42	·1116	2. 54	·02695			
0. 45	52. 35	0. 48	·1115	3. 55	·02762			
1. 15	54. 50	1. 1	·1120	4. 12	·02740			
1. 33	54. 0	1. 23	·1119	4. 37	·02784			
2. 0	54. 10	1. 43	·1120	5. 50	·02795			
2. 48	52. 50	2. 9:	·1117	6. 2	·02780			
3. 0	53. 25	2. 59	·1134	6. 7	·02798			
4. 48	50. 20	3. 22	·1129	7. 0	{ ·02815			
5. 23:	45. 0	4. 29	·1135		·02957			
5. 57	49. 0	5. 16:	·1127	9. 34	·02942			
6. 30	48. 0	5. 55	·1140	9. 47	·02920			
6. 57	50. 0	6. 3	·1132	10. 24	·02923			
7. 28	50. 0	6. 30	·1131	14. 6	·03132			
8. 30	46. 50		(†)	18. 37	·03466			
8. 57	48. 15	7. 28	·1135	21. 4	{ ·03264			
9. 28	46. 20	8. 31	·1135		·02396			
9. 42	48. 0	8. 52	·1138	23. 59	·02437			
10. 3:	41. 10	9. 6	·1135					
10. 27	44. 20	9. 28	·1148					
11. 11	46. 10	9. 37	·1162					
11. 37	48. 0	9. 47	·1152					
12. 14	47. 55	9. 54	·1157					
14. 23	49. 35	10. 9	·1155					
15. 3	53. 5	10. 32	·1136					
15. 32	51. 50	11. 46	·1143					
15. 46	51. 40	11. 58	·1142					
16. 30	49. 25	12. 49	·1146					
20. 35	46. 30	13. 26	·1146					
22. 40	49. 0	14. 3	·1150					
23. 59	49. 40	14. 12	·1148					
		14. 59	·1146					
		15. 19	·1150					
		15. 32	·1147					
		16. 57	·1147					
		17. 25	·1145					
		18. 50	·1146					
		21. 18	·1134					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Oct. 26						
h m	° ′ ″	h m		h m		h m	°	°
		23. 1	·1129					
		23. 59	·1134					
Oct. 27		Oct. 27		Oct. 27		Oct. 27		
0. 0	20. 49. 40	0. 0	·1134	0. 0	·02437	1. 0	54 ·0	54 ·9
0. 27	51. 35	0. 15	·1137	2. 30	·02416	3. 0	55 ·9	56 ·5
1. 40	50. 40	0. 50	·1131	6. 6	·02097	9. 0	59 ·4	59 ·0
1. 53	49. 30	1. 30	·1130	8. 37	·02226	21. 0	57 ·3	58 ·9
2. 16	48. 45	1. 47	·1139	11. 30	·02290			
3. 32	48. 10	2. 9	·1135	12. 16	·02274			
4. 25	48. 10	3. 25	·1144	14. 43	·02284			
4. 30	48. 35	4. 0	·1145	16. 59	·02330			
4. 44	47. 35	4. 47	·1154	18. 50	·02335			
5. 23	47. 50	5. 19	·1147	20. 31	·02358			
5. 35	48. 30	5. 47	·1144	22. 47	·02356			
6. 2	47. 50	6. 1	·1146	23. 59	·02380			
6. 12	46. 0	6. 20	·1133					
6. 30	47. 35	6. 41	·1141					
6. 57	45. 20	6. 57	·1138					
7. 15	47. 45	7. 16	·1144					
8. 30	48. 0	7. 32	·1141					
9. 18	48. 45	7. 48	·1142					
10. 10	46. 0	8. 2	·1140					
10. 20	44. 30	8. 45	·1140					
11. 0	44. 40	9. 15	·1139					
11. 21	44. 0	9. 41	·1138					
11. 37	44. 45	10. 8	·1132					
	***		(†)					
12. 26	44. 30	11. 37	·1137					
12. 46	46. 45	12. 2	·1150					
15. 20	48. 45	12. 15	·1144					
15. 41	48. 5		(†)					
15. 59	48. 25	14. 3	·1139					
18. 56	47. 20	15. 47	·1137					
19. 26	46. 25	17. 37	·1141					
20. 26	46. 0	18. 30	·1140					
20. 55	46. 50	19. 17	·1141					
21. 40	48. 0	22. 7	·1129					
21. 47	47. 30	22. 24	·1131					
23. 8	51. 0	23. 9	·1132					
23. 15	53. 5		(†)					
23. 27	53. 35							
23. 33	52. 55							
23. 46	53. 35							
23. 59	55. 0							
Oct. 28		Oct. 28		Oct. 28		Oct. 28		
0. 0	20. 55. 0		(†)	0. 0	·02380	1. 0	57 ·0	58 ·2
0. 7	53. 20	1. 0	·1138*	3. 8	·02395	3. 0	57 ·0	58 ·3
0. 26	51. 40	1. 27	·1136	5. 45	·02376	9. 0	55 ·4	57 ·7
0. 48	51. 40	2. 34	·1137	6. 17	·02390	21. 0	51 ·0	54 ·5
1. 8	50. 30	3. 45	·1136	11. 15	·02420	22. 0	51 ·5	54 ·1
1. 44	51. 55	5. 12	·1146	16. 12	·02576	23. 0	51 ·8	54 ·2
2. 4	50. 0	5. 29	·1144	22. 14	·02808			
3. 2	49. 55	6. 1	·1144	23. 59	·02843			
3. 28	50. 40	6. 13	·1152					
3. 43	50. 15	6. 20	·1153					
5. 3	49. 55	6. 31	·1148					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 28		Oct. 28						
h m	° ′ ″	h m		h m		h m	°	°
5. 22	20. 48. 20	6. 45	·1148					
6. 27	48. 10	6. 52	·1152					
7. 16	49. 10	7. 7	·1147					
8. 45	49. 10	7. 15	·1150					
9. 1	47. 50	7. 19	·1148					
9. 22	49. 20	7. 30	·1151					
10. 45	49. 45	7. 43	·1148					
13. 30	49. 30	7. 52	·1150					
13. 38	50. 15	8. 7	·1147					
14. 18	49. 35	8. 20	·1149					
16. 37	49. 5	8. 45	·1146					
	***	9. 19	·1147					
18. 44	47. 40	9. 40	·1144					
18. 55	48. 0	10. 4	·1147					
19. 17	46. 20	10. 16	·1143					
19. 36	47. 30	10. 40	·1147					
20. 2	47. 0	10. 53	·1145					
20. 30	46. 0	11. 16	·1146					
21. 15	46. 0	11. 40	·1144					
21. 27	45. 20	12. 14	·1146					
22. 4	46. 25	12. 35	·1144					
22. 14	47. 5	13. 16	·1146					
22. 22	47. 0	13. 24	·1144					
22. 50	47. 50	13. 51	·1145					
23. 48	53. 20	14. 6	·1145					
23. 59	52. 50	14. 45	·1147					
		15. 20	·1146					
		17. 32	·1148					
		19. 21	·1147					
		19. 34	·1150					
		20. 14	·1142					
		20. 29	·1140					
		20. 45	·1136					
		21. 8	·1136					
		21. 29	·1134					
		21. 43	·1138					
		21. 51	·1135					
		22. 17	·1135					
		22. 25	·1133					
		22. 34	·1135					
		22. 53	·1134					
		23. 7	·1136					
		23. 30	·1135					
		23. 45	·1133					
		23. 59	·1133					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force	Greenwich Mean Solar Time.	Vertical Force	Greenwich Mean Solar Time.	Of H. F. Magnet.	Of V. F. Magnet.
Oct. 29		Oct. 29		Oct. 29		Oct. 29		
0. 0	20. 52. 45	0. 0	·1133	0. 0	·02843	0. 0	52 ·2	54 ·3
0. 4	52. 30	0. 23	·1126	1. 49	·02837	1. 0	52 ·5	54 ·5
0. 28	53. 20	0. 42	·1127	3. 19	·02796	2. 0	53 ·2	55 ·5
0. 38	50. 40	0. 48	·1132	5. 42	·02658	3. 0	53 ·9	56 ·0
0. 52	49. 25	0. 58	·1130	6. 8	·02653	6. 0	54 ·4	56 ·5
1. 42	49. 0	1. 4	·1128	6. 31	·02626	9. 0	52 ·8	55 ·5
1. 49	49. 0	1. 30	·1134	7. 27	·02620	12. 0	50 ·7	53 ·8
2. 13	48. 0		(†)	10. 43	·02560	18. 0	43 ·6	47 ·0
3. 8	48. 40	2. 2	·1136	13. 33	·02626	21. 0	42 ·0	45 ·2
3. 17	50. 30	2. 7	·1141	15. 22	·02748	22. 0	42 ·3	45 ·6
3. 42	50. 0	2. 11	·1139	17. 54	·03068	23. 0	44 ·5	46 ·5

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 29		Oct. 29		Oct. 29				
h m	° ′ ″	h m		h m		h m	°	°
5. 20	20. 49. 30	2. 46	·1142	21. 2	{ ·02680 ·02597			
5. 24	50. 0	3. 6	·1148	22. 38	·02453			
5. 34	48. 10	3. 29	·1146	23. 59	·02378			
6. 0	31. 0	3. 42	·1141					
6. 16	28. 0	3. 57	·1140					
6. 28	30. 25	4. 5	·1142					
6. 36	32. 0	4. 18	·1141					
6. 41	37. 25	4. 40	·1145					
6. 57	43. 50	5. 11	·1144					
7. 2	42. 0	5. 21	·1147					
7. 9	45. 10	5. 38	·1144					
7. 17	43. 30	5. 53	·1128					
7. 24	45. 40	6. 19	·1178					
7. 37	45. 55	6. 34	·1182					
8. 0	48. 5	7. 0	·1144					
8. 9	48. 15	7. 8	·1118					
8. 23	49. 0	7. 15	·1125					
8. 45	49. 5	7. 23	·1117					
	***	7. 54	·1137					
9. 46	45. 0	8. 7	·1134					
10. 6	45. 0	8. 38:	·1139					
10. 16	44. 10	9. 7	·1135					
10. 26	44. 45	9. 21	·1137					
10. 38	44. 20	9. 35	·1137					
11. 7	50. 0	9. 44	·1141					
11. 46	48. 30	9. 53	·1138					
12. 2	51. 10	10. 28	·1148					
12. 31	47. 30	10. 46:	·1139					
12. 45	48. 30	10. 58	·1141					
13. 0	46. 10	11. 13	·1135					
13. 14	47. 30	11. 24	·1139					
13. 26	44. 10	12. 22	·1147					
13. 30	46. 0	12. 28	·1145					
14. 5	43. 5	12. 43	·1151					
14. 17	45. 5	12. 47	·1150					
14. 48	47. 0	12. 55	·1156					
	***	13. 39	·1148					
14. 58	45. 15	13. 47	·1144					
15. 18	46. 40	14. 0	·1147					
15. 29	45. 55	14. 24	·1136					
15. 38	47. 50	14. 29	·1137					
15. 49	47. 20	14. 44	·1133					
16. 20	50. 0	14. 54	·1139					
16. 26	48. 15	15. 13	·1142					
16. 39	49. 25	15. 20	·1139					
17. 8	47. 55	16. 7	·1144					
17. 17	48. 0	16. 20	·1142					
18. 53	47. 30	16. 38	·1143					
19. 41	46. 25	17. 45	·1150					
19. 46	46. 55	18. 52	·1153					
20. 0	45. 40	19. 0	·1155					
20. 42	46. 0	19. 14	·1150					
21. 1	45. 30	19. 21	·1153					
21. 10	46. 10	19. 47	·1153					
21. 25	46. 0	19. 56	·1150					
21. 53	49. 0	20. 3	·1150					
22. 3	48. 50	21. 30	·1139					
22. 30	52. 35	21. 48	·1128					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 29		Oct. 29						
h m	° ′ ″	h m		h m		h m	°	°
22.37	20.52. 0	22.21:	·1127					
22.45	52.30	22.50	·1115					
23. 0	51.35	23. 4	·1122					
23.27	54.35	23.14	·1118					
23.32	55. 0	23.17	·1121					
23.59	57.25	23.27	·1121					
		23.38	·1124					
		23.52	·1122					
		23.59	·1125					
Oct. 30		Oct. 30		Oct. 30		Oct. 30		
0. 0	20.57.30	0. 0	·1125	0. 0	·02378	0. 0	45·1	47·0
0.31	57. 0	0.15	·1129	0.39	{ ·02383 ·02337	1. 0	46·0	47·9
0.42	58.30	0.21	·1126	1.43	·02355	2. 0	47·5	49·4
0.53	57. 0	0.39	·1135	2.49	·02322	3. 0	49·7	51·0
1.30	54. 0	0.58	·1109	3.42	·02220	9. 0	53·4	54·6
1.42	52.20	1.24	·1123	5.41	·02020	21. 0	52·9	54·9
1.45	52.50	1.33	·1121	6.15	·01973			
1.57	51.50	1.46	·1127	7.10	·01864			
2.12	54.30	2. 2	·1134	8.19	·01793			
2.23	52.10	2.19	·1124	8.41	·01728			
2.28	53.40	2.28	·1135	9. 2	·01687			
2.38	52.25	2.36	·1127	9.22	·01704			
2.45	52.25	2.43	·1129	9.35	·01743			
2.56	50.10	2.50	·1125	10.23	·01797			
3. 5	49.45	3.17	·1143	11.54	·01826			
3.30	53. 0	3.25	·1137	12.20	·01808			
3.41	52.20	3.30	·1140	13. 4	·01837			
3.46	52.50	3.37	·1131	13.58	·01806			
3.56	51.25	3.47	·1133	16.20	·01896			
4. 2	52. 5	3.53	·1129	20.12	·01920			
4.17	51.20	4. 1	·1132	21.28	·01893			
4.26	51.30	4. 6	·1128	23.56	·01852			
4.33	50.40	4.15	·1127	23.59	·01870			
4.41	51.10	4.22	·1134					
5. 3	49.30	4.32	·1131					
5. 8	49.55	4.40	·1132					
5.29	48.50	4.58	·1127					
5.43	47. 5	5. 8	·1129					
5.57	47.20	5.28	·1124					
6. 7	45.30	5.37	·1128					
6.13	46. 0	5.48	·1128					
6.22	44.40	6. 4	·1122					
6.30	44.50	6.11	·1127					
6.38	46. 5	6.17	·1125					
6.50	43.50	6.35	·1131					
7. 8	48.30	6.40	·1129					
7.31	44.30	6.45	·1131					
7.53	44.40	6.48	·1129					
8.10	38.35	6.56	·1138					
8.32	52.15	7.22	·1124					
8.41	50.20	7.45	·1128					
8.46	55.25	8. 1	·1123					
9.13	49. 0	8.22	·1146					
9.30	39.35	8.38	·1122					
9.40	38.50	8.45	·1136					
9.56:	40. 0	9.17	·1120					
10.12:	38.45	9.30	·1132					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Oct. 30		Oct. 30						
h m	° ′ ″	h m		h m		h m	°	°
10.32	20.41.50	9.45	·1133					
11.12	40.40	9.55	·1129					
11.28	42.30	10.16	·1138					
11.42	42.50	10.55	·1136					
11.50	44. 0	11. 5	·1138					
12.18	39.30	11.51	·1142					
12.36	39.45	12. 0	·1137					
13. 5	47. 0	12. 7	·1138					
13.12	51.10	12.33:	·1124					
13.45	56.25	12.53	·1135					
14. 7	51.35	13. 7	·1135					
14.11	52.40	13.28	·1143					
14.33	49.30	13.38	·1142					
14.46	49. 0	13.46	·1142					
15. 3	46.30	13.56	·1145					
15.15	48.10	14.15:	·1138					
15.30	47.35	14.30	·1143					
15.54	49.10	14.57	·1141					
16. 3	48.35	15. 1	·1143					
16.17	50.15	15.16	·1138					
16.38	48.30	15.47	·1137					
17. 4	49.30	16. 5	·1141					
17.39	48.30	16.30	·1142					
18. 8	49.20	17. 3	·1140					
18.15	48.50	17.16	·1142					
18.23	49. 5	17.36	·1143					
18.31	48.15	17.48	·1140					
18.50	47. 0	18. 3:	·1144					
19.19	47.30	18.17	·1140					
19.31:	46. 0	18.36	·1139					
19.42	47.20	18.53:	·1142					
19.49	46. 5	19.10	·1136					
20. 3	46.40	19.25	·1142					
20. 9	46.10	19.31	·1138					
20.28	47.35	19.53	·1137					
20.43	47.35	20. 8	·1139					
20.50	48.10	21. 6	·1130					
21. 4	47.35	21.15	·1131					
21.28	47.40	21.30	·1129					
21.50	48.35	22. 0	·1125					
22. 5	50. 0	22.22	·1113					
22.21	50.10	22.28	·1115					
23. 1	52.40	22.39	·1112					
23.27	52.30	22.46	·1114					
23.45	53.10	22.58	·1111					
23.50	53.45	23.46	·1126					
23.59	53.30	23.59	·1127					
Oct. 31		Oct. 31		Oct. 31		Oct. 31		
0. 0	20.53.30	0. 0	·1127	0. 0	·01870	1. 0	55·4	56·2
0.15	54.10	0. 7	·1128	0.12	{ ·01870 ·01958	3. 0	56·7	57·8
0.35	56. 0	0.18	·1120	1.23	·01940	9. 0	57·5	58·0
0.48	55.10	0.33	·1127	2.50	{ ·02020 ·02256	21. 0	55·8	57·8
0.59	56. 0	0.53	·1123	4. 0	·02217			
1.17	53.30	1. 6	·1127	7.31	·02400			
1.37	54.45	1.25	·1124					
1.48	54. 0	1.31	·1130					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Oct. 31

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
2. 8	20. 54. 0
3. 0	52. 0
3. 13	52. 30
6. 12	49. 0
6. 42	49. 0
7. 0	47. 40
7. 22	47. 40
7. 48	49. 10
8. 0	48. 30
9. 30	48. 40
10. 45	47. 15
11. 37	49. 0
11. 58	47. 20
12. 10	49. 30
12. 50	48. 0
13. 12:	52. 30
13. 45	49. 25
14. 52	48. 15
	***
15. 17	48. 40
16. 0	47. 15
16. 34	48. 35
16. 42	47. 35
17. 4	48. 0
17. 12	47. 10
18. 5	47. 30
18. 38	47. 5
19. 37	50. 0
20. 10	49. 45
20. 56	47. 30
21. 28	47. 25
22. 30	51. 0
22. 45	49. 25
22. 57	50. 50
23. 10:	50. 0
23. 31	53. 0
23. 44	53. 10
23. 59	54. 30

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
h m	
1. 34	·1125
2. 13	·1130
3. 6	·1123
4. 0	·1131
4. 49	·1131
5. 11	·1135
5. 30	·1134
5. 46	·1136
6. 57	·1134
7. 15	·1136
7. 27	·1135
8. 18	·1138
8. 27	·1136
9. 9	·1137
9. 24	·1141
10. 7	·1136
10. 49	·1133
11. 14	·1144
11. 28	·1140
11. 32	·1143
11. 41	·1141
11. 59	·1157
12. 22	·1142
12. 42	·1140
13. 2:	·1150
13. 24	·1143
14. 22	·1136
14. 32	·1138
14. 43	·1136
16. 5	·1144
16. 15	·1143
16. 33	·1144
16. 41	·1142
16. 47	·1143
17. 13	·1143
17. 51	·1150
18. 43	·1143
18. 52	·1143
19. 43	·1124
19. 56	·1122
20. 15	·1130
21. 3	·1135
21. 31	·1133
22. 0	·1131
22. 25	·1133
22. 46	·1125
23. 1	·1129
23. 16	·1123
23. 31	·1127
23. 48	·1127
	(†)

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
9. 7	{ ·02455 ·02506
12. 40	·02500
13. 3	·02515
13. 33	·02490
15. 34	·02553
23. 59	·02604

Nov. 1

Greenwich Mean Solar Time.	Western Declination.
0. 0	20. 54. 35
0. 12	53. 0
0. 25	55. 0
0. 45	53. 55
1. 0	54. 35

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
	(†)
0. 39	·1124
0. 55	·1120
1. 14	·1129
1. 32	·1136

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
0. 0	·02604
1. 56	·02577
3. 3	·02550
3. 23	{ ·02574 ·02856

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
1. 0	57 ·2	58 ·8
3. 0	58 ·0	59 ·5
9. 0	58 ·5	61 ·0
21. 37	56 ·5	58 ·0

Nov. 1

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
1. 32	20. 54. 25
1. 40	55. 0
2. 22	53. 0
3. 0	55. 0
3. 8	54. 10
3. 17	55. 20
3. 27	55. 15
4. 19	53. 5
4. 35	53. 5
4. 56	54. 0
5. 3	53. 0
5. 8	52. 45
5. 29	46. 50
5. 41	48. 10
5. 46	48. 0
5. 57	49. 20
6. 12:	45. 40
6. 30	49. 15
6. 38:	48. 0
6. 57	50. 5
7. 18	50. 0
7. 48	48. 30
7. 55	48. 55
8. 22	48. 25
8. 42	50. 0
9. 2	48. 0
9. 28	48. 30
9. 44	49. 15
10. 42	49. 15
10. 55	48. 35
11. 0	51. 0
11. 28	54. 25
11. 41	54. 30
12. 0	51. 55
12. 22	50. 35
12. 53:	46. 40
13. 44	50. 10
13. 55	49. 25
14. 22	50. 0
14. 25	51. 25
14. 56	51. 30
15. 45	50. 10
16. 15	51. 30
16. 33	50. 45
16. 45	51. 30
17. 2	51. 20
17. 33	53. 20
18. 12	52. 0
19. 0	55. 45
19. 55	53. 0
20. 45	52. 50
21. 10	53. 30
21. 20	53. 10
22. 32	55. 20
22. 46	57. 10
23. 40	55. 0
23. 59	54. 30

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
h m	
2. 0	·1143
2. 8	·1137
2. 34	·1146
	(†)
3. 0	·1136*
9. 0	·1136*
9. 17	·1143
9. 27	·1146
10. 28	·1143
10. 38	·1146
10. 48	·1142
11. 15	·1163
11. 38	·1153
12. 0	·1150
12. 13	·1144
12. 21	·1145
12. 34	·1138
12. 48	·1137
13. 0	·1139
13. 28	·1136
13. 45	·1138
14. 7	·1136
14. 36	·1136
14. 59	·1140
15. 27	·1140
15. 46	·1143
16. 29	·1140
17. 3	·1146
17. 27	·1144
17. 41	·1146
18. 7	·1131
18. 17	·1135
18. 37	·1134
19. 14	·1140
19. 46	·1132
20. 35	·1129
21. 47	·1118
	(†)
23. 16	·1113
23. 59	·1127

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
6. 7	·02757
6. 45	{ ·02758 ·02782
8. 40	·02740
9. 27	·02744
10. 21	·02720
11. 9	·02722
11. 56	·02680
13. 28	·02738
18. 2	·02870
19. 54	·02926
23. 59	·03067

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.	
							Of H. F. Magnet.	Of V. F. Magnet.
Nov. 2		Nov. 2		Nov. 2		Nov. 2		
h m	° ′ ″	h m		h m		h m	°	°
0. 0	20. 54. 30	0. 0	·1127	0. 0	·03067	9. 20	56 ·3	57 ·6
1. 30	53. 35	0. 30	·1129	2. 21	·03140	21. 0	54 ·5	55 ·9
1. 33	54. 10	0. 55	·1134	2. 32	·03115			
1. 41	53. 10		(†)	3. 15	·03122			
1. 48	53. 30	9. 20	·1141*	4. 1	·03098			
2. 22	59. 30	11. 43	·1146	7. 5	·03070			
2. 33	55. 5	11. 56	·1150	12. 33	·03144			
2. 46	54. 20	13. 0	·1145	20. 13	·03376			
3. 0	54. 30	13. 18	·1146	23. 5	{·03352			
3. 30	52. 30	13. 42	·1144		·03098			
3. 46	52. 30	14. 15	·1146	23. 59	·03096			
4. 2	51. 0	14. 48	·1145					
6. 46	50. 20	17. 29	·1148					
7. 11	49. 40	20. 59	·1137					
7. 22	50. 0	21. 25	·1139					
12. 17	49. 50	21. 49	·1134					
12. 32	48. 35	22. 22	·1134					
12. 45	48. 30		(†)					
12. 58	49. 0							
13. 15	48. 45							
14. 10	49. 45							
14. 38	49. 10							
15. 14	49. 10							
16. 44	50. 30							
16. 53	50. 5							
18. 45	50. 50							
20. 56	49. 40							
22. 13	50. 30							
22. 19	51. 0							
23. 20	51. 25							
23. 25	52. 20							
23. 33	51. 10							
23. 59	52. 40							
Nov. 3		Nov. 3		Nov. 3		Nov. 3		
0. 0	20. 52. 40	1. 0	·1128*	0. 0	·03096	1. 0	56 ·5	57 ·0
0. 12	54. 10	3. 0	·1134*	2. 57	·02974	3. 0	58 ·2	58 ·4
0. 39	52. 30	9. 0	·1143*	7. 0	·02743	9. 0	57 ·5	58 ·2
0. 48	52. 50	21. 0	·1142*	8. 56	·02708	21. 0	50 ·5	52 ·8
0. 59	51. 50			11. 16	·02750			
1. 12	52. 45			11. 45	·02737			
1. 52	48. 10			13. 35	·02838			
3. 0	48. 30			17. 36	·03063			
3. 35	49. 35			19. 57	{·03230			
4. 52	50. 0				·03197			
5. 52	49. 30			22. 39	·03032			
9. 38	49. 35			23. 59	·03000			
10. 6	49. 0							
10. 15	49. 30							
10. 57	48. 20							
11. 9	48. 55							
11. 17	52. 30							
11. 30	50. 0							
11. 51	45. 15							
12. 0	45. 10							
12. 31	42. 30							
12. 47	44. 0							
13. 33	44. 25							

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.	
							Of H. F. Magnet.	Of V. F. Magnet.
Nov. 3								
h m	° ′ ″	h m		h m		h m	°	°
13. 42	20. 45. 20							
14. 8	45. 0							
14. 16	44. 0							
14. 35	44. 30							
14. 45	44. 0							
15. 10	44. 10							
15. 55	46. 20							
16. 0	46. 10							
16. 40	48. 40							
16. 57	46. 35							
17. 25	45. 35							
17. 58	45. 40							
18. 16	47. 0							
18. 37	47. 0							
18. 57	48. 30							
19. 2	48. 0							
19. 9	49. 0							
19. 33	48. 20							
19. 59	50. 45							
21. 3	50. 10							
21. 27	52. 40							
21. 39	52. 10							
21. 46	50. 25							
21. 56	51. 40							
	***							
22. 14	50. 20							
22. 19	52. 0							
22. 24	51. 10							
22. 29	52. 0							
22. 35	50. 50							
22. 41	52. 10							
22. 52	52. 0							
23. 3	53. 30							
23. 14	52. 25							
23. 33	52. 45							
23. 45	54. 50							
23. 59	54. 30							
Nov. 4		Nov. 4		Nov. 4		Nov. 4		
0. 0	20. 54. 30		(†)	0. 0	·03000	1. 0	54 ·0	54 ·9
0. 12	57. 0	1. 0	·1115*	0. 12	{·03008	3. 0	55 ·6	55 ·8
	***	1. 10	·1104		·02930	9. 0	56 ·8	58 ·0
0. 55	52. 20	1. 52	·1133	1. 35	·02884	21. 0	53 ·3	54 ·8
0. 59	53. 50	2. 6	·1112	3. 34	·02942	22. 0	53 ·0	54 ·0
1. 11	20. 53. 0	2. 17	·1126	3. 51	·02918	23. 0	53 ·7	54 ·5
1. 43	21. 0. 40	2. 30	·1125	4. 8	·02956			
2. 0	20. 57. 50	2. 38	·1133	4. 26	·02988			
2. 9	21. 0. 0	2. 42	·1130	4. 43	·02896			
2. 23	20. 55. 30	2. 57	·1139	5. 2	·02896			
2. 34	57. 0	3. 9	·1126	5. 22	·02852			
2. 42	20. 56. 30	3. 23	·1139	5. 35	·02856			
3. 11	21. 3. 25	3. 38	·1132	5. 51	·02797			
3. 20	20. 59. 35	3. 43	·1137	6. 0	·02790			
3. 35	21. 2. 30	3. 52	·1127	6. 40	·02605			
3. 43	2. 10	4. 0	·1142	7. 53	·02576			
3. 48	0. 30	4. 15	·1129	8. 19	·02548			
3. 56	21. 1. 0	4. 25	·1138	8. 43	·02498			
4. 2	20. 58. 30	4. 33	·1116	9. 40	·02470			

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

November 3. The Photographic Trace for the Horizontal Force Magnet was too faint for use.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov. 4		Nov. 4		Nov. 4				
h m	° ′ ″	h m		h m		h m	°	°
4.11	21. 4.10	4.42	·1131	12. 6	·02408			
4.24	1. 0	4.52	·1099	12.50	·02424			
4.33	21. 5. 0	5. 2	·1108	13.11	·02402			
4.41	20.59.55	5.15	·1089	15.28	·02470			
4.52	21. 3.45	5.19	·1100	17.32	·02485			
4.59	20.59. 0	5.22	·1093	23. 4	·02703			
5. 7	21. 1.40	5.25	·1095	23.59	·02700			
5.18	20.56.10	5.31	·1084					
5.27	57.40	5.35	·1085					
5.43	51.15	5.39	·1082					
5.47	51.20	5.45	·1089					
6. 7	49.20	6. 1	·1079					
6.16	45.50	6.14	·1082					
6.23	46.45	6.27	·1088					
6.39	45. 0	6.33	·1086					
6.55	45.50	6.47	·1096					
7. 0	46.50	7. 3	·1098					
7.13	46. 5	7.19	·1092					
7.41	43. 0	7.30	·1095					
7.53	43. 0	7.38	·1093					
8.15	41.30	7.48	·1100					
8.38	44.10	8. 9	·1098					
9. 3	40. 0	8.40	·1110					
9.30	44.20	8.59	·1104					
9.48	46.45	9. 6	·1108					
9.57	46.25	9.23	·1104					
10. 8	47. 0	9.47	·1122					
10.22	46. 0	9.54	·1123					
10.45	48.40	10. 8	·1116					
11. 3	49.30	10.17	·1118					
11.14	49.10	10.48	·1118					
11.18	49.15	11. 7:	·1123					
11.23	49. 0	11.24	·1118					
11.30	50.10	11.35	·1128					
11.42	49.20	11.47	·1129					
11.46	49.30	12.13	·1126					
12. 6	47. 0	12.33	·1133					
12.30	46.30	12.49	·1148					
12.51	50.20	13.13	·1130					
13.12	47.40	13.36	·1126					
13.37	49.30	14.27	·1125					
13.51	49. 0	15.18	·1127					
15.56	52.40	16.36	·1134					
	***	17.22	·1130					
18.10	49.25	17.32	·1132					
18.51	49.40	17.47	·1128					
19. 0	50.15	18. 9	·1131					
19.55	50.10	18.25	·1127					
20.26	49.20	18.51	·1124					
20.53	51. 0	19.23	·1128					
21.35	51.20	19.38	·1126					
22.16	52.25	19.47	·1129					
23. 4	52. 0	20.16	·1125					
23.32	53.50	20.24	·1126					
23.55	53.40	20.35	·1124					
23.59	53.35	22. 1	·1122					
		22.13	·1123					
		22.29	·1120					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Nov. 4						
h m	° ′ ″	h m		h m		h m	°	°
		23.13	·1121					
		23.31	·1124					
		23.59	·1122					
Nov. 5		Nov. 5		Nov. 5		Nov. 5		
0. 0	20.53.35	0. 0	·1122	0. 0	·02700	0. 0	53·7	54·9
0.38	54.30	0.30	·1123	1.46	·02762	1. 0	54·5	55·4
0.51	53. 0	0.50	·1121	4.17	·02660	2. 0	55·0	56·0
0.59	53. 5	1. 8	·1110	6.30	·02605	3. 0	55·3	56·0
1.38	51.50	1.20	·1121	12.20	·02594	6. 0	55·8	56·7
1.55	53.10	1.52	·1132	14.45	·02657	9. 0	55·2	56·0
2.19	53.20	2.44:	·1122	17.47	·02816	12. 0	53·6	55·2
2.33	53. 0	3.41	·1133	18.47	·02882	18. 0	45·0	48·4
3. 2	51. 0	4.16	·1132	23.20	·02683	21. 0	47·0	50·7
3.23	50.25	4.44	·1136	23.59	·02644	22. 0	47·0	49·8
4.57	50.10	5.41	·1132			23. 0	47·5	49·5
5.48	50.30	5.58	·1133					
6. 5	50. 0	6.10	·1141					
6.22:	52.30	6.49	·1119					
7. 5	48. 5	7.29	·1131					
7.42	49. 0	8.27	·1135					
8.12	49.15	9. 1	·1133					
8.22	48.50	9.20	·1134					
9. 3	48.50	10. 0	·1136					
10.12	50. 0	10.28	·1134					
10.23	49.50	11. 0	·1137					
11.17	49.30	11.20	·1138					
11.30	48.55	11.40	·1136					
12. 0	50. 0	12. 0	·1138					
12.42	50. 0	12.17	·1136					
13. 4	49. 0	12.32	·1138					
14.38	48.45	12.49	·1135					
14.48	49.30	15.23	·1137					
15. 5	49.15	15.33	·1140					
15.26	50. 0	16.13	·1139					
15.34	50. 0	16.25	·1141					
16.18	51.10	16.51	·1134					
16.53	51. 0	17.14	·1140					
17.16:	52.55	17.37	·1153					
18. 8	48. 0	17.57	·1155					
18.27	47.30	18.30	·1150					
19.15	49.30	18.35	·1151					
19.27	50.55	19.56	·1144					
20.11	50.30	21.45	·1126					
21. 0	51. 0	22.52	·1126					
21.44	50.40	23.28	·1135					
22. 3	52. 0	23.37	·1131					
22.16	51.50	23.59	·1134					
22.48	52.30							
23. 0	51.35							
23.25	53.35							
23.40	53. 0							
23.59	53.40							
Nov. 6		Nov. 6		Nov. 6		Nov. 6		
0. 0	20.53.40	0. 0	·1134	0. 0	·02644	0. 0	47·9	50·0
0.33	55.25		***	2.21	{ ·02595 ·02428	1. 0	49·0	50·9
0.57	53.30	0.28	·1134			2. 0	49·9	51·0

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Nov. 6		Nov. 6		Nov. 6		Nov. 6		
h m	° ′ ″	h m		h m		h m	°	°
2. 18	20. 50. 30	0. 58	·1133	5. 24	·02296	3. 0	51·0	51·7
2. 36	50. 50	1. 15	·1135	12. 22	·02222	9. 0	51·0	52·2
3. 14	50. 10	1. 36	·1132	17. 45	·02300	21. 0	48·7	50·8
3. 35	50. 35	1. 58	·1134	21. 39	·02312			
4. 18	50. 10	2. 47	·1145	23. 59	·02390			
5. 4	51. 5	3. 15	·1144					
5. 27	50. 10	3. 36	·1147					
5. 55	48. 25	4. 52	·1148					
6. 12	49. 20	5. 20	·1145					
6. 18	49. 15	5. 26	·1146					
6. 40	49. 50	5. 43	·1138					
7. 12	48. 20	6. 8	·1141					
7. 27	48. 30	6. 52	·1136					
8. 19	47. 30	7. 19	·1140					
8. 32	48. 0	7. 47	·1138					
9. 12	47. 10	8. 6	·1142					
9. 17	47. 30	8. 15	·1141					
9. 35	47. 30	8. 23	·1143					
9. 45	47. 0	8. 50	·1140					
10. 2	47. 30	9. 15	·1146					
10. 15	46. 25	9. 36	·1139					
11. 0	46. 30	10. 8	·1142					
11. 10	47. 0	10. 32	·1140					
11. 46	40. 55	11. 13	·1145					
12. 4	44. 0	11. 25	·1143					
12. 25	45. 50	11. 42	·1156					
12. 38	49. 20	11. 54	·1160					
13. 38	51. 0	12. 17	·1149					
14. 27	50. 20	12. 45	·1147					
15. 15	51. 5	13. 23	·1147					
15. 45	49. 10	14. 24	·1150					
16. 31	50. 35	14. 40	·1152					
16. 43	50. 20	15. 0	·1152					
17. 30	52. 50	15. 23	·1157					
17. 56	52. 0	15. 44	·1155					
18. 4	50. 30	15. 59	·1161					
18. 12	50. 55	17. 13	·1156					
19. 2	48. 30	17. 31	·1153					
20. 0	47. 35	18. 7	·1161					
20. 15	48. 0	18. 47	·1166					
20. 30	46. 35	19. 1	·1164					
20. 49	50. 25	19. 20	·1166					
21. 0	50. 0	19. 30	·1164					
21. 7	50. 30	19. 34	·1167					
21. 25	49. 10	20. 7	·1163					
21. 47	49. 20	20. 17	·1164					
22. 7	51. 0	20. 33	·1158					
22. 18	50. 0	20. 40	·1163					
22. 31	50. 10	21. 2	·1152					
22. 42	51. 0	21. 21½	·1147					
23. 0	50. 10	21. 37	·1144					
23. 28	51. 10	22. 17	·1138					
23. 34	51. 0	22. 22	·1142					
23. 59	52. 10	22. 33	·1138					
		22. 55	·1143					
		22. 59	·1146					
		23. 22	·1149					
		23. 30	·1147					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
		Nov. 6						
h m	° ′ ″	h m		h m		h m	°	°
		23. 52	·1150					
		23. 59	·1152					
Nov. 7		Nov. 7		Nov. 7		Nov. 7		
0. 0	20. 52. 15	0. 0	·1152	0. 0	·02390	1. 0	49·0	50·7
0. 5	52. 30	0. 7	·1162	2. 8	{ ·02437 ·02355	3. 0	50·0	51·2
0. 28	57. 30	0. 27	·1167	3. 1	{ ·02358 ·02206	9. 0	48·7	50·2
	(†)	0. 40	·1160	4. 53	·02155	21. 0	42·9	44·0
1. 0	58. 53*	0. 45	·1156	5. 36	·02148			
3. 0	55. 6*	0. 56	·1156	6. 7	·02135			
5. 7	51. 0	1. 2	·1163	8. 20	·02106			
5. 27	48. 50	1. 41	·1136	8. 33	·02120			
5. 37	50. 50	2. 6	·1147	9. 30	·02126			
5. 53	50. 20	2. 18	·1145	9. 56	·02104			
6. 28	52. 0	2. 31	·1157	10. 23	·02120			
6. 51	47. 55	2. 42	·1150	11. 30	·02133			
7. 34	50. 30	2. 58	·1164	13. 15	{ ·02194 ·02165			
8. 18	49. 30	3. 44	·1146	14. 23	{ ·02207 ·02156			
8. 39	45. 20	4. 7	·1150	23. 7	·02275			
8. 52	46. 50	4. 13	·1148	23. 44	·02298			
9. 27	38. 0	4. 29	·1155	23. 59	·02290			
9. 52	46. 50	4. 38	·1156					
10. 14	46. 10	4. 48	·1149					
10. 52	50. 55	5. 10	·1143					
11. 7	49. 30	5. 23	·1152					
11. 14	49. 45	5. 33	·1148					
11. 30	48. 15	5. 41	·1150					
12. 2	50. 0	5. 55	·1148					
12. 17	49. 50	6. 3	·1140					
12. 48	51. 30	6. 19	·1147					
14. 8	50. 35	6. 35	·1140					
14. 35	50. 30	6. 45	·1150					
15. 33	50. 50	6. 58	·1150					
16. 27	50. 0	7. 19	·1157					
	***	7. 50	·1154					
17. 52	50. 0	8. 7	·1156					
18. 14	48. 35	8. 25	·1151					
18. 32	50. 10	8. 43	·1159					
19. 52	49. 10	8. 54	·1153					
20. 15	49. 0	9. 7	·1157					
20. 25	48. 25	9. 22	·1171					
20. 32	49. 0	9. 29	·1170					
20. 46	48. 40	9. 39	·1180					
20. 51	49. 20	9. 56	·1164					
20. 59	48. 0	10. 9	·1148					
21. 45	50. 15	10. 16	·1153					
22. 3	50. 30	10. 36	·1153					
22. 14	51. 55	10. 45	·1160					
22. 58	52. 45	11. 0	·1158					
23. 7	52. 0	11. 22	·1166					
23. 50	53. 50	11. 31	·1159					
	(†)	11. 56	·1154					
		12. 13	·1156					
		12. 28	·1155					
		12. 35	·1157					
		12. 43	·1155					
		13. 0	·1158					
		13. 15	·1156					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Nov. 7						
h m	° ′ ″	h m		h m		h m	°	°
		13. 37	·1160					
		14. 11	·1159					
		15. 15	·1163					
		15. 30	·1162					
		15. 47	·1164					
		16. 22	·1167					
		16. 37	·1165					
		16. 52	·1168					
		17. 0	·1166					
		17. 37	·1166					
		17. 47	·1170					
		18. 0	·1168					
		18. 3	·1171					
		18. 28	·1168					
		18. 45	·1170					
		20. 13	·1164					
		20. 44	·1162					
		20. 57	·1164					
		21. 14	·1163					
		21. 28	·1160					
		21. 57	·1159					
		22. 13	·1155					
		23. 14	·1156					
		23. 59	·1159					
Nov. 8		Nov. 8		Nov. 8		Nov. 8		
	(†)	0. 0	·1159	0. 0	·02290	1. 0	46·1	47·2
0. 26	20. 53. 35		(†)	0. 23	·02266	3. 0	48·0	49·2
0. 36	57. 0	1. 0	·1162*		(†)	9. 0	50·5	50·4
1. 0	53. 50	3. 0	·1157*	1. 0	·02304*	22. 35	50·0	50·8
1. 15	55. 50	3. 25	·1153	1. 51	·01807			
1. 26	54. 0	3. 42	·1148	2. 10	·01842			
1. 42	55. 30	4. 2	·1161	3. 39	·01740			
1. 56	53. 10	4. 15	·1159	8. 24	·01888			
2. 14	52. 25	4. 28	·1168	9. 32	·01900			
2. 55	58. 0	4. 45	·1168	10. 7	·01957			
3. 8	55. 30	4. 53	·1163	10. 29	·02078			
3. 16	56. 10	4. 59	·1165	11. 38	·02078			
3. 49:	51. 35	5. 8	·1159	16. 10	·02146			
4. 27	54. 50	5. 20	·1161	18. 57	·02160			
4. 42	54. 0	5. 29	·1159	20. 30	·02184			
5. 2	56. 10	5. 44	·1165	23. 59	·02190			
5. 35	52. 30	5. 52	·1160					
5. 43	52. 50	6. 14	·1170					
5. 55	52. 20	6. 33	·1160					
6. 15	53. 0	6. 42	·1165					
7. 3	51. 20	6. 57	·1159					
7. 17	50. 10	7. 7	·1161					
7. 38	50. 20	7. 16	·1156					
7. 59	49. 10	7. 48	·1162					
8. 26	51. 10	8. 18	·1161					
9. 6	49. 0	8. 28	·1154					
9. 33	49. 15	8. 39	·1156					
9. 45	47. 40	9. 29	·1153					
9. 59	47. 40	9. 40	·1160					
10. 7	46. 5	9. 55	·1157					
10. 45	44. 0	10. 5	·1162					
10. 54	45. 5	10. 21	·1159					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov. 8		Nov. 8						
h m	° ′ ″	h m		h m		h m	°	°
11. 14	20. 43. 35	11. 0	·1165					
11. 33	48. 0	11. 23	·1147					
11. 47	46. 40	11. 46	·1152					
12. 18	46. 30	12. 15	·1150					
13. 9	49. 30	13. 1	·1152					
14. 0	50. 20	13. 7	·1150					
14. 6	48. 30	13. 34	·1153					
14. 30	50. 35	14. 20	·1152					
15. 14	49. 40	15. 7	·1157					
15. 43	51. 5	15. 55	·1156					
16. 19	49. 55	16. 37	·1158					
16. 28	50. 0	16. 43	·1157					
16. 34	48. 25	17. 0	·1163					
16. 40	48. 55	17. 15	·1159					
16. 45	48. 30	18. 25:	·1156					
16. 50	50. 10	19. 6:	·1143					
17. 6	49. 0	20. 4:	·1157					
17. 20	49. 5	20. 31	·1154					
17. 55	48. 0	20. 50	·1156					
18. 33	49. 50	21. 6	·1150					
18. 48	48. 50	21. 38	·1151					
19. 5	50. 10	22. 2	·1145					
19. 40	47. 55	23. 17	·1144					
20. 28	48. 55	23. 39	·1144					
20. 49	51. 40	23. 59	·1142					
21. 1	50. 0							
21. 32	49. 20							
22. 3	50. 55							
22. 25	50. 0							
23. 25	52. 20							
23. 27	51. 50							
23. 34	52. 45							
23. 48	53. 25							
23. 57	53. 0							
23. 59	53. 0							
Nov. 9		Nov. 9		Nov. 9		Nov. 9		
0. 0	20. 53. 5	0. 0	·1142	0. 0	·02190	8. 25	53·0	53·4
0. 30	55. 40		***	1. 47	·02216	21. 0	48·0	48·9
0. 35	54. 10	0. 31	·1151	4. 36	·02144			
0. 52	55. 20	0. 43	·1145	6. 35	·02048			
1. 27	54. 10	1. 2	·1150	8. 6	·02116			
1. 45	52. 0	1. 32	·1136	9. 4	·02120			
2. 8	52. 0	1. 44	·1135	9. 22	·02137			
2. 30	53. 0	2. 4	·1150	9. 37	·02106			
3. 3	52. 30	2. 16	·1146	10. 26	·02090			
3. 13	51. 50	2. 27	·1149	12. 32	·02124			
3. 41	51. 20	2. 42	·1149	13. 12	·02118			
4. 2	51. 0	3. 4	·1153	13. 35	·02126			
4. 33	50. 40	3. 15	·1151	14. 6	·02103			
5. 24	51. 55	3. 45	·1155	21. 9	{ ·02424			
6. 33	51. 0	3. 53	·1158		·02292			
6. 57	50. 0	4. 8	·1155	23. 59	·02296			
7. 4	50. 20	4. 40	·1156					
7. 16	48. 30	4. 48	·1160					
7. 30	48. 10	5. 0	·1153					
8. 3	42. 40	5. 16	·1153					
8. 12	42. 35	5. 28	·1156					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov. 9		Nov. 9						
h m	° ′ ″	h m		h m		h m	°	°
8.51	20.41.45	6.7	·1152					
9.12	44.35	6.30	·1153					
9.27	42.30	6.46	·1149					
9.42	51.55	6.57	·1153					
9.57	48.55	7.2	·1152					
10.4	49.45	7.47:	·1132					
10.10	49.0	8.43	·1144					
10.17	49.50	9.3	·1137					
10.30	48.10	9.32	·1155					
10.45	47.30	9.45	·1134					
10.54	48.0	9.56	·1144					
11.15	46.30	10.2	·1140					
11.55	48.45	10.12	·1145					
12.10	48.0	10.17	·1136					
12.19	46.55	10.31	·1147					
12.28	47.30	10.59	·1137					
12.33	46.55	11.22	·1145					
12.45	46.50	11.38	·1140					
12.59	45.55	11.51	·1142					
13.8	45.35	11.56	·1141					
13.38	46.50	12.33:	·1147					
13.47	49.50	13.11	·1143					
14.19	47.10	13.44	·1160					
14.55	50.0	14.12	·1137					
15.4	49.30	14.35	·1144					
15.15	49.45	15.4	·1139					
15.30	48.10	15.37	·1152					
16.16	50.0	16.30:	·1144					
16.27	49.30	17.37	·1149					
16.40	50.5	19.29	·1152					
16.57	49.45	19.46	·1149					
18.30	48.35	20.19	·1139					
18.55	50.0	20.40	·1142					
19.27	49.30	20.52	·1140					
20.17	51.10	21.45	·1147					
20.45	49.50	22.0	·1139					
20.57	50.10	22.14	·1149					
21.19	49.10	22.31	·1139					
21.47	50.40	22.46	·1152					
22.0	50.30	23.1	·1147					
22.12	51.35	23.25	·1141					
22.29	51.35	23.35	·1134					
22.45	54.50		(†)					
22.56	55.10							
23.10	56.25							
23.39	55.0							
23.42	55.20							
23.59	53.10							
Nov.10		Nov.10		Nov.10		Nov.10		
0.0	20.53.0		(†)	0.0	·02296	1.0	49·5	50·0
0.18	54.10	1.0	·1144*	1.7	{ ·02300	3.0	50·9	51·0
0.56	51.50	1.58	·1143		{ ·01975	9.0	48·0	47·9
1.2	52.50	2.16	·1152	5.39	·01836	21.0	40·0	41·0
1.7	51.55	2.39	·1143	7.49	·01876			
1.45	53.40	3.7	·1158	9.25	·01958			
1.57	53.0	3.40	·1145	10.45	·02000			
2.8	53.35	4.7	·1153	10.59	·02034			

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov.10		Nov.10		Nov.10				
h m	° ′ ″	h m		h m		h m	°	°
2.17	20.53.25	4.27	·1148	11.57	·02052			
2.46:	49.40	4.34	·1152	17.18	·02348			
3.25	51.50	4.40	·1147	17.38	·02306			
3.55	48.15	4.47	·1158	19.19	·02214			
4.13	50.40	4.57	·1159	22.1	·02188			
4.23	48.40	5.7	·1164		(†)			
4.33	49.0	5.22	·1162					
4.38	47.0	5.38	·1161					
4.48	48.30	5.55	·1146					
4.54	48.25	6.22	·1175					
5.7	50.15	6.51	·1150					
5.33	50.40	7.2	·1153					
5.45	48.25	7.14	·1149					
5.56	42.40	7.24	·1158					
6.3	40.30	7.31	·1156					
6.21	43.30	7.49	·1165					
6.27	43.25	8.14	·1150					
6.41	45.30	8.28	·1140					
7.4	47.30	8.47	·1150					
7.15	45.0	9.0	·1148					
7.20	45.30	9.10	·1147					
7.24	45.10	9.45	·1157					
7.37	44.0	10.20	·1148					
7.52	46.0	10.45	·1132					
8.0	46.0	11.23	·1172					
8.15	47.40	12.2	·1149					
8.35	46.30	12.22	·1158					
8.48	47.25	13.40	·1156					
9.10	46.20	14.55	·1158					
9.32	48.40	15.52	·1160					
9.57	44.45	16.13	·1165					
10.15	44.35	16.59	·1162					
10.30	42.30	17.23	·1166					
10.41	43.15	18.34	·1161					
10.53	41.0	18.50	·1165					
11.2	36.55	19.26	·1159					
11.14	36.0	19.53	·1162					
11.22	34.20	20.33	·1158					
12.3	42.40	21.1	·1161					
12.28	44.0	21.29	·1159					
13.12	49.30	22.16:	·1156					
13.33	49.0	22.57	·1159					
14.7	51.0	23.6	·1156					
14.33	50.30	23.25	·1163					
15.8	50.20	23.42	·1157					
15.40	49.40	23.59	·1158					
16.30	50.0							
16.46	49.30							
17.11	50.0							
17.20	49.30							
17.52	49.30							
18.2	49.0							
19.48	48.40							
20.0	49.0							
20.36	47.30							
21.5	48.30							
21.28	46.45							
22.44	46.50							

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov. 10								
h m	° ′ ″	h m		h m		h m	°	°
22. 58	20. 47. 40							
23. 12	47. 0							
23. 31	49. 15							
23. 45	48. 25							
23. 59	47. 45							
Nov. 11		Nov. 11		Nov. 11		Nov. 11		
0. 0	20. 47. 40	0. 0	·1158		(†)	1. 0	41 ·2	44 ·0
0. 10	47. 30	0. 10	·1159	0. 30	·02140	3. 0	43 ·2	44 ·0
1. 12	51. 10	0. 23	·1165	3. 32	·02082	9. 0	43 ·0	44 ·5
1. 43	49. 30	0. 40	·1160	4. 42	·02015	21. 0	36 ·0	38 ·0
2. 34	48. 55	1. 0	·1164	7. 0	·01966	22. 0	36 ·7	38 ·8
3. 15	48. 0	1. 8	·1163	7. 33	·01930	23. 0	37 ·5	39 ·0
4. 6	49. 15	1. 15	·1165	7. 45	·01936			
4. 19	49. 0	2. 14	·1165	8. 13	·01854			
4. 29	47. 45	2. 37	·1170	10. 34	·01862			
4. 33	47. 55	3. 15	·1171	11. 14	·01817			
4. 46	46. 30	3. 30	·1174	17. 23	·02142			
4. 52	44. 0	4. 16	·1168	19. 38	·02317			
5. 14	42. 0	4. 29	·1161		(†)			
5. 35	45. 35	4. 42	·1169	21. 0	·02408*			
5. 50	45. 0	4. 52	·1158	23. 10	·02357			
6. 12	41. 0	5. 1	·1164	23. 59	·02340			
	***	5. 10	·1163					
6. 47	44. 20	5. 34	·1168					
7. 2	48. 20	6. 7	·1150					
7. 17	49. 5	6. 15	·1160					
7. 23	48. 15	6. 28	·1156					
7. 38	38. 45	6. 38	·1162					
8. 3	52. 25	6. 47	·1156					
8. 36	44. 10	7. 0	·1161					
8. 44	45. 10	7. 23	·1151					
9. 0	43. 40	7. 53	·1210					
9. 12	46. 30	8. 21	·1158					
9. 21	46. 20	8. 36	·1164					
9. 30	47. 0	9. 1	·1164					
9. 40	46. 45	9. 31	·1147					
10. 15	48. 0	9. 48	·1153					
10. 35	46. 50	10. 7	·1153					
10. 52	51. 30	10. 27	·1166					
11. 5	53. 30	10. 42	·1184					
11. 27	49. 0	11. 3	·1157					
11. 41	44. 35	11. 20	·1151					
12. 17	48. 15	11. 30	·1160					
12. 54	46. 30	11. 39	·1164					
13. 22	48. 45	11. 52	·1163					
13. 50	48. 35	12. 7	·1158					
	***	12. 37	·1156					
14. 19	49. 50	12. 52	·1159					
	***	13. 8	·1156					
16. 29	50. 0	15. 45	·1165					
16. 33	51. 0	15. 54	·1163					
16. 43	49. 30	16. 20	·1167					
	***	16. 29	·1163					
19. 29	48. 20	17. 4	·1166					
20. 23	47. 35	17. 50	·1165					
20. 32	47. 5	18. 23	·1166					
20. 45	47. 30	19. 47	·1164					
			(†)					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov. 11		Nov. 11						
h m	° ′ ″	h m		h m		h m	°	°
21. 30	20. 46. 20	21. 0	·1163*					
21. 48	47. 35	23. 0	·1144					
22. 35	48. 0	23. 59	·1161					
23. 21	53. 50							
23. 35	53. 0							
23. 49	52. 55							
23. 59	51. 55							
Nov. 12		Nov. 12		Nov. 12		Nov. 12		
0. 0	20. 51. 40	0. 0	·1161	0. 0	·02340	0. 0	38 ·4	39 ·4
0. 3	51. 30	0. 36	·1158	0. 17	{ ·02350	1. 0	39 ·9	41 ·0
0. 10	52. 0	1. 13	·1165		·02302	2. 0	42 ·0	44 ·0
0. 13	51. 35	1. 31	·1162	0. 42	·02304	3. 0	44 ·7	44 ·5
0. 27	51. 55	1. 55	·1162	1. 31	·02382	6. 0	45 ·5	46 ·5
0. 36	51. 20	2. 31	·1165	3. 12	·02090	9. 0	44 ·5	45 ·5
0. 44	52. 20	2. 58	·1162	5. 37	·01788	12. 0	43 ·8	44 ·5
1. 13	49. 30	3. 57	·1165	6. 52	·01860	18. 0	38 ·0	40 ·2
1. 23	49. 50	4. 10	·1164	9. 16	·01935	21. 0	36 ·5	39 ·0
1. 34	49. 0	4. 23	·1167	9. 28	·01927	22. 0	36 ·7	39 ·0
	(†)	5. 11	·1168	9. 48	·01940	23. 0	37 ·0	39 ·0
2. 13	50. 0	5. 27	·1166	10. 8	·01926			
2. 40	48. 30	6. 16	·1168	13. 43	·01995			
4. 15	50. 30	6. 46	·1165	17. 23	·02142			
4. 30	50. 25	7. 8	·1159	21. 51	·02467			
5. 55	50. 30	7. 40	·1162	23. 59	·02610			
6. 3	50. 15	8. 1	·1160					
6. 49	51. 0	8. 25	·1161					
7. 28	49. 45	9. 1	·1156					
7. 45	50. 30	9. 28	·1158					
8. 51	49. 50	9. 36	·1171					
9. 6	48. 0	9. 39	·1171					
9. 25	47. 40	9. 46	·1174					
9. 41	42. 0	10. 7	·1152					
10. 8	49. 5	10. 19	·1156					
10. 27	46. 15	10. 46	·1154					
11. 10	47. 50	11. 6	·1158					
11. 27	49. 0	11. 26	·1156					
13. 16	50. 50	12. 7	·1160					
18. 56	50. 55	12. 22	·1159					
19. 5	50. 15	13. 14	·1163					
19. 34	50. 0	13. 30	·1163					
20. 25	48. 10	13. 50	·1165					
20. 43	48. 30	15. 28	·1168					
21. 6	42. 30	16. 39	·1172					
22. 3	49. 30	17. 10	·1173					
22. 23	50. 50	17. 43	·1173					
22. 29	50. 25	18. 8	·1169					
22. 35	53. 0	18. 42	·1174					
22. 46	53. 25	19. 9	·1172					
	(†)	19. 21	·1173					
23. 27	52. 5	21. 2	·1164					
23. 54	51. 45	21. 17	·1163					
23. 59	51. 35	22. 12	·1164					
			(†)					
		23. 47	·1157					
		23. 59	·1159					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov. 13		Nov. 13		Nov. 13		Nov. 13		
h m	° ′ ″	h m		h m		h m	°	°
0. 0	20. 51. 30	0. 0	·1159	0. 0	·02610	0. 0	38·2	40·0
0. 8	51. 25	0. 23	·1159	2. 16	·02538	1. 0	39·0	41·0
0. 41	52. 20	0. 45	·1162	7. 39:	·02118	2. 0	40·5	42·0
1. 17	50. 30	1. 14	·1163	13. 2	·02048	3. 0	41·9	43·2
1. 31	51. 0	1. 35	·1161	18. 26	·02266	9. 20	43·5	44·4
1. 50	50. 0	2. 7	·1163	22. 25	·02474	21. 0	37·9	40·0
2. 15	49. 40	2. 21	·1158	23. 59	·02463			
2. 28	48. 35	3. 22	·1165					
3. 15	48. 25	3. 50	·1162					
3. 30	48. 45	4. 39	·1169					
4. 18	48. 30	4. 58	·1168					
4. 41	49. 30	5. 32	·1173					
6. 0	49. 10	6. 5	·1163					
6. 13	48. 10	6. 31	·1164					
6. 27	48. 15	6. 47	·1159					
6. 42	46. 0	7. 17	·1166					
6. 56	45. 30	7. 41	·1162					
7. 49	48. 30	8. 1	·1163					
8. 45	48. 10	8. 22	·1168					
8. 58	46. 30	8. 30	·1166					
9. 22	48. 0	8. 39	·1168					
10. 10	48. 45	8. 56	·1165					
11. 4	48. 30	9. 7	·1168					
11. 26	49. 0	9. 20	·1166					
12. 43	48. 0	9. 30	·1168					
12. 58	49. 10	9. 53	·1166					
13. 17	46. 55	10. 18	·1169					
13. 30	47. 0	10. 53	·1167					
13. 57	50. 10	11. 13	·1167					
14. 58	50. 10	11. 31	·1170					
15. 9	50. 35	11. 48	·1164					
	***	12. 4	·1172					
15. 55	48. 0	12. 33	·1166					
16. 14	49. 50	12. 39	·1168					
16. 30	49. 0	12. 50	·1159					
16. 40	49. 30	13. 4	·1159					
16. 48	49. 0	13. 51	·1163					
17. 0	49. 15	14. 1	·1167					
17. 30	48. 40	14. 12	·1165					
17. 56	49. 25	14. 22	·1166					
18. 30	49. 30	14. 31	·1164					
18. 45	48. 30	14. 46	·1167					
19. 0	49. 0	14. 56	·1165					
19. 18	48. 30	15. 2	·1169					
19. 35	49. 0	15. 11	·1168					
	***	15. 45	·1169					
21. 4	47. 15	16. 30	·1173					
21. 22	47. 30	16. 50	·1171					
21. 26	47. 25	17. 32	·1173					
21. 35	47. 30	17. 45	·1176					
21. 48	46. 30	17. 55	·1175					
21. 56	46. 50	18. 22	·1178					
	***	18. 32	·1174					
22. 36	46. 0	18. 50	·1178					
22. 44	47. 0	19. 18	·1180					
22. 50	46. 0	19. 31	·1177					
23. 14	46. 30	19. 37	·1180					
23. 22	48. 0	19. 46	·1177					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov. 13		Nov. 13						
h m	° ′ ″	h m		h m		h m	°	°
23. 27	20. 47. 45	20. 16	·1175					
23. 46	49. 0	20. 22	·1178					
23. 54	48. 55	20. 30	·1175					
23. 59	49. 15	21. 5	·1175					
		21. 19	·1174					
		22. 14	·1166					
		22. 35	·1167					
		22. 47	·1174					
		23. 7	·1174					
		23. 28	·1171					
		23. 59	·1166					
Nov. 14		Nov. 14		Nov. 14		Nov. 14		
0. 0	20. 49. 25	0. 0	·1166	0. 0	·02463	1. 0	41·3	42·7
0. 12	49. 15	0. 29	·1164	1. 49	·02392	3. 0	44·5	45·6
0. 23	50. 15	0. 43	·1164	3. 38	·02184	9. 0	47·0	47·0
0. 33	49. 55	1. 14	·1162	6. 6	{ ·01910	21. 0	43·6	45·0
1. 14	51. 5	1. 23	·1166		{ ·01966			
1. 48	48. 30	2. 16	·1160	9. 2	·02109			
1. 57	50. 0	2. 55	·1165	9. 18	·02096			
2. 37	50. 0	3. 14	·1154	9. 53	·02135			
3. 1	52. 30	3. 30	·1164	12. 57	·02162			
3. 8	52. 20	3. 37	·1163	13. 57	·02144			
3. 32	52. 45	3. 49	·1171	21. 18	·02255			
3. 47	51. 0	4. 10	·1168	23. 3	·02304			
3. 58	51. 10	4. 38	·1171	23. 59	·02336			
4. 8	49. 30	4. 56	·1175					
4. 18	50. 20	5. 10	·1173					
4. 41	50. 25	5. 21	·1175					
5. 9	49. 0	5. 41	·1166					
5. 48	51. 0	6. 22	·1167					
6. 26	49. 30	6. 32	·1169					
7. 3	49. 45	6. 43	·1167					
7. 15	49. 15	6. 46	·1169					
7. 30	49. 50	6. 52	·1167					
7. 43	49. 20	7. 15	·1168					
8. 15	49. 25	7. 38	·1166					
8. 30	49. 45	8. 5	·1166					
8. 59	47. 30	8. 29	·1158					
9. 16	49. 30	8. 49	·1174					
9. 29	43. 20	9. 4	·1159					
9. 53	37. 25	9. 15	·1159					
10. 9	42. 15	9. 38	·1172					
10. 12	42. 20	10. 1	·1171					
10. 37	46. 30	10. 22	·1154					
11. 27	44. 55	10. 37	·1157					
11. 37	45. 5	10. 55	·1150					
12. 0	41. 40	11. 42	·1155					
12. 23	46. 0	11. 54	·1152					
13. 0	46. 25	12. 20	·1156					
13. 8	48. 15	12. 44	·1168					
13. 27	46. 30	12. 53	·1163					
13. 42	47. 0	13. 10	·1164					
13. 55	45. 50	13. 24	·1153					
14. 13	48. 25	13. 42	·1158					
14. 19	48. 10	14. 0	·1154					
14. 23	48. 50	14. 23	·1160					
14. 38	48. 0	14. 31	·1157					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H.F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V.F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H.F. Magnet.	Readings of Thermometers. Of V.F. Magnet.
Nov.14		Nov.14						
h m	° ′ ″	h m		h m		h m	°	°
14.42	20.48.50	14.45	·1159					
14.52	47.55	14.52	·1157					
14.58	48. 5	14.58	·1158					
15. 6	46.50	15.52	·1154					
15.12	47.15	16.20	·1162					
15.38	46.50	17. 2	·1158					
15.53	49. 0	17.17	·1161					
16. 4	48.40	17.33	·1160					
16.30	49.50	17.50	·1165					
16.40	49.20	18. 2	·1163					
16.53	49.50	18.17	·1164					
17. 9	49.30	18.25	·1160					
17.35	50.30	18.37	·1164					
17.42	49.50	18.45	·1161					
17.53	50.10	19.24	·1161					
18. 0	49.30	19.32	·1165					
18. 8	49.25	19.54	·1161					
18.24	50.40	20.11	·1163					
18.39	49.30	20.37	·1153					
18.56	50.20	21. 0	·1157					
19.25	49.25	21.19	·1153					
19.44	50.50	21.36	·1154					
19.56	51. 0	21.45	·1156					
20. 5	51.10	22.11	·1152					
20.27	50. 0	22.37	·1158					
20.56	51.25	22.45	·1156					
21.15	49.30	23.17	·1159					
21.32	49.20	23.34	·1157					
21.44	50.30	23.46	·1162					
21.50	50. 0	23.59	·1154					
21.59	50. 0							
22. 9	48.40							
22.15	50.30							
23. 2	49. 0							
23.22	51. 0							
23.30	50.40							
23.37	51.40							
23.40	53. 0							
23.48	51.55							
23.59	51.45							
Nov.15		Nov.15		Nov.15		Nov.15		
0. 0	20.51.45	0. 0	·1154	0. 0	·02336	1. 0	45·9	46·9
0. 7	53.50	0. 8	·1153	1.20	·02343	3. 0	48·2	48·6
0.23	54. 0	0.31	·1148	3.25	{·02230 ·02556	9. 0	48·4	48·9
0.43	51. 0	0.40	·1141			21.15	46·0	47·4
0.45	50.50	0.45	·1138	7.14	·02498			
1. 0	49.40	1. 1	·1151	10.54	·02516			
1.24	50.45	1.15	·1149	11.53	·02476			
1.32	50. 0	1.49	·1148	12.37	·02500			
1.51	50.35	2.40:	·1160	20.27	·02586			
2.14:	49.15	3.18	·1141	22. 2	·02597			
2.30	50.10	3.30	·1149	23.59	·02618			
2.57	50.40	4. 2	·1142					
3.33	52.15	4.12	·1134					
4. 8	50.55	4.23	·1134					
4.18	48.25	4.43	·1129					
4.30	48. 0	4.56	·1140					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H.F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V.F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H.F. Magnet.	Readings of Thermometers. Of V.F. Magnet.
Nov.15		Nov.15						
h m	° ′ ″	h m		h m		h m	°	°
4.57	20.44.20	5. 8	·1137					
6.15	50.30	5.19	·1141					
6.25	50.15	5.28	·1148					
6.45	47.20	5.45	·1151					
6.55	48.30	6. 0	·1146					
7.16	46. 0	6.19	·1154					
7.27	47. 0	6.30	·1152					
7.40	45. 0	6.50	·1164					
7.58	49. 0	7. 7	·1156					
8.30	50. 0	7.19	·1160					
9. 4	48.45	7.29	·1160					
9.13	49. 0	7.43	·1172					
9.52	48.40	8. 2	·1160					
10. 9	49. 5	8.46	·1157					
10.32	49. 5	9. 5	·1160					
10.51	50. 0	9.25	·1156					
11. 4	51.50	9.36	·1157					
11.20	50.10	9.46	·1155					
11.36	49.10	10.10	·1160					
12.15:	43. 0	10.30	·1157					
12.38	46.20	10.50	·1162					
13. 3	48.25	11.10	·1155					
13.32	49.30	11.22	·1158					
14. 8	48.30	11.45	·1159					
14.33	46.20	12. 1	·1162					
15. 1	46.55	12.22	·1157					
15.27	51. 0	12.36	·1157					
16.13	48.40	13. 3	·1152					
16.30	49. 0	13.36	·1156					
16.39	48. 0	13.51	·1152					
17.11	47.20	14.16	·1156					
17.48	48.15	15.11	·1153					
19.48	47. 0	15.26	·1157					
21.14	47.20	15.37	·1156					
22.11	50. 0	15.44	·1159					
23.28	51.15	16.30	·1158					
23.59	51.10	16.37	·1156					
		16.58	·1160					
		17.24	·1156					
		17.44	·1155					
		18.23	·1156					
		19. 0	·1159					
		19.11	·1157					
		19.35	·1157					
		19.49	·1155					
		21.38	·1154					
		21.45	·1155					
		22. 3	·1152					
		22.30	·1152					
		23.22	·1152					
		23.59	·1154					
Nov.16		Nov.16		Nov.16		Nov.16		
0. 0	20.51.10	0. 0	·1154	0. 0	·02618	9. 0	48·2	49·6
2.18	49.20	0.47	·1156	2.13	·02577	21. 0	44·7	46·2
5.38	49. 0	1. 6	·1158	4.37	{·02470 ·02525			
6. 0	49.20	1.38	·1158	6. 7	·02470			
6.21	48. 5	2.46	·1155					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov. 16		Nov. 16		Nov. 16				
h m	° ′ ″	h m		h m		h m	°	°
6. 33	20. 48. 20	3. 30	·1154	6. 43	{ ·02463			
6. 48:	44. 50	4. 25	·1156		{ ·02537			
7. 3	46. 0	5. 22	·1159	8. 6	·02526			
7. 15	45. 35	5. 36	·1159	16. 55	·02545			
7. 30	47. 40	5. 53	·1163	19. 38	·02598			
7. 46	47. 40	6. 14	·1159	20. 0	·02620			
8. 38	48. 30	6. 27	·1153	20. 36	·02642			
8. 47	49. 0	6. 51	·1157	22. 53	·02785			
8. 55	48. 25	7. 1	·1163	23. 59	·02806			
9. 10	48. 55	7. 17	·1158					
9. 19	48. 0	7. 43	·1154					
9. 32	48. 30	8. 1	·1157					
10. 9	47. 30	8. 45	·1159					
10. 37	49. 55	9. 0	·1163					
11. 2	48. 30	9. 13	·1159					
11. 45	51. 15	9. 22	·1164					
12. 24	49. 55	10. 7:	·1160					
12. 52	51. 5	10. 37	·1163					
13. 16	50. 20	10. 54	·1169					
13. 35	50. 25	11. 17	·1166					
14. 11	48. 30	11. 41	·1159					
14. 31	49. 55	12. 0	·1155					
14. 42	50. 0	12. 5	·1156					
15. 7:	52. 0	12. 11	·1153					
15. 58	49. 10	12. 44	·1159					
16. 16	49. 0	13. 1	·1157					
17. 45	53. 0	13. 47	·1161					
18. 14	51. 40	14. 26	·1155					
18. 59	53. 30	15. 19	·1161					
19. 11:	53. 0	15. 32	·1160					
19. 27	53. 55	16. 31	·1169					
19. 47	51. 20	17. 31	·1164					
20. 8	54. 0	17. 47	·1164					
20. 38	51. 30	18. 32:	·1173					
20. 58	51. 20	19. 7	·1160					
21. 2	51. 0	19. 22	·1161					
21. 20	52. 0	19. 43	·1148					
	***	19. 57	·1157					
21. 38	50. 20	20. 22	·1157					
21. 57	50. 20	20. 54	·1156					
22. 15	52. 0	21. 2	·1152					
22. 41	52. 0	21. 51	·1155					
22. 47	52. 10		***					
23. 7	51. 10	22. 39	·1145					
23. 13	53. 0	22. 45	·1154					
	***	23. 0	·1145					
23. 28	51. 10	23. 30	·1153					
23. 47	52. 50	23. 59	·1150					
23. 56	52. 40							
23. 59	53. 25							
Nov. 17		Nov. 17		Nov. 17		Nov. 17		
0. 0	20. 53. 25	0. 0	·1150	0. 0	·02806	1. 0	47·0	48·2
0. 25	56. 0	0. 30	·1149	1. 48	·02763	3. 0	49·5	50·7
0. 30	54. 40	0. 50	·1143	3. 2	·02660	9. 0	49·9	50·7
0. 42	55. 0	1. 18	·1146	3. 43	·02558	21. 0	43·0	44·9
0. 51	54. 25	1. 32	·1153	4. 6	·02529			
0. 59	54. 50	1. 35	·1156	4. 15	·02582			

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov. 17		Nov. 17		Nov. 17				
h m	° ′ ″	h m		h m		h m	°	°
1. 10	20. 54. 10	1. 45	·1153	4. 48	·02530			
1. 22	54. 30	1. 52	·1157	4. 56	·02545			
1. 43	54. 0	2. 0	·1155	5. 31	·02510			
2. 4	51. 40	2. 7	·1159	5. 38	·02521			
2. 25	52. 0	2. 38	·1160	5. 43	·02563			
2. 35	51. 50	3. 1	·1164	6. 26	·02518			
3. 26	55. 0	3. 43	·1152	6. 42	·02544			
4. 15	53. 0	3. 58	·1156	6. 49	·02578			
4. 41	54. 10	4. 8	·1156	8. 9	·02540			
5. 17	51. 45	4. 28	·1160	8. 22	·02543			
5. 40	51. 30	4. 46	·1150	8. 26	·02587			
6. 20	52. 35	5. 8	·1147	9. 38	·02530			
6. 37	52. 30	5. 49	·1154	9. 54	·02555			
6. 57	51. 0	6. 8	·1150	10. 53	·02573			
7. 11	51. 50	6. 17	·1153	13. 31	·02686			
7. 26	49. 55	6. 42	·1151	14. 17	·02680			
7. 41	50. 25	6. 53	·1155	15. 2	·02735			
7. 50	48. 20	6. 59	·1153	15. 31	·02753			
8. 15	46. 25	7. 2	·1155	16. 58	·02845			
8. 35	52. 30	7. 16	·1147	20. 55	{ ·03040			
8. 48	50. 0	7. 31	·1155		{ ·02696			
9. 0	43. 30	7. 37	·1151	22. 53	·02790			
9. 31	51. 0	7. 45	·1153	23. 26	·02782			
9. 45	47. 40	7. 52	·1150	23. 59	·02803			
10. 0	40. 40	8. 1	·1157					
10. 18	45. 10	8. 13	·1154					
10. 34	46. 20	8. 22	·1161					
10. 50	48. 40	8. 45	·1145					
11. 12	45. 30	9. 0	·1175					
12. 21	50. 30	9. 3	·1173					
13. 22	49. 0	9. 8	·1178					
14. 0	55. 10	9. 20	·1168					
14. 33	48. 20	9. 30	·1148					
14. 45	50. 0	9. 40	·1136					
14. 47	49. 30	10. 1	·1158					
15. 10	52. 0	10. 15	·1151					
15. 28	48. 35	10. 31	·1156					
15. 35	48. 35	10. 50	·1143					
15. 42	47. 25	11. 0	·1142					
	***	11. 32	·1146					
16. 6	49. 0	11. 42	·1145					
	***	11. 52	·1148					
17. 5	50. 15	12. 2	·1146					
17. 22	51. 55	12. 13	·1153					
17. 25	51. 55	12. 20	·1150					
17. 41	50. 50	13. 1	·1149					
18. 7	50. 0	13. 31	·1143					
18. 15	51. 0	14. 11	·1152					
18. 22	49. 0	14. 38	·1149					
18. 30	51. 0	15. 16	·1164					
18. 40	49. 10	15. 26	·1166					
	***	15. 35	·1162					
19. 52	49. 15	15. 52	·1164					
20. 3	50. 30	16. 11	·1163					
20. 15	50. 10	16. 22	·1169					
20. 23	50. 30	17. 1	·1158					
	***	17. 14	·1162					
20. 45	49. 0	17. 36	·1156					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov. 17		Nov. 17						
h m	° ′ ″	h m		h m		h m	°	°
21. 3	20. 50. 0	17. 44	·1161					
	***	17. 55	·1158					
21. 56	49. 0	18. 5	·1160					
	***	18. 14	·1154					
22. 12	54. 30	18. 18	·1161					
	***	18. 30	·1159					
23. 2	54. 0	19. 22	·1156					
23. 15	59. 10		***					
23. 30	53. 40	20. 11	·1158					
23. 37	53. 25	20. 37	·1147					
23. 44	51. 5	21. 18:	·1137					
23. 59	51. 0	21. 56	·1156					
		22. 7	·1143					
		22. 30	·1137					
		22. 37	·1123					
		22. 43	·1132					
		22. 47	·1128					
		22. 50	·1141					
		22. 52	·1134					
		23. 7	·1142					
		23. 22	·1128					
		23. 30	·1139					
		23. 37	·1132					
		23. 45	·1135					
		23. 47	·1142					
			(†)					
Nov. 18		Nov. 18		Nov. 18		Nov. 18		
0. 0	20. 51. 10		(†)	0. 0	·02803	1. 0	45·5	46·5
0. 29	59. 0	0. 3	·1150	0. 9	·02796	2. 0	48·0	48·7
0. 48	54. 30		***	0. 28	·02820	3. 0	48·0	49·0
1. 5	57. 55	0. 23	·1150	0. 42	·02802	9. 0	48·6	49·0
1. 19	57. 30	0. 29	·1155	1. 3	·02818	21. 0	45·5	47·0
1. 36	53. 50	0. 41	·1135	1. 38	·02805	22. 0	45·8	47·0
1. 46	57. 5	0. 53	·1133	1. 45	·02828	23. 0	46·0	47·2
1. 54	56. 30	1. 5	·1141	3. 12	·02712			
2. 9:	53. 50	1. 32	·1136	3. 48	·02610			
2. 25	55. 50	1. 49	·1156	4. 42	·02542			
2. 40	48. 40	2. 7	·1159	4. 58	·02576			
2. 52:	50. 20	2. 12	·1154	5. 27	·02468			
3. 5	50. 0	2. 28	·1147	5. 50	·02422			
3. 36	53. 0	2. 38	·1117	7. 4	·02357			
3. 55	51. 55	2. 52	·1129	8. 2	·02340			
4. 26	53. 30	3. 37	·1146	8. 49	·02345			
4. 37	51. 40	3. 52	·1140	9. 43	·02278			
5. 0	31. 0	4. 1	·1148	9. 59	·02297			
5. 23	45. 0	4. 22	·1153	12. 15	·02340			
5. 29	43. 10	4. 40	·1140	14. 32	·02364			
5. 44	49. 0	4. 52	·1119	20. 37	·02492			
5. 52	44. 0	5. 0	·1116	22. 18	·02558			
6. 8	47. 30	5. 28	·1171	23. 59	·02552			
6. 15	47. 20	5. 42	·1144					
6. 54	50. 0	5. 47	·1150					
7. 2	49. 30	6. 2	·1127					
7. 14	50. 0	6. 18	·1146					
7. 44	48. 35	6. 25	·1142					
8. 7	36. 0	6. 35	·1146					
8. 13	35. 0	6. 46	·1141					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov. 18		Nov. 18						
h m	° ′ ″	h m		h m		h m	°	°
8. 29	20. 23. 0	6. 54	·1148					
8. 46	22. 0	7. 1	·1142					
9. 8	37. 0	7. 11	·1138					
9. 16	38. 10	7. 22	·1140					
9. 38	45. 20	7. 37	·1136					
9. 57	39. 55	7. 47	·1138					
10. 4	43. 30	8. 2	·1136					
10. 15	41. 30	8. 16	·1126					
10. 33	44. 15	8. 55	·1161					
10. 40	43. 20	9. 10	·1184					
11. 3	47. 0	9. 27	·1165					
11. 8	47. 0	9. 32	·1166					
11. 12	48. 0	9. 55	·1124					
11. 18	46. 10	10. 7	·1137					
11. 30	46. 30	10. 14	·1130					
11. 56	40. 10	10. 30	·1138					
12. 35	52. 0	10. 42	·1134					
12. 40	51. 25	10. 55	·1133					
12. 45	52. 50	11. 1	·1134					
13. 10	53. 40	11. 10	·1126					
13. 25	51. 0		***					
	***	11. 46	·1132					
13. 45	51. 10		***					
14. 10	53. 0	12. 8	·1126					
14. 58	51. 0	12. 22	·1130					
15. 15	51. 10	12. 29	·1125					
15. 30	50. 20	12. 37	·1142					
15. 35	51. 0	12. 55	·1144					
15. 45	50. 45	13. 16	·1138					
15. 55	51. 0		***					
16. 8	50. 10	14. 10	·1144					
16. 21	50. 55	14. 23	·1141					
16. 27	50. 30	14. 37	·1145					
	***	14. 57	·1145					
16. 52	51. 0		***					
17. 9	50. 25	15. 22	·1149					
17. 13	51. 20		***					
17. 30	49. 55	15. 44	·1150					
17. 40	50. 30		***					
17. 50	50. 10	15. 49	·1152					
	***		***					
18. 16	51. 0	16. 46	·1148					
18. 28	50. 40		***					
18. 45	52. 0	17. 38	·1151					
19. 7	50. 20	18. 1	·1147					
	***		***					
19. 26	51. 20	19. 10	·1141					
	***		***					
19. 40	50. 30	19. 14	·1147					
20. 10	51. 50		***					
	***	19. 38	·1135					
20. 48	49. 35		***					
21. 28	49. 10	19. 46	·1140					
	***	20. 7	·1139					
21. 44	49. 50		***					
	***	20. 46	·1115					
21. 55	48. 50	20. 58	·1123					
	***	21. 37	·1138					
			***					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.	
							Of H. F. Magnet.	Of V. F. Magnet.
Nov. 18		Nov. 18						
h m	° ′ ″	h m		h m		h m	°	°
22.42	20.50.30	23. 5	·1143					
23.14	52.25		***					
23.31	51. 0	23.43	·1142					
23.43	51. 0	23.55	·1149					
23.55	53.20	23.59	·1147					
23.59	52.35							
Nov. 19		Nov. 19		Nov. 19		Nov. 19		
0. 0	20.52.30	0. 0	·1147	0. 0	·02552	0. 0	46·8	47·9
	***	0. 4	·1142	1.31	·02547	1. 0	47·2	48·0
0.23	53. 0	0. 7	·1133	1.57	·02526	2. 0	48·0	48·7
1. 0	50. 0	0.39	·1118		·02792	3. 0	48·4	49·0
1.28	50.30	0.49	·1124	3.31	·02738	6. 0	48·2	49·0
1.35	51.30	0.53	·1121	3.59	·02760	9. 0	47·2	48·3
1.56	50.30	1. 5	·1127	4.56	·02637	12. 0	46·9	47·8
2. 2	51.10	1.49	·1142	6. 7	·02578	18. 0	40·0	41·0
2.12	50.40	2. 2	·1132	8. 2	·02577	21. 0	41·5	43·9
2.19	51. 0	2.12	·1137	8.35	·02550	22. 0	42·0	43·9
2.33	50. 0	2.37	·1136	9.37	·02558	23. 0	42·6	44·0
2.46	51.40	2.52	·1147	10. 7	·02580			
3. 0	51.10	3.14	·1127	11.28	·02595			
3.14	51.30	3.21	·1136	12. 0	·02570			
3.21	50. 0	3.40	·1124	15.52	·02603			
3.48	31. 0	3.52	·1135	16. 0	·02622			
4.25	49. 0	4. 9	·1140	17.44	·02683			
4.45	51.40	4.23	·1152	22. 5	·02957			
5. 0	50.30	4.36	·1146		·02555			
5.10	50.55	4.58	·1144	23.59	·02516			
	***	5. 8	·1152					
7. 5	46.35	5.17	·1149					
7.12	46.40	5.43	·1153					
7.49	36.30	5.50	·1151					
8.25	46.40	5.57	·1153					
8.45	45.35	6.22	·1154					
8.57	46.20	6.43	·1150					
9.20	45. 0	7. 0	·1153					
9.29	45.15	7.28:	·1144					
9.45	39.35	8. 8	·1183					
10.28	47. 0	8.23	·1182					
11. 8:	44.30	8.36	·1168					
11.43:	50.10	8.53	·1162					
12.28	44.20	9. 7	·1154					
12.45	45.20	9.22	·1153					
13. 4	44.50	9.38	·1142					
13.28	45.30	9.56	·1148					
13.35	47. 0	10. 7	·1147					
13.52	47.10	10.29	·1150					
14.12	48.10	10.51	·1154					
14.30	49.20	11. 0	·1159					
14.57	50.30	11. 8	·1158					
15.26	49. 0	11.18	·1163					
15.33	50.15	11.43:	·1156					
15.46	50.40	12.10	·1170					
	***	12.38	·1163					
16. 4	52.25	13. 5	·1152					
	***	13.23	·1154					
16.15	52.35	13.35	·1153					
	***	14. 7	·1153					

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							Of H. F. Magnet.	Of V. F. Magnet.
Nov. 19		Nov. 19						
h m	° ′ ″	h m		h m		h m	°	°
16.48	20.52.55	14.58	·1156					
	***	15.29	·1143					
17.30	51. 0	16.18	·1162					
	***	16.29	·1159					
18. 3	51.30	16.42	·1163					
18.17	51.20	17.29	·1167					
18.44	51.50	18. 1	·1159					
19. 0	51. 0	18.13	·1160					
19. 8	51.40	18.30	·1154					
19.19	51. 0	18.38	·1157					
19.29	51.50	18.46	·1154					
19.37	51.10	18.56	·1158					
19.45	51.50	19. 7	·1155					
20. 0	50.50	19.48	·1156					
20.27	52.45	20.15	·1148					
20.56	52. 0	20.41	·1151					
21.20	50. 0	21.15	·1145					
21.39	50.10		***					
21.55	51.30	21.34	·1145					
22.19	56.35	21.41	·1149					
	***	21.50	·1145					
23. 7	57.30		***					
	***	22.30	·1145					
23.51	57. 0		***					
23.59	56.10	22.54:	·1149					
			***					
		23.23	·1138					
			(†)					
Nov. 20		Nov. 20		Nov. 20		Nov. 20		
0. 0	20.56.10		(†)	0. 0	·02516	0. 0	43·5	44·5
0.10	55. 0	0.46	·1139	1.24	·02502	1. 0	44·3	45·0
0.30	55. 0	1.11	·1142	3.25	·02380	2. 0	45·5	46·3
0.40	54. 0	1.38	·1155	4. 0	·02380	3. 0	46·9	47·3
0.49	53.50	2.41	·1151	5.37	·02242	9. 0	47·6	48·6
1. 0	53.10	3.17	·1151	6.25	·02243	21. 0	45·0	46·5
1. 3	54. 0	3.47	·1126	6.46	·02278			
1.27	54. 5	4. 3	·1135	7.22	·02272			
2.26	52.10	4.19	·1135	9. 1	·02315			
2.33	52.50	4.37	·1146		·02923			
2.59	52. 0	4.49	·1144	10.52	·02950			
3.10	52.50	4.59	·1150	11.51	·02920			
3.47	43.30	5.19	·1155	13.16	·02904			
4. 3	41.30	5.46	·1155	21.18	·03022			
4.17	43.55	6. 9	·1160	23.59	·03110			
4.31	48.30	6.39	·1144					
4.50	49.30	6.48	·1161					
4.59	49.20	7. 2	·1179					
5.24:	51.25	7.12	·1170					
5.59	49.30	7.18	·1170					
6.17	50.30	7.27	·1158					
6.41	35.40	7.36	·1159					
6.47	36. 0	7.45	·1158					
7. 5	43. 0	8. 9:	·1146					
7.12	43. 0	8.30	·1149					
7.19	44.50	8.37	·1148					
7.30	44.30	8.45	·1151					
7.40	45.20	9.14	·1149					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov. 20		Nov. 20						
h m	° ′ ″	h m		h m		h m	°	°
7.51	20.49.0	9.26	·1149					
8.19	49.20	9.50	·1156					
8.27	49.0	10.9	·1152					
8.43	50.0	10.17	·1154					
9.2	49.10	10.42	·1152					
9.57	50.0	10.59	·1156					
10.30	48.50	11.13	·1158					
10.45	49.20	11.23	·1162					
10.55	49.0	11.39	·1163					
11.3	50.20	11.57:	·1154					
11.47	47.0	12.20	·1164					
12.10	48.10	12.32	·1163					
12.23	48.0	12.48	·1164					
12.32	49.10	13.30:	·1156					
12.43	49.10	14.9	·1157					
12.58	49.50	14.53	·1154					
14.17:	47.5	15.14	·1148					
14.55	50.50	15.59	·1155					
15.15	50.0	16.5	·1154					
15.45	51.30	16.17	·1159					
16.16	50.30	16.37	·1163					
16.51	51.0	17.21	·1159					
17.44	49.50	17.36	·1160					
18.0	50.30	18.7	·1158					
18.24	50.10	18.29	·1160					
18.38	51.0	18.45	·1157					
18.50	51.0	19.4	·1156					
19.10	52.30	19.36	·1142					
19.39	51.55	20.5	·1146					
20.15	54.30	20.16	·1154					
20.45	50.55	20.30	·1155					
20.52	50.30	21.4	·1151					
21.6	48.30	21.27	·1155					
21.21	48.40	21.45	·1152					
21.33	51.30	22.5	·1153					
22.11	51.10	22.29	·1150					
22.26	49.20	22.44	·1150					
23.30	49.35	23.0	·1145					
23.45	54.35	23.25	·1149					
23.53	51.45	23.38	·1155					
23.57	53.45	23.59	·1145					
23.59	53.20							
Nov. 21		Nov. 21		Nov. 21		Nov. 21		
0.0	20.53.15	0.0	·1145	0.0	·03110	1.0	47·0	47·7
0.10	55.0	1.4	·1143	2.31	·03062	3.0	48·4	48·8
0.28	53.10	1.41	·1150	4.26	{ ·02943	9.0	48·2	49·0
0.36	53.30	2.9	·1132		{ ·03060	21.0	42·5	44·9
1.8	52.0	3.7	·1150	5.24	·03015			
1.34	54.10	3.22·	·1143	6.16	{ ·02962			
1.54	55.0	3.58	·1143		{ ·03020			
2.3	54.0	4.20	·1151	9.12	·02938			
2.15	50.20	4.52	·1140	10.12	·02956			
2.31	49.0	5.19	·1161	11.42	·02925			
3.18	53.50	5.37	·1155	13.36	·02956			
3.30	53.50	6.36	·1150	13.58	·02954			
4.7	49.55	7.39	·1155	16.2	·03016			
4.15	49.55	8.7	·1155	19.45:	·03197			

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov. 21		Nov. 21		Nov. 21				
h m	° ′ ″	h m		h m		h m	°	°
4.34	20.48.10	8.17	·1158	22.55	·03110			
4.42	48.10	8.55	·1148	23.59	·03116			
5.0	43.0	9.9	·1148					
5.12	43.0	9.26	·1143					
5.32	48.30	9.40	·1145					
5.53	48.20	10.15	·1142					
6.35	49.50	10.37	·1164					
6.52	48.55	11.11	·1160					
7.35	48.10	11.36	·1152					
7.57	46.0	11.52	·1153					
8.19	45.10	12.7	·1150					
8.30	46.0	13.12	·1153					
9.15	38.40	13.30	·1162					
10.1	45.0	14.20	·1143					
10.15	51.40	14.52	·1152					
10.42	48.35	15.4	·1153					
10.57	49.30	15.41	·1160					
11.14	47.50	16.41	·1159					
11.48	44.30	17.37	·1165					
12.36	48.40	18.15	·1164					
12.45	50.0	18.37	·1159					
12.55	49.30	18.56	·1160					
13.11	50.30	19.8	·1152					
13.27	49.40	19.41	·1154					
13.45	49.30	19.58	·1158					
13.56	51.0	20.59	·1157					
14.38	54.0	21.28	·1155					
14.59	53.0	21.47	·1156					
15.10	51.40	22.36	·1154					
15.22	51.25	23.12	·1147					
15.33	49.40	23.39	·1155					
16.0	48.10	23.59	·1156					
16.22	50.10							
17.8	50.0							
17.16	50.30							
17.29	50.0							
18.46	50.30							
18.59	50.5							
19.18	51.30							
19.43	49.55							
19.49	50.5							
19.57	50.0							
20.16	51.0							
21.57	47.10							
22.10:	46.30							
22.44	50.55							
22.48	50.35							
22.57	51.30							
23.4	51.0							
23.59	55.10							
Nov. 22		Nov. 22		Nov. 22		Nov. 22		
0.0	20.55.40	0.0	·1156	0.0	·03116	1.0	45·7	46·9
0.12	54.20	0.12	·1151	1.6	{ ·03105	3.0	47·8	48·8
0.24	53.50	0.23	·1149		{ ·02648	9.0	46·9	48·0
1.0	53.55	0.41	·1153	3.6	·02520	21.30	37·3	40·5
1.19	53.25	1.7	·1155	4.18	·02397			
1.45	53.15	1.16	·1153	5.4	·02364			

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov. 22		Nov. 22		Nov. 22				
h m	° ′ ″	h m		h m		h m	°	°
1. 48	20. 54. 5	1. 34	·1154	7. 36	·02442			
2. 3	52. 25	1. 45	·1150	8. 28	·02440			
2. 8	52. 30	1. 53	·1153		·02544			
2. 54	48. 25	2. 0	·1143	8. 57	·02538			
3. 7	50. 25	2. 28	·1136		·02570			
3. 15	50. 20	2. 34	·1140	10. 7	·02573			
3. 41	53. 0	2. 48	·1140	12. 41	·02642			
3. 47	52. 30	3. 4	·1148	20. 2	·03034			
4. 7	52. 30	3. 20	·1149	23. 59	·02820			
4. 15	51. 40	3. 32	·1144					
4. 20	51. 35	3. 46	·1140					
4. 56	45. 0	4. 15	·1141					
5. 3	46. 30	4. 23	·1144					
5. 15	45. 0	4. 30	·1139					
5. 28	47. 30	4. 35	·1140					
6. 1	52. 30	4. 40	·1137					
6. 18	53. 0	5. 2	·1150					
6. 43	52. 30	5. 12	·1150					
7. 2	52. 30	5. 30	·1155					
7. 18	51. 35	5. 58	·1150					
7. 30	51. 40	6. 17	·1150					
7. 38	50. 30	6. 35	·1143					
8. 2	44. 30	6. 46	·1144					
8. 11	44. 30	7. 8	·1141					
8. 36	49. 50	7. 38	·1140					
8. 58	50. 25	8. 1	·1149					
9. 13	50. 0	8. 17:	·1162					
9. 55	50. 10	8. 43	·1148					
10. 3	51. 0	9. 12	·1144					
10. 14	50. 50	9. 38	·1143					
10. 23	51. 10	9. 51	·1146					
10. 32	50. 30	10. 1	·1144					
13. 53	52. 40	10. 15	·1146					
14. 5	52. 0	10. 45	·1146					
15. 34	53. 0	11. 7	·1152					
16. 10	52. 10	11. 25	·1150					
16. 31	53. 15	12. 29	·1151					
17. 4	51. 55	12. 37	·1154					
18. 8	53. 0	13. 52	·1154					
18. 30	51. 45	14. 2	·1157					
19. 27	51. 35	14. 52	·1157					
19. 35	52. 25	15. 16	·1159					
20. 0	52. 30	15. 30	·1157					
20. 11	51. 50	15. 38	·1160					
20. 47	50. 20	16. 57	·1162					
21. 32	49. 15	17. 37	·1165					
22. 3	49. 50	18. 23	·1170					
22. 15	51. 30	18. 31	·1166					
22. 24	51. 25	18. 53	·1164					
22. 29	52. 35	19. 4	·1161					
22. 45	52. 30	19. 36	·1162					
22. 52	51. 0	20. 8	·1163					
23. 21	53. 20	20. 15	·1165					
23. 59	52. 0	20. 24	·1162					
		20. 30	·1164					
		20. 41	·1161					
		20. 50	·1162					
		20. 58	·1160					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Nov. 22						
h m	° ′ ″	h m		h m		h m	°	°
		21. 20	·1157					
		21. 27	·1154					
		21. 41	·1154					
		22. 20	·1142					
		22. 33	·1138					
		22. 39	·1142					
		22. 45	·1141					
		22. 57	·1146					
		23. 26	·1147					
		23. 56	·1147					
		23. 59	·1147					
Nov. 23		Nov. 23		Nov. 23		Nov. 23		
0. 0	20. 52. 0	0. 0	·1147	0. 0	·02820	9. 0	39·0	41·8
0. 20	53. 15	0. 16	·1150	1. 7	·02762	21. 0	36·8	39·0
0. 30	52. 35	1. 1	·1150	1. 45	·02770			
0. 52	51. 55	1. 46	·1159		·02712			
1. 10	53. 0	2. 4	·1159	2. 33	·02710			
1. 18	52. 50	2. 21	·1156	3. 16	·02688			
1. 46	54. 30	2. 52	·1150	3. 55	·02694			
2. 33	55. 0	3. 16	·1148	4. 31	·02657			
2. 57	52. 35	3. 48	·1156	6. 34	·02600			
3. 12	52. 45	5. 30	·1157	7. 0	·02596			
3. 28	51. 30	5. 37	·1154	7. 27	·02572			
4. 8	54. 0	6. 0	·1164	10. 1	·02545			
4. 43	50. 30	6. 22	·1148	12. 48	·02587			
4. 57	51. 0	6. 30	·1155	15. 30	·02683			
5. 25	50. 55	6. 46	·1184	21. 15	·02482			
5. 47	47. 45	7. 1	·1165	22. 33	·02462			
6. 8:	49. 35	7. 26	·1160		·02341			
6. 39	36. 30	7. 37	·1154	23. 59	·02380			
7. 0	46. 0	8. 6	·1152					
7. 18	44. 10	8. 26	·1155					
8. 15	49. 0	8. 36	·1154					
8. 48	50. 0	9. 16	·1163					
9. 12	49. 45	9. 28	·1159					
9. 23	50. 15	9. 42	·1162					
10. 2	48. 55	9. 53	·1160					
10. 14	49. 10	10. 5	·1162					
11. 2	48. 10	10. 20	·1160					
12. 3	50. 30	10. 32	·1161					
12. 40	49. 35	10. 45	·1159					
13. 25	50. 30	11. 5	·1163					
13. 45	49. 40	11. 24	·1160					
14. 0	50. 55	11. 35	·1162					
14. 23	50. 10	11. 41	·1160					
14. 44	51. 30	11. 53	·1162					
15. 38	49. 0	12. 0	·1164					
16. 23	48. 50	12. 8	·1161					
17. 13	49. 30	12. 16	·1163					
17. 44	48. 30	12. 59	·1164					
18. 31	49. 40	13. 16	·1162					
19. 46	49. 30	13. 34	·1164					
20. 49	47. 55	13. 47	·1163					
21. 16	48. 40	14. 22	·1168					
21. 47	47. 0	14. 35	·1166					
22. 11	49. 50	14. 46	·1169					
22. 33	49. 30	15. 3	·1167					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H.F. Magnet.	Readings of Thermometers. Of V.F. Magnet.
Nov. 23		Nov. 23						
h m	° ′ ″	h m		h m		h m	°	°
22. 49	20. 52. 15	15. 37	·1170					
23. 29	53. 10	16. 7	·1172					
23. 45	51. 50	16. 22	·1169					
23. 48	53. 0	17. 8	·1171					
23. 59	52. 50	17. 26	·1173					
		18. 22	·1170					
		18. 53	·1172					
		19. 22	·1172					
		19. 24	·1169					
		19. 43	·1170					
		20. 15	·1163					
		21. 10	·1166					
		22. 23	·1154					
		23. 18	·1155					
		23. 45	·1154					
			(†)					
Nov. 24		Nov. 24		Nov. 24		Nov. 24		
0. 0	20. 52. 40		(†)	0. 0	·02380	1. 0	41·0	43·0
0. 3	52. 35	1. 0	·1155*	2. 29	·02236	3. 0	43·9	45·2
0. 30	52. 50	1. 3	·1152	4. 17	·01990	9. 0	44·5	45·5
0. 53	51. 40	1. 40	·1152	6. 23	·01772	21. 0	39·2	41·0
1. 39	52. 55	2. 11	·1157	7. 37	·01767			
2. 29	50. 0	2. 47	·1156	8. 57	·01795			
2. 41	50. 40	3. 1	·1159	11. 23	·01804			
2. 50	49. 30	3. 25	·1156	17. 38	·01966			
3. 1	50. 0	3. 32	·1162	23. 14	·02158			
3. 6	49. 25	3. 42	·1163	23. 59	·02156			
3. 16	49. 30	4. 27	·1152					
3. 25	48. 40	4. 47	·1158					
3. 35	49. 20	5. 0	·1157					
3. 50	51. 20	5. 52	·1163					
4. 28	50. 0	6. 40	·1160					
4. 51	51. 50	7. 9	·1154					
6. 3	49. 50	7. 16	·1156					
7. 3	50. 50	7. 33	·1156					
7. 12	50. 25	7. 46	·1149					
7. 27	50. 30	7. 59	·1156					
7. 57	42. 40	8. 8	·1155					
8. 45	49. 30	8. 25	·1151					
9. 49	49. 0	8. 46	·1156					
10. 13	50. 0	9. 0	·1158					
12. 6	49. 30	9. 16	·1154					
12. 45	50. 35	9. 30	·1154					
15. 15	51. 0	9. 43	·1157					
15. 43	52. 20	10. 4	·1159					
16. 15	51. 0	10. 26	·1156					
17. 8	50. 15	10. 45	·1159					
17. 28	51. 0	12. 1	·1158					
17. 45	50. 20	13. 56	·1162					
20. 7	51. 45	14. 12	·1164					
20. 57	48. 40	15. 7	·1165					
21. 22	48. 40	15. 41	·1164					
22. 15	50. 55	16. 15	·1168					
22. 27	49. 35	16. 53	·1171					
23. 11	49. 30	17. 32	·1169					
23. 59	51. 35	17. 54	·1170					
		18. 31	·1167					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H.F. Magnet.	Readings of Thermometers. Of V.F. Magnet.
		Nov. 24						
h m	° ′ ″	h m		h m		h m	°	°
		19. 10	·1170					
		22. 1	·1156					
		22. 14	·1156					
		22. 23	·1153					
		22. 49	·1152					
		23. 3	·1160					
		23. 22	·1161					
		23. 35	·1164					
		23. 59	·1167					
Nov. 25		Nov. 25		Nov. 25		Nov. 25		
0. 0	20. 51. 40	0. 0	·1169	0. 0	·02156	1. 0	43·0	43·8
0. 12	53. 0	0. 14	·1162	1. 41	·02080	3. 0	45·5	46·0
0. 38	51. 40	0. 18	·1160	2. 50	{ ·01982	9. 0	47·0	47·5
0. 51	52. 0	0. 33	·1157		{ ·02366	21. 0	44·7	46·0
1. 1	51. 40	0. 43	·1160	5. 25	·02177	22. 0	44·8	46·0
1. 18	52. 5	1. 25	·1156	6. 21	·02170	23. 0	45·4	46·8
1. 35	51. 0	1. 44	·1162	9. 5	·02242			
2. 18	51. 15	2. 39	·1163	9. 21	·02257			
3. 43	50. 30	3. 46	·1162	12. 20	·02278			
3. 53	51. 10	4. 1	·1168	12. 44	·02270			
4. 46	51. 0	4. 12	·1165	22. 20	·02367			
5. 16	50. 0	4. 32	·1166	23. 59	·02320			
7. 46	50. 40	5. 1	·1164					
8. 14	49. 40	5. 9	·1167					
8. 35	50. 35	6. 13	·1169					
9. 12	48. 55	7. 28	·1164					
9. 28	50. 0	7. 45	·1165					
11. 32	50. 15	8. 4	·1160					
11. 57	49. 30	8. 13	·1160					
12. 23	51. 30	8. 45	·1154					
12. 48	50. 20	9. 7	·1156					
13. 30	50. 10	9. 23	·1159					
13. 50	50. 30	9. 55	·1158					
14. 15	50. 0	11. 23	·1157					
16. 38	50. 40	11. 33	·1159					
17. 47	49. 25	11. 47	·1158					
18. 16	50. 30	12. 8	·1166					
	***	12. 39	·1162					
21. 0	48. 20	13. 13	·1160					
21. 23	47. 0	15. 0	·1164					
22. 16	47. 10	16. 38	·1167					
23. 7	48. 10	17. 24	·1164					
23. 17	49. 35	17. 36	·1165					
23. 59	50. 35	17. 48	·1164					
		18. 9	·1167					
		18. 57	·1164					
		19. 1	·1166					
		19. 25	·1163					
		19. 36	·1159					
		19. 52	·1159					
		20. 27	·1153					
			***					
		21. 39	·1153					
			***					
		22. 27	·1158					
		22. 49	·1155					
		22. 50	·1158					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
Nov. 26	
0. 0	20. 50. 0
0. 17	51. 45
0. 37	50. 40
1. 24	51. 15
2. 44	49. 25
3. 25	51. 0
5. 7	50. 20
6. 10	48. 10
7. 17	49. 50
8. 0	46. 0
8. 23	48. 40
8. 50	47. 40
9. 0	48. 0
9. 27	46. 50
9. 43	47. 30
10. 15	46. 0
10. 58:	36. 30
11. 15	38. 30
11. 27	38. 40
11. 50	43. 50
11. 55	44. 0
12. 2	45. 0
12. 47	46. 30
13. 16	46. 20
13. 33	47. 20
14. 30	48. 0
14. 45	48. 30
14. 57	46. 30
15. 0	48. 40
15. 15	47. 0
15. 35	49. 0
16. 1	47. 20
17. 0	51. 0
17. 12	51. 0
17. 35	49. 55
17. 58	50. 40
18. 15	50. 10
18. 47	50. 40
19. 18	53. 35
20. 28	49. 10
20. 57	49. 45
21. 8	51. 50
21. 29	51. 0
21. 50	52. 10
22. 0	51. 40
22. 14	52. 0
22. 36	51. 0
	***
23. 59	54. 40

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Nov. 25 h m	
23. 13	·1156
23. 44	·1153
	***
23. 59	·1153
Nov. 26	
0. 0	·1153
	***
0. 52	·1153
1. 48	·1162
2. 46	·1153
3. 8	·1158
3. 17	·1156
3. 52	·1157
4. 0	·1154
4. 17	·1158
4. 30	·1156
5. 12	·1158
5. 22	·1157
6. 32	·1160
7. 22	·1154
7. 38	·1148
7. 47	·1150
8. 4	·1147
8. 21	·1158
8. 37	·1147
9. 5	·1147
9. 9	·1145
9. 30	·1145
9. 38	·1147
10. 0	·1146
10. 16	·1153
10. 37	·1146
11. 4	·1157
11. 35	·1146
11. 43	·1146
12. 0	·1142
12. 5	·1146
12. 30	·1147
12. 38	·1145
13. 5	·1150
13. 35	·1150
13. 45	·1154
14. 19	·1151
14. 32	·1155
14. 47	·1152
14. 54	·1154
15. 6	·1152
16. 17	·1162
16. 36	·1161
16. 51	·1165
17. 0	·1162
17. 8	·1164
17. 15	·1162
17. 23	·1166
17. 38	·1167
17. 46	·1170

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
Nov. 26	
0. 0	·02320
1. 48	·02267
2. 53	·02343
	·02948
5. 15	·02853
6. 39	·02830
	·02902
8. 8	·02867
9. 41	·02836
	·02922
11. 28	·02873
12. 1	·02878
	·02922
14. 0	·02920
15. 11	·02956
18. 26	·03155
20. 30	·03242
22. 31	·03197
23. 59	·03164

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Nov. 26		
0. 0	46·5	47·2
1. 0	47·3	47·8
2. 0	48·0	48·5
3. 0	49·1	49·3
6. 0	49·6	50·0
9. 0	49·4	50·0
12. 0	48·4	49·3
18. 0	44·7	46·2
21. 0	44·5	46·0
22. 0	45·0	46·0
23. 0	46·0	47·0

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
Nov. 27	
0. 0	20. 55. 0
0. 19	56. 40
0. 30	55. 15
0. 33	56. 20
1. 18	52. 50
1. 43	54. 0
2. 5	52. 30
2. 14	53. 20
2. 26	52. 30
2. 49	53. 20
3. 8	52. 0
3. 17	53. 20
3. 31	52. 10
3. 44	49. 30
3. 53	48. 20
4. 0	44. 30
4. 32	51. 30
4. 39	51. 10
4. 48	54. 5
5. 0	53. 20
5. 8	51. 10
5. 15	54. 30
5. 28	48. 25
5. 33	48. 0
5. 46	35. 10
6. 8	55. 0
6. 29	41. 0
6. 41	50. 50
6. 50	50. 10
7. 7	53. 15
7. 27	48. 10
7. 35	49. 50
7. 53	48. 25

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Nov. 26 h m	
17. 51	·1169
17. 58	·1172
18. 31	·1172
19. 4	·1170
19. 8	·1168
19. 32	·1170
20. 27	·1167
21. 1	·1169
21. 7	·1173
21. 22	·1169
21. 37	·1170
22. 1	·1162
22. 16	·1160
22. 38	·1150
22. 49	·1151
22. 58	·1149
23. 14	·1152
23. 23	·1155
23. 30	·1152
23. 33	·1155
23. 41	·1149
23. 46	·1150
23. 59	·1136
Nov. 27	
0. 0	·1136
0. 45:	·1146
1. 24	·1137
1. 33	·1141
1. 58	·1151
2. 1	·1148
2. 14	·1153
2. 22	·1150
2. 39	·1157
3. 9	·1160
3. 19	·1158
3. 38	·1136
3. 49	·1136
3. 57	·1130
4. 7	·1141
4. 11	·1140
4. 28	·1151
4. 38	·1146
4. 43	·1149
4. 58	·1137
5. 0	·1139
5. 7	·1133
5. 16	·1145
5. 25	·1125
5. 30	·1128
5. 38	·1121
5. 52	·1162
6. 0	·1158
6. 2	·1169
6. 23	·1120
6. 35	·1149
6. 47	·1129
6. 59	·1125

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
Nov. 27	
0. 0	·03164
1. 9	·03157
2. 0	·03100
2. 52	·03022
	·02758
4. 11	·02658
4. 50	·02583
5. 4	·02577
5. 10	·02550
5. 41	·02562
6. 9	·02488
	·02555
6. 26	·02567
6. 41	·02548
7. 15	·02557
7. 20	·02612
8. 31	·02605
9. 18	·02566
13. 21	·02663
15. 7	·02700
16. 28	·02798
19. 36	·02950
23. 9	·03097
	·02876
23. 59	·02874

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Nov. 27		
0. 0	47·2	47·9
1. 0	47·9	48·5
2. 0	49·2	49·8
3. 0	50·4	51·0
9. 0	51·0	50·8
21. 0	45·5	46·8

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov.27		Nov.27						
h m	° ′ ″	h m		h m		h m	°	°
8. 17	20. 38. 15	7. 13	·1108					
8. 31	43. 25	7. 31	·1121					
9. 6	37. 35	7. 42	·1114					
9. 20	41. 30	7. 46	·1116					
9. 30	39. 10	7. 53	·1109					
9. 48	44. 30	7. 55	·1112					
9. 58	44. 40	8. 3	·1107					
10. 15	48. 10	8. 10	·1118					
	***	8. 31	·1124					
11. 9	47. 10	8. 45	·1125					
11. 54	49. 0	9. 2	·1141					
12. 3	50. 30	9. 16	·1125					
12. 36	51. 10	9. 32	·1139					
12. 59	51. 15	9. 40	·1132					
13. 27:	54. 0	9. 52	·1137					
13. 56	52. 50	10. 10	·1130					
14. 5	53. 0	11. 1	·1135					
14. 28	57. 50	11. 13	·1133					
15. 7	51. 55	11. 26	·1136					
15. 42	50. 0	11. 47	·1135					
16. 47	50. 50	11. 58	·1139					
17. 7	51. 45	13. 7	·1138					
17. 22	50. 55	13. 24	·1146					
	***	14. 4	·1143					
19. 13	52. 0	14. 31	·1151					
19. 39	51. 0	14. 53	·1154					
19. 50	51. 30	15. 8	·1148					
23. 3	51. 15	15. 22	·1150					
23. 59	52. 30	15. 49	·1150					
		16. 11:	·1156					
		16. 37	·1151					
		17. 10	·1153					
		18. 26	·1150					
		18. 52	·1153					
		19. 5	·1147					
		20. 19	·1145					
		20. 38	·1150					
		21. 2	·1151					
		21. 18	·1153					
		21. 54	·1152					
		22. 37	·1148					
		23. 49	·1138					
		23. 59	·1137					
Nov.28		Nov.28		Nov.28		Nov.28		
0. 0	20. 52. 30	0. 0	·1137	0. 0	·02874	1. 0	48 ·8	49 ·5
0. 45	53. 50	0. 32	·1136	2. 29	·02755	3. 0	51 ·2	51 ·4
0. 54	53. 40		(†)	5. 30	·02463	9. 0	52 ·0	52 ·5
1. 23	56. 0	1. 0	·1135*	6. 52	·02375	21. 0	47 ·9	49 ·0
1. 49	53. 0	1. 42	·1146	7. 30	·02362			
	***	2. 23	·1143	9. 49	·02402			
2. 12	53. 10	2. 48	·1144	11. 29	·02400			
	***	3. 0	·1140	12. 5	·02868			
2. 37	51. 0	3. 16	·1143	13. 33	·02422			
2. 48	45. 30	3. 30	·1140	13. 40	·02411			
3. 9	52. 0	4. 7	·1141	18. 6	·02576			
3. 15	47. 0	5. 22	·1148	23. 59	·02694			
3. 25	52. 25	6. 9	·1143					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov.28		Nov.28						
h m	° ′ ″	h m		h m		h m	°	°
3. 28	20. 51. 0	6. 25	·1145					
3. 38	51. 55	6. 40	·1143					
3. 52	51. 0	7. 2	·1135					
5. 37	52. 0	7. 20	·1147					
6. 42	50. 50	7. 38	·1141					
7. 36	48. 35	7. 47	·1142					
7. 57	50. 30	7. 58	·1140					
8. 19	51. 0	9. 21	·1143					
8. 57	50. 0	9. 25	·1144					
9. 33	50. 35	9. 38	·1142					
10. 30	49. 0	10. 1	·1147					
11. 14	50. 0	11. 20	·1144					
11. 30	51. 50	11. 35	·1161					
12. 8	46. 10	11. 50	·1160					
12. 43	50. 0	12. 8	·1145					
12. 48	54. 45	13. 1	·1139					
13. 21	56. 50	13. 17	·1146					
13. 57	52. 0	13. 26	·1154					
14. 14	51. 0	13. 32	·1149					
14. 25	48. 40	13. 52	·1160					
14. 33	50. 50	14. 8	·1154					
14. 59	49. 10	14. 22	·1158					
15. 30	51. 35	14. 31	·1154					
15. 46	51. 35	15. 0	·1151					
16. 0	50. 40	15. 37	·1156					
16. 12	51. 30	15. 46	·1154					
19. 7	52. 5	16. 1	·1160					
20. 43	51. 0	16. 11	·1159					
22. 2	51. 0	17. 49	·1162					
23. 18	52. 30	18. 22:	·1155					
23. 37	52. 0	18. 57	·1160					
23. 49	52. 25	19. 22	·1158					
23. 59	51. 25	19. 39	·1159					
		19. 46	·1156					
		19. 52	·1157					
		19. 58	·1154					
		20. 4	·1157					
		20. 39	·1151					
		21. 7	·1149					
		21. 23	·1146					
		22. 0	·1145					
		22. 29	·1145					
		22. 37	·1147					
		22. 56	·1141					
		23. 46	·1146					
		23. 59	·1146					
Nov.29		Nov.29		Nov.29		Nov.29		
0. 0	20. 51. 20	0. 0	·1146	0. 0	·02694	1. 0	49 ·7	50 ·1
0. 30	52. 25	0. 23	·1147	2. 17	·02637	3. 0	51 ·0	51 ·0
1. 9	52. 0	1. 9	·1143	7. 14:	·02458	9. 0	49 ·8	50 ·1
2. 40	49. 0	1. 34	·1146	13. 22	·02577	22. 35	44 ·5	45 ·0
3. 20	51. 0	2. 8	·1150	17. 24	·02694			
6. 4	50. 25	2. 22	·1152	21. 3	·02772			
9. 3	50. 50	2. 59	·1148	23. 59	·02883			
10. 3	50. 20	3. 24	·1152					
12. 2	51. 5	3. 26	·1148					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov. 29		Nov. 29						
h m	° ′ ″	h m		h m		h m	°	°
12. 23	20. 51. 40	4. 20	·1147					
13. 7	49. 40	5. 32	·1149					
13. 41	50. 55	5. 47	·1148					
14. 8	50. 40	6. 24	·1151					
14. 32	51. 25	7. 50	·1149					
15. 10	50. 15	8. 41	·1148					
15. 40	50. 30	8. 58	·1147					
16. 46	49. 25	9. 48	·1148					
19. 44	50. 25	10. 15	·1151					
20. 26	51. 25	11. 7	·1148					
20. 51	51. 0	11. 41	·1149					
22. 1	52. 40	11. 53	·1150					
22. 15	52. 20	12. 13	·1151					
22. 20	52. 30	12. 30	·1152					
	(†)	12. 35	·1154					
23. 11	52. 40	12. 41	·1152					
23. 30	51. 50	12. 46	·1154					
23. 56	51. 50	13. 30	·1149					
23. 59	51. 55	14. 6:	·1152					
		14. 32	·1150					
		15. 5	·1154					
		15. 46	·1153					
		16. 35	·1159					
		18. 17	·1160					
		18. 45	·1163					
		19. 11	·1162					
		19. 47	·1158					
		19. 58	·1159					
		20. 7	·1156					
		21. 52	·1151					
		22. 0	·1154					
		22. 17	·1150					
		22. 30	·1151					
			(†)					
Nov. 30		Nov. 30		Nov. 30		Nov. 30		
0. 0	20. 52. 0	0. 0	·1152	0. 0	·02883	9. 0	46·8	48·0
0. 14	51. 20	0. 14	·1148	1. 49	·02916	21. 0	45·9	47·5
0. 45	51. 50	0. 21	·1151	6. 41	·02828			
4. 0	50. 55	0. 37	·1150	9. 39	·02830			
5. 5	51. 10	0. 45	·1154	12. 4	·02805			
5. 16	50. 40	1. 13	·1154	13. 37	·02800			
8. 45	49. 30	1. 23	·1153	14. 26	·02752			
9. 0	48. 45	1. 31	·1152	14. 48	·02757			
12. 59	49. 30	2. 8	·1154	15. 24	·02744			
13. 45	51. 30	2. 22	·1157	16. 20	·02815			
14. 30	40. 10	2. 47	·1158	21. 5	{ ·02953			
14. 41	42. 30	2. 58	·1154		·02256			
15. 5	36. 50	3. 8	·1157	23. 59	·02236			
15. 14	37. 0	4. 1	·1156					
15. 30:	36. 0	4. 15	·1161					
16. 26	44. 35	5. 12	·1156					
17. 57	48. 25	5. 23	·1158					
18. 22	47. 55	6. 7	·1160					
18. 33	48. 30	7. 5	·1159					
18. 41	48. 0	7. 17	·1156					
18. 57	48. 40	7. 30	·1158					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Nov. 30		Nov. 30						
h m	° ′ ″	h m		h m		h m	°	°
19. 5	20. 47. 10	7. 43	·1156					
19. 35	49. 40	8. 9	·1158					
20. 45	49. 50	9. 1	·1159					
21. 1	49. 10	9. 8	·1160					
22. 12	54. 30	9. 19	·1159					
22. 26	53. 30	10. 28	·1161					
22. 40	53. 30	10. 55	·1160					
22. 46	54. 10	11. 9	·1162					
23. 3	52. 40	11. 22	·1160					
23. 41	53. 15	11. 32	·1162					
23. 48	54. 15	11. 53	·1161					
23. 59	54. 25	12. 1	·1154					
		12. 8	·1161					
		12. 28	·1158					
		12. 51	·1160					
		13. 21	·1163					
		13. 44	·1178					
		14. 0	·1173					
		14. 16	·1178					
		14. 40	·1172					
		14. 52	·1174					
		15. 2	·1166					
		15. 8	·1167					
		15. 17	·1158					
		15. 30	·1158					
		15. 54	·1148					
		16. 15	·1156					
		16. 44	·1163					
		17. 15	·1158					
		18. 0	·1157					
		18. 27	·1163					
		18. 34	·1160					
		18. 40	·1162					
		19. 0	·1157					
		19. 7	·1158					
		19. 21	·1154					
		19. 30	·1156					
		19. 41	·1152					
		19. 59	·1153					
		20. 45	·1135					
		20. 58	·1134					
		21. 5	·1137					
		21. 22	·1132					
		21. 42	·1134					
		21. 52	·1132					
		21. 59	·1136					
		22. 8	·1133					
		22. 23	·1140					
		22. 29	·1139					
		22. 39	·1146					
		23. 4	·1142					
		23. 19	·1145					
		23. 26	·1140					
		23. 39	·1142					
		23. 47	·1134					
		23. 59	·1132					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.
Dec. 1 h m	° ′ ″
0. 0	20. 54. 25
0. 47	55. 45
1. 0	55. 0
1. 15	56. 0
1. 35	53. 25
1. 48	55. 50
1. 56	54. 30
2. 3	57. 40
2. 18	47. 0
2. 50	54. 50
3. 24	51. 30
4. 2	51. 35
4. 26	45. 0
4. 30	48. 30
4. 34	48. 0
4. 46	51. 35
5. 31	52. 20
6. 47	49. 30
7. 7	50. 30
7. 25	48. 20
7. 43	38. 50
8. 5	38. 30
8. 40	47. 5
8. 54	45. 30
9. 1	47. 30
9. 20	46. 10
9. 51	46. 10
10. 6	45. 30
10. 42	47. 5
10. 52	47. 0
11. 0	47. 30
11. 18	47. 10
11. 33	46. 30
12. 10	49. 10
12. 20	48. 50
12. 45	49. 10
13. 5	48. 20
13. 14	48. 0
13. 35:	45. 30
13. 50	46. 30
14. 15	46. 20
14. 25	47. 20
14. 43	44. 30
15. 1	48. 30
15. 27	48. 50
15. 41	49. 45
17. 17	49. 45
17. 45	48. 45
17. 53	49. 30 ***
20. 8	49. 45
20. 33:	50. 30
21. 3	49. 15
21. 46	48. 35
22. 23	50. 55
22. 28	48. 20
22. 37	54. 0
22. 47	52. 20

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Dec. 1 h m	
0. 0	·1132
0. 28	·1130
0. 40	·1133
1. 38	·1133
2. 4	·1145
2. 10	·1116
2. 26	·1140
2. 50	·1112
3. 2	·1115
3. 30	·1136
3. 44	·1138
4. 13	·1136
4. 38	·1143
4. 52	·1138
5. 13	·1141
5. 45	·1135
6. 19	·1138
6. 37	·1135
7. 2	·1139
7. 30	·1132
7. 38	·1120
8. 0	·1136
8. 11	·1139
8. 25	·1129
8. 47	·1126
9. 4	·1132
9. 14	·1130
9. 39	·1133
10. 0	·1131
10. 33	·1139
10. 45	·1139
10. 52	·1141
11. 2	·1140
11. 13	·1146
11. 45	·1154
12. 1	·1150
12. 9	·1153
12. 39:	·1146
13. 0	·1152
13. 7	·1152
13. 16	·1156
13. 26	·1158
13. 40	·1151
13. 47	·1152
13. 59	·1148
14. 7	·1153
14. 15	·1161
14. 29	·1157
14. 38	·1160
15. 22:	·1155 ***
16. 35	·1156
16. 41	·1155
16. 56	·1157 ***
17. 22	·1159 ***
17. 42	·1164

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
Dec. 1 h m	
0. 0	·02236
1. 6	{ ·02220
	·02358
1. 57	·02360
2. 5	·02322
2. 11	·02357
2. 37	·02318
3. 0	{ ·02317
	·02610
3. 52	{ ·02595
	·02658
4. 23	{ ·02611
	·02685
6. 35	·02556
7. 39	·02544
7. 57	·02563
8. 25	·02560
9. 13	·02577
10. 0	·02558
13. 42	·02566
14. 24	·02600
14. 39	·02605
19. 7	{ ·02836
	·02605
19. 45	·02544
20. 56	{ ·02584
	·02488
23. 29	·02570
23. 59	·02568

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Dec. 1 h m	°	°
1. 0	49·0	49·5
3. 0	50·8	50·9
9. 0	50·9	51·5
21. 0	45·0	46·8

Greenwich Mean Solar Time.	Western Declination.
Dec. 1 h m	° ′ ″
23. 22	20. 53. 0
23. 31	55. 30
23. 46	55. 0
23. 59	55. 30
Dec. 2	
0. 0	20. 55. 55
0. 31	58. 25
0. 59	58. 35
1. 36	57. 30
1. 57	57. 50
2. 45	54. 25
3. 45:	58. 0
4. 29	46. 50
4. 53	46. 25
5. 6	50. 30
5. 30	53. 0
5. 43	52. 0
5. 54	53. 0
6. 5	51. 0
6. 16	52. 0
6. 35	47. 10
6. 51	48. 0
7. 3	47. 0
7. 30	49. 0
7. 46	48. 15
8. 13	44. 40
8. 27	45. 0
8. 49	44. 0
9. 5	44. 40
9. 32	42. 10
9. 48	43. 15
9. 58	45. 0
10. 15	43. 40
10. 40	45. 30
10. 55	42. 30
11. 9	44. 25
11. 22	44. 30
11. 59	48. 20
12. 30	47. 55
13. 13	51. 0

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Dec. 1 h m	
18. 23	·1163
18. 52	·1164
19. 37	·1161
19. 55	·1161
20. 18	·1157
20. 38	·1156
21. 30	·1146 ***
21. 49	·1145 ***
21. 55	·1147 ***
22. 9	·1144
22. 17	·1145
22. 25	·1143
22. 33	·1146 ***
23. 17	·1141
23. 26	·1146
23. 39	·1137
23. 59	·1142
Dec. 2	
0. 0	·1142
0. 9	·1147
0. 30	·1141
1. 0	·1152
1. 24	·1153
2. 23	·1141
2. 53	·1145,
3. 23	·1155
3. 54	·1147
4. 5	·1131
4. 15	·1134
4. 27	·1128
4. 35	·1138
4. 46	·1139
5. 3	·1155
5. 14	·1145
5. 23	·1143
5. 39	·1132
6. 15	·1136
6. 27	·1130
6. 42	·1132
7. 4	·1120
7. 32	·1122
7. 43	·1129
8. 7	·1128
8. 16	·1132
8. 33	·1125
8. 54	·1135
9. 9	·1130
9. 26	·1135
9. 32	·1135
9. 41	·1140
9. 50	·1139
10. 16	·1144
10. 32	·1142

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
Dec. 2	
0. 0	·02568
1. 39	·02500
3. 47	·02344
4. 4	·02377
5. 39	·02270
6. 28	·02250
7. 13	{ ·02266
	·02558
9. 37	·02532
10. 29	·02490
11. 58	·02470
16. 45	·02576
21. 53	{ ·02641
	·02752
23. 59	·02752

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Dec. 2		
1. 0	48·4	49·0
3. 0	50·5	51·0
9. 0	50·5	50·9
21. 0	48·5	50·0
22. 0	49·0	50·1
23. 0	49·9	50·5

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Dec. 2		Dec. 2						
h m	° ′ ″	h m		h m		h m	°	°
14. 43	20. 52. 0	10. 47	·1154					
15. 15	51. 30	11. 1	·1150					
16. 30	51. 45	11. 33	·1148					
16. 49	52. 0	11. 45	·1153					
18. 45	50. 30	12. 8	·1145					
18. 56	51. 5	12. 18	·1151					
19. 30	50. 50	12. 29	·1149					
19. 38	51. 25	12. 42	·1150					
19. 47	50. 55	12. 50	·1151					
20. 0	51. 50	13. 31	·1152					
20. 24	50. 5	14. 2	·1156					
	***	14. 28	·1155					
21. 24	49. 30	14. 52	·1156					
21. 30	50. 55	15. 7	·1157					
21. 45	50. 30	15. 23	·1157					
	***	16. 45	·1162					
22. 19	51. 40	17. 28	·1163					
	***	18. 8	·1167					
23. 2	51. 0	18. 28	·1166					
	***	19. 39	·1171					
23. 59	52. 0	19. 53	·1177					
		20. 45	·1160					
		20. 51	·1161					
		21. 3	·1156					
		21. 22	·1156					
		21. 27	·1161					
		21. 38	·1157					
		21. 56	·1159					
		22. 1	·1166					
		22. 5	·1159					
		22. 23	·1158					
		22. 37	·1166					
		22. 56	·1163					
		23. 30	·1162					
		23. 49	·1152					
		23. 59	·1159					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Dec. 3		Dec. 3		Dec. 3		Dec. 3		
0. 0	20. 52. 0	0. 0	·1159	0. 0	·02752	0. 0	50 ·9	51 ·2
0. 26	54. 10	0. 32	·1159	0. 7	{ ·02747 ·02685	1. 0	51 ·2	51 ·3
1. 31	54. 0	0. 37	·1158			2. 0	51 ·7	51 ·9
2. 39	51. 35	0. 47	·1160	3. 4	·02610	3. 0	52 ·5	52 ·5
3. 3	51. 40	0. 57	·1158	5. 30	·02483	6. 0	52 ·9	53 ·0
3. 15	52. 10	1. 24	·1164	7. 10	·02476	9. 0	52 ·0	52 ·3
3. 33	51. 30	1. 49	·1159	7. 34	·02500	12. 0	51 ·5	52 ·0
5. 45	52. 30	2. 11	·1162	12. 51	·02453	21. 0	50 ·2	51 ·0
6. 20	52. 0	2. 28	·1161	13. 12	·02460	22. 0	50 ·4	51 ·3
6. 43	53. 20	2. 38	·1158	13. 57	·02446	23. 0	50 ·6	51 ·5
7. 15	52. 0	3. 20:	·1164	17. 40	·02477			
7. 42	49. 0	3. 59	·1162	21. 58	·02564			
7. 53	49. 30	4. 30	·1163	22. 51	·02562			
8. 18	49. 0	4. 54	·1159	23. 59	·02580			
8. 37	50. 35	5. 22	·1161					
9. 29	49. 40	5. 52:	·1156					
10. 9	50. 0	6. 15	·1161					
10. 40:	47. 55	6. 23	·1160					
10. 54	49. 0	6. 38	·1151					
11. 15	49. 25	6. 47	·1155					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Dec. 3		Dec. 3						
h m	° ′ ″	h m		h m		h m	°	°
12. 30	20. 46. 0	6. 54	·1151					
13. 6	42. 0	7. 7	·1154					
13. 10	45. 0	7. 23	·1139					
13. 25	43. 10	7. 38	·1148					
13. 45	47. 0	7. 47	·1146					
13. 57	46. 0	8. 16	·1149					
14. 10	48. 0	8. 34	·1148					
14. 27	46. 0	8. 52	·1154					
	***	9. 0	·1147					
14. 54	48. 35	9. 5	·1150					
	***	9. 21	·1152					
15. 24	44. 50	9. 39	·1158					
	***	9. 45	·1155					
16. 16	50. 30	10. 0	·1154					
16. 47	50. 30	10. 8	·1161					
17. 5	49. 20	10. 14	·1150					
17. 15	49. 30	10. 20	·1152					
17. 42	48. 0	10. 24	·1148					
18. 32	49. 10	10. 46	·1159					
19. 39	49. 0	10. 52	·1155					
20. 12	51. 0	11. 16	·1151					
20. 48	47. 30	11. 29	·1156					
21. 28	51. 35	12. 3	·1155					
21. 57	48. 45	12. 5	·1147					
22. 15	51. 5	12. 15	·1155					
22. 23	51. 0	12. 24	·1149					
22. 42	53. 35	12. 31	·1155					
23. 17	51. 0	12. 50	·1145					
23. 38	51. 10	13. 8	·1164					
23. 47	50. 30	13. 15	·1164					
23. 59	51. 0	13. 23	·1170					
		13. 30	·1160					
		13. 39	·1160					
		14. 7:	·1148					
		14. 26	·1152					
		14. 31	·1145					
		14. 47	·1156					
		15. 1	·1154					
		15. 6	·1148					
		15. 9	·1154					
		15. 19	·1149					
		15. 29	·1162					
		15. 54:	·1149					
		16. 16	·1157					
		16. 38	·1161					
		16. 57	·1162					
		17. 35	·1159					
		17. 47	·1160					
		17. 56	·1155					
		18. 3	·1161					
		18. 8	·1157					
		18. 38	·1156					
			***					
		19. 37	·1161					
			***					
		19. 51	·1159					
		20. 16	·1143					
		20. 27	·1140					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Dec. 3						
h m	° ′ ″	h m		h m		h m	°	°
		20. 30	·1131					
		20. 43	·1145					
		20. 57	·1149					
		21. 11	·1149					
		21. 22	·1151					
		21. 32	·1147 ***					
		22. 8	·1149 ***					
		22. 31	·1144 ***					
		22. 52	·1133					
		23. 13	·1135					
		23. 52	·1152					
		23. 59	·1149					
Dec. 4		Dec. 4		Dec. 4		Dec. 4		
0. 0	20. 51. 0	0. 0	·1149	0. 0	·02580	0. 0	51·3	52·0
0. 18	51. 50	0. 7	·1148	1. 53	·02523	1. 0	52·1	52·8
0. 40	56. 0 ***	0. 17	·1156	3. 30	{ ·02427	3. 0	54·0	54·1
1. 28	52. 55 ***	0. 26	·1145		·02536	9. 0	55·5	55·9
1. 57	54. 40	1. 7	·1150	4. 21	·02533	21. 0	54·0	54·9
2. 6	54. 10	1. 25	·1149	5. 48	·02552			
2. 18	55. 0	1. 37	·1151	6. 26	·02586			
2. 25	54. 30	1. 52	·1152	6. 39	·02620			
2. 40	57. 25	2. 1	·1156	6. 53	·02592			
3. 14	51. 50	2. 17	·1157	7. 5	·02586			
3. 22	51. 50	2. 37	·1142	7. 11	·02614			
3. 28	50. 30	2. 45	·1147	7. 45	·02597			
3. 59	39. 0 ***	3. 0	·1142	8. 3	·02600			
5. 2	49. 0	3. 14	·1139	8. 24	{ ·02564			
5. 8	48. 10	3. 30	·1146		·02637			
5. 29	51. 10	3. 43	·1118	9. 15	·02622			
5. 39	50. 0	3. 53	·1136	9. 43	{ ·02637			
5. 43	51. 0	4. 11	·1150		·02722			
5. 50	49. 45	4. 20	·1152	14. 13	·02666			
6. 3	50. 0	4. 30	·1156	14. 32	·02643			
6. 32	39. 0	4. 51	·1152	18. 15	·02755			
6. 45	44. 30	5. 1	·1154	21. 45	·02776			
7. 0	43. 45	5. 14	·1144	23. 27	·02837			
7. 12	44. 10	5. 28	·1149	23. 59	·02818			
7. 23	43. 10	5. 52	·1134					
7. 44	47. 0	5. 59	·1142					
7. 57	47. 25	6. 20	·1142					
8. 13	50. 35	6. 26	·1134					
8. 25	48. 30	6. 36	·1135					
8. 35	49. 0	6. 52	·1193					
8. 52	46. 30	7. 2	·1168					
9. 8	50. 20	7. 10	·1157					
9. 23	47. 40	7. 14	·1152					
9. 38	49. 0	7. 25	·1144					
10. 0	47. 30	7. 45	·1148					
10. 37	47. 25	8. 0	·1138					
10. 47	48. 10	8. 7	·1150					
11. 0	48. 0	8. 15	·1151					
		8. 24	·1142					
		8. 31	·1147					
		8. 59	·1144					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Dec. 4		Dec. 4						
h m	° ′ ″	h m		h m		h m	°	°
11. 14	20. 48. 25	9. 7	·1155					
11. 31	47. 0	9. 22	·1146					
11. 38	48. 0	9. 32	·1150					
12. 0:	46. 0	10. 0:	·1146					
12. 23	48. 0	10. 22	·1150					
12. 42	47. 25	10. 38	·1148					
13. 50	50. 0	10. 47	·1151					
14. 5	53. 40	10. 57	·1146					
14. 31	49. 10	11. 10	·1151					
14. 50	50. 30 ***	11. 17	·1149					
15. 24	50. 30	11. 31	·1151					
15. 55	52. 10	11. 46	·1148					
16. 12	50. 10	12. 7	·1148					
16. 27	51. 10	12. 15	·1152					
16. 41	50. 0	12. 28	·1146					
16. 46	50. 55	12. 40	·1140					
17. 0	49. 10	12. 53	·1146					
17. 16	50. 0 ***	13. 8	·1144					
19. 41	48. 30 ***	13. 30	·1149					
20. 8	49. 55 ***	13. 38	·1145					
21. 0	47. 50 ***	14. 0	·1158					
21. 38	51. 30	14. 9	·1160					
21. 53	50. 55	14. 24	·1150					
22. 15	52. 35	14. 41	·1149					
22. 26	51. 0	14. 49	·1146					
22. 45	53. 30	15. 29	·1147					
23. 3	55. 25	15. 36	·1144					
23. 21	51. 45	15. 45	·1150					
23. 32	53. 10	16. 1	·1147					
23. 59	53. 10	16. 11	·1151					
		16. 22	·1152					
		16. 34	·1149					
		16. 44	·1153					
		16. 52	·1151					
		17. 5	·1156					
		17. 32	·1152					
		17. 51	·1154					
		18. 47	·1154					
		19. 0	·1157					
		19. 9	·1155					
		19. 37	·1156					
		19. 45	·1153					
		19. 59	·1152					
		20. 7	·1157					
		20. 26	·1147					
		20. 36	·1148					
		20. 45	·1144					
		20. 52	·1148					
		21. 0	·1143					
		21. 16	·1139					
		21. 27	·1136					
		21. 36	·1125					
		22. 0	·1115					
		22. 17	·1121					
		22. 28	·1115					
		22. 33	·1124					
		22. 43	·1135					
		22. 44	·1120					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	° ′ ″	Dec 4 h m		h m		h m	°	°
		22. 53	·1131					
		22. 59	·1123					
		23. 19	·1128					
		23. 31	·1148					
		23. 38	·1140					
		23. 43	·1147					
			(†)					
Dec. 5		Dec. 5		Dec. 5		Dec. 5		
0. 0	20. 53. 5	0. 0	·1143	0. 0	·02818	1. 0	56·1	55·9
0. 32	57. 0	0. 31	·1146	2. 18	·02792	3. 0	57·7	56·9
0. 58	56. 0	0. 53	·1140	4. 6	·02688	9. 0	57·0	56·6
1. 28	53. 10	1. 14	·1139	4. 50	·02668	21. 0	56·4	56·8
1. 36	53. 45	1. 28	·1144	5. 1	·02677			
2. 14	51. 50	1. 31	·1139	5. 15	·02666			
2. 40	52. 35	1. 38	·1146		·02722			
3. 17	52. 0	1. 59:	·1140	6. 3	·02678			
3. 41	53. 30	2. 28	·1150	6. 23	·02720			
3. 57	53. 0	3. 2	·1148	6. 37	·02712			
4. 8	51. 20	3. 17	·1154	8. 41	·02716			
4. 30	51. 55	3. 35	·1147	8. 49	·02737			
4. 58	43. 0	3. 55	·1148	9. 9	·02696			
5. 6	44. 0	4. 7	·1145	9. 37	·02710			
5. 12	36. 0	4. 16	·1150	9. 55	·02688			
5. 30	50. 10	4. 26	·1143	11. 11	·02735			
5. 40	48. 0	4. 46	·1135	11. 33	·02720			
5. 48	48. 30	4. 54	·1125	13. 45	·02736			
6. 11	38. 0	5. 7	·1149	14. 13	·02725			
6. 23	47. 0	5. 15	·1143	16. 14	·02744			
6. 32	46. 0	5. 28	·1178	17. 29	·02798			
6. 50	46. 50	5. 38	·1168	19. 11	·02800			
6. 58	45. 0	5. 46	·1144	23. 32	·02802			
7. 23	45. 0	5. 51	·1146	23. 59	·02784			
7. 48	44. 30	6. 1	·1108					
8. 30	47. 30	6. 22	·1141					
8. 44	35. 30	6. 32	·1128					
9. 6	49. 0	6. 47	·1137					
9. 28	44. 55	6. 58	·1134					
9. 47	53. 50	7. 11	·1140					
10. 11	45. 30	7. 22	·1135					
10. 20	46. 55	7. 38	·1131					
10. 51	46. 50	7. 47	·1135					
11. 7	43. 25	7. 53	·1134					
11. 37	49. 45	7. 59	·1135					
12. 0	48. 0	8. 11	·1131					
12. 23	47. 50	8. 23	·1134					
12. 37	44. 25	8. 35	·1129					
13. 17	49. 0	8. 50	·1177					
13. 30	48. 0	9. 1	·1155					
13. 45	53. 45	9. 17	·1137					
14. 12	51. 50	9. 34	·1151					
15. 6	51. 30	9. 50	·1131					
15. 22	52. 10	10. 3	·1142					
15. 44	50. 40	10. 13	·1143					
16. 18	51. 25	10. 23	·1136					
16. 32	50. 30	10. 41	·1142					
16. 45	52. 30	10. 50	·1140					
16. 54	52. 0	11. 16	·1166					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Dec. 5 h m	° ′ ″	Dec. 5 h m		h m		h m	°	°
16. 57	20. 53. 10	11. 34	·1153					
17. 22	51. 0	11. 45	·1154					
17. 41	52. 0	12. 11	·1146					
18. 38	50. 35	12. 20	·1147					
18. 53	51. 0	12. 45	·1142					
19. 15	50. 15	13. 19	·1145					
19. 28	51. 0	13. 34	·1141					
20. 15	49. 40	13. 43	·1144					
21. 22	48. 10	13. 54	·1137					
21. 49	52. 15	14. 15	·1150					
22. 30	49. 0	14. 39	·1145					
23. 2	49. 25	14. 52	·1150					
23. 33	52. 40	15. 0	·1148					
23. 55	51. 0	15. 8	·1153					
23. 59	51. 10	15. 17	·1151					
		15. 38	·1157					
		16. 4	·1153					
		16. 15	·1144					
		16. 35	·1146					
		16. 47	·1142					
		16. 56	·1147					
		17. 8	·1145					
		17. 24	·1148					
		17. 31	·1152					
		18. 1	·1151					
		18. 11	·1154					
		19. 7	·1153					
		19. 19	·1156					
		19. 26	·1149					
		19. 38	·1156					
		19. 53	·1150					
		20. 17	·1149					
		20. 37	·1144					
		20. 48	·1147					
		21. 0	·1143					
		21. 17	·1145					
		21. 45	·1144					
		22. 5	·1141					
		22. 22	·1144					
		22. 41	·1136					
		22. 48	·1142					
		23. 5	·1141					
		23. 30	·1133					
		23. 47	·1131					
		23. 59	·1140					
Dec. 6		Dec. 6		Dec. 6		Dec. 6		
0. 0	20. 51. 20	0. 0	·1140	0. 0	·02784	1. 0	58·2	57·6
0. 30	52. 15	0. 6	·1142	1. 56	·02820	3. 0	59·0	58·c
0. 42	51. 0	0. 39	·1141	3. 32	·02823	9. 0	58·5	57·5
1. 0	51. 30	1. 43	·1142	3. 57	·02805	21. 50	57·7	58·4
	***	2. 3	·1140	4. 30	·02820			
2. 11	51. 30		***	5. 8	·02797			
	***	2. 50:	·1138	7. 32	·02758			
2. 25	52. 30		***	7. 45	·02782			
	***	3. 39	·1145	8. 36	·02743			
3. 10	51. 0	4. 7	·1119	10. 40	·02740			
3. 54	51. 10	4. 37	·1144	11. 44	·02684			

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.
Dec. 6	
h m	° ′ ″
4.22	20.38.30
4.44	45. 0
5. 8	49. 0
5.20	48.30
5.30	49. 0
5.44	48.30
6. 0	51. 0
6.24	51.20
6.42	50.30
7.15	52. 0
7.30	47.20
7.52	25. 0
8. 3	35. 0
8.31	41. 0
8.43	38. 0
9.30	47.30
10.15	49.10
10.45	43.30
10.55	45. 0
11. 1	44. 0
11.38	53.20
12.26	43. 5
13. 0	49.30
14. 0	47.30
14.45	49.35
15.14	50. 0
15.28	49.20
16. 7	51.30
16.32	49.20
16.56	51.10
17. 5	50.10
	***
17.33	51.30
18. 0	49.50
18.12	50.10
18.43	49.25
	***
20.37	49.35
21. 7	48.35
	***
21.24	49.55
21.35	49.10
21.55	51.40
22. 6	51.30
22.30	54. 0
22.45	52.40
23. 0	52.25
23.15	53.35
23.25	53. 0
23.35	54.30
23.59	53.10
Dec. 7	
0. 0	20.53. 0
	***
0.35	52. 0
1.22	54.30
1.52	53.50

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Dec. 6	
h m	
4.45	·1141
4.56	·1145
5.14	·1140
5.39:	·1144
6. 4	·1142
6.16	·1145
6.45	·1147
7. 2:	·1139
7.15	·1140
7.39	·1119
7.59	·1172
8.21	·1163
8.35	·1154
8.55	·1146
9.11	·1128
9.30	·1141
9.49	·1135
10.14	·1140
10.30	·1136
11.11	·1166
11.34	·1163
12. 2	·1137
12.36	·1143
12.46	·1140
13. 4	·1143
13.28	·1138
13.59	·1144
14.17	·1141
16.29	·1145
17. 1	·1146
17.42	·1142
17.52	·1146
18. 2	·1144
18.27	·1150
18.58	·1142
19. 3	·1144
19.22	·1133
19.45	·1147
	***
22. 4	·1145
	***
23. 1	·1141
23.21	·1140
23.59	·1125
Dec. 7	
0. 0	·1125
0.22	·1117
1. 4	·1144
1.22	·1142
2.16	·1144

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
Dec. 6	
h m	
12.50	·02687
13. 2	·02680
16.17	{ ·02673 ·02720
18.45	·02696
19.22	·02712
22. 7	·02698
23. 0	{ ·02703 ·02882
23.59	·02925
Dec. 7	
0. 0	·02925
0.39	·02944
3.24	·02907
4.24	·02863
6.14	·02848

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Dec. 7		
8.52	58·2	58·8
21. 0	52·9	55·5

Greenwich Mean Solar Time.	Western Declination.
Dec. 7	
h m	° ′ ″
2.22	20.54.55
2.44	51. 0
	***
3. 3	52. 0
3.28	50. 0
3.47	51.35
4. 3	50.55
4.40	52.20
5. 0	51.35
5.30	51.40
6. 2	50. 0
6.45	40.55
7. 8	48.40
7.27	47.50
7.51	49. 0
8. 5	48. 5
8.27	50. 0
	***
10.15	50. 0
10.25	50.35
10.38	48.50
11. 7	51.50
11.37	48.30
12.13	51. 0
13.41	50.10
14. 2	52. 0
14.20	52. 0
14.45	55.30
15. 0	20.55.25
15.27	21. 0. 0
16. 0	20.55.35
16.28	50.25
16.41	50.25
17. 2	51.40
18. 0	51.20
18.12	52.30
18.38	51.20
19.53	52.40
20.39	51.50
20.57	52.10
21.17	52. 0
21.48	50.30
22.57	55.40
23.33	54.15
23.48	54.55
23.59	54.15

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Dec. 7	
h m	
2.30	·1133
3. 2	·1146
3.13	·1136
3.16	·1141
3.25	·1132
3.43	·1144
3.59	·1137
4.17	·1146
4.24	·1142
5.11	·1144
5.19	·1149
5.30	·1144
5.36	·1148
5.45	·1144
6.15	·1147
6.32	·1150
6.54	·1170
7.10	·1158
7.20	·1158
7.36	·1154
8. 7	·1136
8.30	·1145
8.41	·1144
9.15	·1146
9.30	·1143
9.47	·1145
9.54	·1143
10. 9	·1146
10.22	·1146
10.30	·1148
10.38	·1156
10.55	·1156
11.22	·1142
11.49	·1148
12. 7	·1142
12.28	·1144
13.58	·1146
14.43	·1136
15. 7	·1154
15.22	·1150
15.27	·1153
15.41	·1155
15.53	·1150
16. 7	·1153
16.12	·1150
16.23	·1150
16.25	·1148
	***
17.13	·1147
17.42	·1148
17.53	·1153
18. 0	·1150
18.37	·1150
19. 2	·1154
19.58	·1146
20.15	·1148
	***
20.35	·1143

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
Dec. 7	
h m	
6.47	·02876
7.26	·02852
8.10	·02857
8.22	·02872
11.28	·02870
13.40	·02908
15.26	·02890
16.20	·02848
18.50	·02917
23.59	·03154

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Dec. 7						
h m	° ′ ″	h m		h m		h m	°	°
		20. 59	·1140					
		21. 30	·1139					
			***					
		22. 53	·1150					
		23. 16	·1147					
			(†)					
Dec. 8		Dec. 8		Dec. 8		Dec. 8		
0. 0	20. 54. 55		(†)	0. 0	·03154	1. 0	53·0	54·0
0. 13	57. 10	1. 0	·1153*	0. 24	·03138	3. 0	54·0	55·5
0. 42	53. 0	1. 5	·1148	2. 8	·03018	9. 0	53·0	54·8
1. 27	53. 40	1. 23	·1154	5. 0	·03060	21. 0	48·5	51·0
1. 41	54. 35	1. 55	·1151	6. 17	·03033			
1. 58	54. 45	2. 7	·1153	6. 40	·03036			
2. 5	55. 20	2. 29	·1145	7. 16	·03010			
4. 42	52. 30	2. 57	·1149	7. 43	{ ·03007			
5. 3	53. 20	3. 30	·1148		{ ·03092			
5. 16	52. 50	3. 55	·1150	9. 27	·03084			
	***	4. 38	·1146	10. 24	·03093			
6. 4	55. 30	5. 16	·1148	13. 10	·03204			
	***	5. 34	·1152	17. 6	·03300			
6. 27	47. 0	6. 20	·1140	20. 7	{ ·03412			
6. 48	53. 10	6. 43	·1161		{ ·03070			
	***	7. 0	·1149	22. 38	·03177			
8. 15	53. 25	7. 27	·1147	23. 59	·03163			
8. 30	53. 50	7. 44	·1148					
9. 13	43. 40	8. 16	·1144					
9. 33	43. 15	8. 37	·1145					
10. 2	52. 50	8. 59	·1150					
10. 17	50. 30	9. 15	·1164					
10. 27	50. 55	9. 23	·1164					
10. 34	50. 25	9. 32	·1156					
10. 58	52. 0	9. 48	·1160					
11. 12	51. 30	10. 2	·1146					
12. 0	55. 10	10. 22	·1144					
12. 30	53. 0	10. 30	·1138					
12. 45	53. 0	11. 0	·1137					
	(†)	11. 15	·1142					
14. 22	49. 0	11. 28	·1142					
14. 33	49. 0		***					
14. 45	47. 55	11. 59	·1148					
	***		***					
15. 33	51. 35	12. 38:	·1145					
15. 52	51. 50		***					
16. 18	52. 35	13. 17	·1150					
16. 48	51. 25	14. 3	·1154					
	***	14. 22	·1148					
20. 3	52. 10	14. 34	·1151					
	***	14. 53	·1150					
21. 18	51. 0	15. 1	·1154					
	***	15. 55	·1150					
23. 59	53. 40	16. 8	·1153					
		16. 17	·1150					
		16. 24	·1154					
		16. 34	·1156					
		16. 47	·1154					
		17. 0	·1155					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Dec. 8						
h m	° ′ ″	h m		h m		h m	°	°
		17. 27	·1152					
		17. 44	·1154					
		17. 55	·1152					
		18. 5	·1154					
		20. 5	·1156					
		21. 23	·1148					
		22. 53	·1146					
		23. 59	·1148					
Dec. 9		Dec. 9		Dec. 9		Dec. 9		
0. 0	20. 53. 50	0. 0	·1148	0. 0	·03163	1. 0	51·5	52·5
0. 15	53. 55	0. 14	·1147	3. 1	·03040	3. 0	52·5	53·8
	***	0. 38	·1146	6. 10	·02872	9. 0	52·5	53·0
0. 40	55. 0	1. 22	·1147	7. 27	·02860	21. 0	53·5	55·3
	***	1. 32	·1144	8. 42	·02883	22. 0	54·0	55·9
1. 32	54. 35	1. 39	·1147	10. 33	·02950	23. 0	55·0	56·5
2. 31	53. 30	1. 56	·1142	11. 3	·02953			
3. 23	55. 50	2. 13	·1148	14. 20	·03037			
3. 49	54. 0	2. 42	·1151	18. 29	·03058			
4. 0	51. 40	3. 13	·1152	23. 14	·02900			
4. 23	49. 30	3. 58:	·1148	23. 59	·02772			
5. 33	53. 10	4. 45	·1156					
6. 20	52. 0	5. 56	·1153					
7. 8	52. 10	7. 45	·1154					
8. 35	49. 30	8. 14	·1149					
8. 48	50. 10	8. 29	·1152					
9. 28	46. 0	8. 45	·1148					
9. 42	46. 55	9. 13:	·1156					
10. 7	45. 0	9. 33	·1150					
10. 33	47. 20	9. 43	·1151					
11. 0	50. 30	10. 2:	·1143					
11. 29	48. 30	10. 29:	·1158					
11. 39	49. 10	10. 48	·1149					
11. 54	48. 50	11. 11	·1155					
12. 14	50. 0	11. 20	·1151					
12. 40	48. 25	11. 35	·1156					
13. 8	51. 10	12. 8	·1146					
13. 40	50. 50	13. 7	·1151					
14. 9	53. 0	13. 19	·1148					
14. 35	51. 40	13. 36	·1152					
14. 48	52. 0	14. 7	·1154					
15. 5	50. 10	14. 31	·1153					
15. 18	51. 15	14. 42	·1158					
18. 11	49. 50	15. 2	·1154					
22. 2	50. 30	15. 58	·1154					
22. 37	52. 0	16. 20	·1157					
23. 8	55. 0	16. 25	·1156					
23. 55	57. 35	18. 7	·1156					
23. 59	57. 45	18. 23	·1153					
		19. 15	·1152					
		20. 1	·1146					
		20. 15	·1147					
		20. 35	·1143					
		20. 45	·1143					
		21. 8	·1145					
		21. 59	·1142					
		22. 45	·1142					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.
h m	° ′ ″
Dec. 10	
0. 0	20. 57. 35
3. 15	52. 20
4. 55	52. 10
5. 3	52. 40
6. 33	52. 50
6. 42	51. 45
7. 3	52. 0
7. 19	50. 20
8. 25	51. 0
8. 33	52. 0
9. 10	51. 0
9. 25	53. 5
9. 45	51. 45
9. 58	52. 50
10. 52	51. 25
11. 45	53. 0
12. 19	49. 15
13. 43	53. 0
14. 30	51. 40
16. 18	53. 50
16. 53	52. 20
	***
17. 46	53. 0
20. 0	52. 0
22. 15	51. 25
22. 32	52. 10
	(†)
23. 30	54. 10
23. 59	53. 40
Dec. 11	
0. 0	20. 53. 50
0. 55	54. 0
2. 12	51. 5
4. 31	52. 30
5. 31	51. 10

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Dec. 9	
h m	
23. 28	·1153
23. 59	·1155
Dec. 10	
0. 0	·1155
0. 18	·1150
0. 52	·1148
1. 25	·1153
2. 22	·1149
3. 17	·1147
4. 14	·1146
4. 47	·1144
5. 31	·1144
5. 43	·1149
6. 43	·1147
7. 8	·1148
7. 24	·1151
7. 41	·1150
7. 59	·1146
8. 43	·1143
9. 0	·1144
9. 20	·1142
9. 30	·1138
9. 45	·1144
10. 7	·1139
10. 29	·1143
10. 43	·1142
10. 51	·1146
11. 30	·1144
11. 42	·1148
11. 56	·1146
12. 24	·1147
12. 37	·1150
13. 59	·1150
14. 5	·1151
15. 20	·1151
16. 34	·1153
17. 10	·1159
18. 30	·1158
18. 50	·1162
19. 15	·1158
19. 31	·1160
20. 5	·1158
20. 23:	·1162
20. 42	·1158
20. 52	·1161
21. 30	·1158
21. 42	·1159
21. 55	·1157
22. 35	·1157
	(†)
Dec. 11	
	(†)
0. 28	·1156
1. 10:	·1153
1. 46	·1160
2. 32	·1156

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
h m	
Dec. 10	
0. 0	·02772
0. 15	·02776
1. 34	·02678
2. 0	{ ·02663
	·02860
3. 0	{ ·02834
	·03066
4. 29	{ ·02948
	·03064
5. 27	{ ·03036
	·03103
5. 53	·03075
5. 56	·03130
6. 32	·03102
6. 36	·03153
7. 35	·03141
7. 39	·03200
8. 8	·03192
8. 11	·03225
9. 14	·03276
12. 32	·03513
16. 0	·03447
19. 56	·03236
22. 28	·03037
	(†)
23. 16	·02782
23. 59	·02770
Dec. 11	
0. 0	·02770
1. 57	{ ·02752
	·02643
4. 30	·02462
7. 3	·02258

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Dec. 10		
0. 0	56·0	57·0
1. 0	56·9	58·0
2. 0	58·0	58·5
3. 0	58·9	59·9
6. 0	58·0	59·2
9. 0	55·8	57·0
12. 0	53·0	54·9
19. 0	48·1	50·2
21. 0	47·0	48·5
22. 0	47·0	48·5
23. 0	47·0	48·5
Dec. 11		
0. 0	47·8	49·9
1. 0	49·5	51·0
3. 0	52·0	53·4
9. 0	54·0	55·9
21. 0	46·3	50·1

Greenwich Mean Solar Time.	Western Declination.
Dec. 11	
h m	° ′ ″
6. 1	20. 52. 15
8. 14	51. 25
8. 27	51. 50
	(†)
9. 0	51. 20*
21. 0	51. 28*
Dec. 12	
	(†)
1. 0	20. 54. 55
2. 12	55. 10
2. 27	54. 0
3. 46	53. 55
4. 16	56. 0
4. 35	54. 40
5. 15	55. 30
5. 40	51. 40
6. 21	54. 55
6. 58	55. 30
7. 6	54. 30
8. 42	53. 25
9. 45	49. 0
9. 58	51. 0
10. 7	50. 50
10. 39	51. 50
11. 3	51. 15
11. 31	51. 45
12. 3	50. 50
13. 30	53. 0

Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.
Dec. 11	
h m	
3. 15	·1160
3. 50	·1159
4. 17	·1161
4. 39	·1160
5. 32	·1162
6. 1	·1156
7. 20	·1157
7. 41	·1152
8. 10	·1156
8. 34	·1153
8. 45	·1154
9. 16	·1149
9. 45	·1153
10. 3	·1149
10. 11	·1150
10. 22	·1147
10. 58	·1152
14. 8	·1157
14. 39	·1154
15. 7	·1154
15. 43	·1149
16. 31	·1157
16. 47	·1158
17. 16	·1161
19. 0	·1161
20. 44	·1165
21. 13	·1163
21. 44	·1166
22. 0	·1164
22. 11	·1168
22. 41	·1164
23. 11	·1165
23. 28	·1158
23. 43	·1160
23. 59	·1162
Dec. 12	
0. 0	·1162
0. 18	·1162
1. 1	·1164
1. 53	·1163
2. 15	·1167
2. 31	·1167
2. 38	·1163
2. 47	·1165
2. 53	·1164
3. 29	·1166
3. 39	·1164
3. 56	·1170
4. 15	·1166
4. 20	·1166
4. 32	·1162
4. 56:	·1164
5. 40	·1143
5. 57	·1144
6. 26	·1152
6. 32	·1150
6. 56	·1153

Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.
Dec. 11	
h m	
8. 5	·02193
12. 22	·02074
15. 44	·02146
22. 21	·02458
23. 39	·02542
23. 59	·02540
Dec. 12	
0. 0	·02540
1. 56	·02434
5. 17	·02266
6. 3	·02257
7. 2	·02225
9. 30	·02222
16. 17	·02542
21. 49	·02711
22. 44	·02705
23. 59	·02748

Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
h m	°	°
Dec. 12		
1. 0	48·3	50·9
3. 0	50·0	52·0
9. 0	49·5	51·5
21. 0	47·0	48·5

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Dec. 12		Dec. 12						
h m	° ′ ″	h m		h m		h m	°	°
17. 19	20. 51. 0	7. 20	·1158					
17. 55	52. 0	7. 44	·1152					
18. 37	50. 55	8. 3	·1157					
19. 56	52. 0	8. 22	·1156					
21. 58	50. 5	8. 31	·1158					
	(†)	9. 1	·1158					
		9. 20	·1160					
		9. 34	·1157					
		9. 53	·1160					
		10. 7	·1156					
		10. 18	·1159					
		10. 37	·1157					
		11. 20	·1156					
		11. 35	·1159					
		12. 2	·1158					
		13. 18	·1163					
		14. 48	·1164					
		15. 31	·1166					
		17. 19	·1166					
		17. 39	·1167					
		17. 59	·1167					
		18. 15	·1169					
		18. 28	·1167					
		18. 32	·1169					
		19. 21	·1165					
		20. 8	·1168					
		20. 16	·1166					
		20. 37	·1168					
		21. 22	·1162					
		21. 43	·1162					
		21. 55	·1158					
			(†)					
Dec. 13		Dec. 13		Dec. 13		Dec. 13		
	(†)		(†)	0. 0	·02748	1. 0	49·0	50·0
0. 45	20. 52. 20	1. 0	·1163*	2. 35	{ ·02638 ·02503	3. 0	50·5	51·7
1. 0	52. 0	1. 30	·1162	8. 40:	·02142	9. 0	51·0	53·2
1. 27	52. 30	2. 10	·1162	14. 51	·02193	21. 30	45·0	48·0
2. 8	51. 5	3. 6:	·1161	15. 26	·02184			
3. 0	51. 25	3. 46	·1154	23. 59	·02610			
3. 38	52. 50	4. 20	·1157					
4. 33	51. 30	6. 16	·1157					
5. 33	51. 35	7. 3	·1162					
6. 4	50. 40	7. 45	·1156					
9. 18	49. 10	8. 17	·1163					
11. 30	49. 5	8. 45	·1157					
14. 30	49. 10	12. 0	·1157					
14. 50:	47. 5	12. 14	·1159					
15. 24	51. 0	13. 9	·1158					
15. 58:	45. 20	13. 24	·1162					
17. 2	49. 10	13. 55:	·1158					
17. 15	48. 30	14. 24	·1161					
18. 13	51. 0	14. 35	·1160					
20. 57	50. 45	15. 8	·1172					
21. 18	49. 25	15. 36:	·1152					
22. 27	53. 40	16. 20:	·1162					
	(†)	19. 16	·1173					
		19. 58	·1181					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Dec. 13						
h m	° ′ ″	h m		h m		h m	°	°
		20. 51	·1181					
		21. 45	·1184					
		22. 13	·1180					
		22. 31	·1184					
			(†)					
Dec. 14		Dec. 14		Dec. 14		Dec. 14		
9. 12	20. 23. 55*	9. 0	·1193*	0. 0	·02610	9. 0	48·5	50·3
21. 0	49. 43*	21. 0	·1138*	1. 32	·02663	21. 0	44·8	47·0
				3. 19	·02620			
				3. 42	·02592			
				4. 34	·02596			
				4. 51	·02658			
				5. 12	·02762			
				5. 43	·02844			
				5. 54	·02842			
				6. 24	·02972			
				6. 38	·02950			
				6. 44	·02923			
				6. 52	·02936			
				7. 0	·02842			
				7. 10	·02840			
				7. 17	·02868			
				7. 32	·02876			
				7. 45	·02897			
				8. 20	·02812			
				8. 32	·02816			
				8. 39	·02762			
				9. 1	·02810			
				9. 30	·02650			
				10. 0	·02622			
				10. 33	·02424			
				10. 55	·02340			
				11. 31	·02320			
				12. 25	·02456			
				12. 54	·02450			
				13. 23	·02526			
				14. 22	·02382			
				14. 36	·02448			
				15. 33	·02506			
				16. 9	·02610			
				16. 30	·02600			
				17. 22	·02666			
				18. 33	·02720			
				18. 53	·02716			
				21. 7	·02770			
				21. 37	·02750			
				23. 59	·02745			
Dec. 15		Dec. 15		Dec. 15		Dec. 15		
1. 0	20. 50. 44*	1. 0	·1134*	0. 0	·02745	1. 0	47·0	48·7
3. 0	46. 46*	3. 0	·1142*	3. 54	·02654	3. 0	48·7	49·8
9. 0	47. 24*	9. 0	·1144*	5. 11	·02552	9. 0	49·5	51·0
21. 0	47. 52*	21. 0	·1146*	7. 19	·02437	21. 0	46·0	47·8
				10. 9:	·02338			
				14. 7	·02360			
				20. 25	·02516			
				22. 26	·02582			

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

December 14. The Photographic Traces of the Declination and Horizontal Force Magnets were lost on this day.

December 15. Owing to some inadvertence, the time-piece was not in connexion with the cylinder upon which the movements of the Declination and Horizontal Force Magnets are registered.

Western Declination

Greenwich Mean Solar Time	Western Declination
h m	° ′ ″
Dec. 16	
0. 0	20. 46. 0
0. 9	46. 0
0. 38	47. 15
1. 47	45. 0
2. 30	44. 55
2. 45	44. 10 (†)
4. 0	44. 10
4. 37	42. 30
5. 46	46. 15
7. 5	44. 40
11. 36	44. 35 (†)
12. 27	45. 0
13. 44	45. 25
14. 13	44. 30 ***
16. 55	43. 50 ***
19. 4	47. 0
20. 53	44. 40
21. 10	44. 0 (†)
Dec. 17	(†)
0. 14	20. 46. 40
0. 48	47. 40
1. 22:	46. 40
2. 1	48. 15 ***
3. 8:	20. 44. 10 ***
3. 48	46. 10 ***
4. 22	45. 40
4. 59	46. 20
5. 8	45. 20 ***
6. 23	46. 0
6. 46	39. 30
7. 30	45. 10
8. 12	46. 10
8. 32	45. 30
8. 44	46. 0
10. 1	44. 25
10. 15	46. 0
11. 12	47. 0
11. 33:	45. 50
12. 0	48. 0
12. 34	46. 40
12. 57	48. 40
13. 18	47. 0
13. 42	48. 20
14. 17	46. 45 ***
15. 5	49. 20 ***
16. 37	40. 45
18. 25	47. 30 ***
20. 5	43. 55 ***
22. 26	43. 50
22. 40	45. 40
23. 7	44. 55
23. 59	47. 10
Dec. 18	
0. 0	20. 47. 0
0. 32	48. 35
0. 56	49. 10
1. 24	48. 45
1. 45	49. 50

Horizontal Force in parts of the whole H. F. uncorrected for Temperature

Greenwich Mean Solar Time	Horizontal Force
h m	
Dec. 16	
0. 0	·1136
0. 21	·1138
0. 44	·1135
0. 54	·1137
1. 22	·1134
1. 58	·1140
2. 8	·1138
2. 42	·1143
3. 30	·1141
3. 49	·1145
4. 17	·1140
4. 30	·1141
4. 43	·1148
6. 16	·1148
7. 12	·1149
7. 29	·1147
8. 20	·1146
8. 48	·1148
9. 6	·1148
10. 52	·1146
11. 0	·1143
11. 11	·1143
11. 22	·1146
12. 0	·1146
12. 22	·1144
13. 24	·1146
13. 37	·1151
14. 14	·1146
14. 46	·1150
14. 53	·1147
15. 43	·1146
16. 38	·1147
16. 48	·1150
17. 2	·1148
17. 38	·1148
18. 7	·1146
18. 43	·1150
19. 19	·1145
19. 38	·1144
19. 53	·1146
20. 54	·1142 (†)
22. 40	·1137
23. 30	·1130
23. 59	·1136
Dec. 17	
0. 0	·1136
1. 10	·1135
1. 52	·1141
2. 4	·1137
2. 20	·1140
2. 39	·1132
3. 0	·1137
3. 17	·1147
3. 52	·1146
4. 6	·1142
4. 30	·1142
4. 38	·1138
5. 1	·1148
5. 15	·1144
5. 50	·1144
6. 12	·1138
6. 21	·1138
6. 35	·1132
6. 57	·1154
7. 4	·1152
7. 15	·1156
7. 37	·1144
7. 55	·1142
8. 7	·1143
8. 15	·1140
8. 46	·1143
9. 15	·1136
9. 29	·1139
9. 41	·1139
10. 7	·1152
10. 30	·1145
10. 54	·1151
11. 22	·1143
11. 40	·1143
11. 59	·1146
12. 8	·1142
12. 37	·1145
12. 47	·1151
13. 15	·1146
13. 28	·1148
13. 43	·1147
14. 1	·1149
14. 13	·1146
14. 38	·1145
15. 13	·1150
15. 40	·1153
16. 16	·1159
17. 0	·1158
17. 13	·1160
18. 0	·1155
18. 20	·1157
19. 0	·1155
19. 51	·1156
21. 22	·1154
22. 45	·1152
23. 38:	·1146
23. 59	·1147
Dec. 18	
0. 0	·1147
0. 30	·1152 (†)
1. 0	·1146*
1. 59	·1146

Vertical Force in parts of the whole V. F. uncorrected for Temperature

Greenwich Mean Solar Time	Vertical Force
Dec. 15 h m	
23. 11	·02594 (†)
Dec. 16	
1. 0	·02541*
3. 0	·02319*
9. 0	·02209*
21. 0	·02240*
Dec. 17	(†)
1. 0	·02126*
1. 51	·02315
2. 52	{·02292 ·02838}
5. 0	·02635
6. 57	·02716
9. 52	·02745
11. 22	·02743
13. 23	·02826
15. 47	·02975
19. 0	·03283
21. 1	{·03116 ·03040}
23. 59	·02963
Dec. 18	
0. 0	·02963
0. 15	{·02960 ·02894}
2. 51	·02848 (†)

Readings of Thermometers

Greenwich Mean Solar Time	Of H. F. Magnet	Of V. F. Magnet
h m	°	°
Dec. 16		
1. 0	48·2	50·3
3. 0	50·2	51·7
9. 0	51·3	51·7
21. 0	52·1	52·6
22. 0	52·5	53·0
23. 0	53·4	53·9
Dec. 17		
0. 0	54·5	55·8
1. 0	55·0	56·0
2. 0	55·9	56·3
3. 0	56·5	57·0
6. 0	56·7	57·0
9. 0	55·3	57·0
12. 0	52·5	55·0
18. 0	48·0	49·7
21. 0	47·3	48·9
22. 0	47·8	49·0
23. 0	48·4	49·7
Dec. 18		
0. 0	49·1	50·5
1. 0	50·0	50·7
3. 0	51·0	51·0
9. 3	53·7	53·5
21. 0	53·9	55·5

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

December 16. The Photographic Trace for the Vertical Force Magnet was too faint for use.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H.F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V.F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H.F. Magnet.	Readings of Thermometers. Of V.F. Magnet.
Dec. 18		Dec. 18		Dec. 18				
h m	° ′ ″	h m		h m		h m	°	°
2. 16	20. 48. 45	2. 23	·1149	3. 0	·02834*			
3. 27	48. 0	3. 1	·1148	9. 3	·02427*			
3. 42	46. 30	3. 55	·1146	10. 29	·02346			
6. 44	46. 50	4. 17	·1153	13. 34	·02282			
7. 23	46. 5	6. 29	·1151	16. 51	·02160			
11. 36	47. 45	6. 53	·1154	18. 12	·02218			
12. 53	47. 0	7. 30	·1151	21. 45	·02322			
13. 43	48. 15	8. 28	·1152	23. 14	·02329			
14. 5	48. 0	9. 17	·1147		(†)			
14. 46	50. 0	11. 49	·1146					
15. 14	48. 20	12. 9	·1151					
15. 53	48. 30	14. 7	·1146					
16. 37	52. 0	15. 53	·1146					
17. 20	48. 0	16. 20	·1141					
18. 2	47. 40	17. 5	·1160					
18. 32	48. 55	17. 52:	·1153					
	***	18. 30	·1159					
21. 26	46. 30	19. 15	·1151					
	***	20. 2	·1152					
23. 44	48. 35	20. 20	·1150					
23. 59	51. 0	20. 35	·1153					
		20. 42	·1147					
		21. 6	·1152					
		21. 44	·1147					
		23. 45	·1145					
		23. 59	·1150					
Dec. 19		Dec. 19		Dec. 19		Dec. 19		
0. 0	20. 51. 0	0. 0	·1150		(†)	1. 0	54 ·8	55 ·9
0. 37	50. 55	0. 17	·1146	0. 31	·02436	3. 0	55 ·3	55 ·7
	***	0. 32	·1146	0. 52	{·02440	9. 0	54 ·5	54 ·0
1. 15	53. 10	1. 0	·1144		·02562	21. 0	47 ·4	48 ·9
	***	1. 14	·1142	2. 52	{·02517			
2. 20	54. 10	1. 31	·1147		·03068			
4. 15	52. 50	1. 47	·1138	6. 55	·02944			
5. 14	54. 30	2. 17	·1139	10. 20	·02972			
6. 8	53. 25	2. 22	·1136	15. 39	·03114			
9. 38	52. 55		***	19. 40	·03333			
10. 28	54. 0	3. 18	·1139	21. 3	·03322			
13. 13	55. 30	3. 34	·1136		(†)			
13. 32	54. 30	3. 51	·1138					
14. 36	54. 10		***					
15. 0	56. 15	5. 9	·1139					
15. 59	54. 0	5. 36	·1134					
16. 5	54. 25	5. 55	·1138					
	***	6. 2	·1137					
16. 37	53. 30		***					
	***	6. 45	·1140					
19. 45	53. 20	7. 23	·1145					
20. 10	54. 10		***					
21. 30	52. 25	9. 13	·1144					
21. 48	52. 50		***					
21. 58	48. 0	11. 4	·1145					
	***	11. 20	·1146					
22. 57	51. 0	12. 8	·1145					
	***	13. 14	·1147					
23. 43	54. 10	13. 43	·1145					
	(†)	14. 29	·1146					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H.F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V.F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H.F. Magnet.	Readings of Thermometers. Of V.F. Magnet.
		Dec. 19						
h m	° ′ ″	h m		h m		h m	°	°
		14. 59	·1143					
		16. 17	·1146					
		17. 1	·1149					
			***					
		18. 8	·1149					
			***					
		19. 12	·1151					
		19. 41:	·1147					
		20. 1	·1150					
		20. 51	·1150					
		21. 17	·1148					
		22. 7	·1151					
			(†)					
Dec. 20		Dec. 20				Dec. 20		
	(†)		(†)			1. 0	48 ·6	
0. 10	20. 54. 55	1. 0	·1153*			3. 0	50 ·1	
0. 54	55. 10	1. 15	·1151			9. 0	48 ·9	
1. 45	52. 30	2. 12	·1149			21. 30	42 ·5	
3. 31	53. 0		(†)					
4. 4	51. 50	3. 0	·1150					
5. 18	53. 5	3. 38	·1154					
6. 3	52. 20	5. 22	·1147					
6. 15	51. 10	6. 28	·1153					
6. 30	51. 20	7. 26	·1147					
6. 52	52. 20	7. 37	·1151					
8. 19	52. 30	8. 0	·1153					
9. 0	51. 35	8. 9	·1150					
9. 23	52. 20	8. 30	·1152					
12. 9	51. 40	9. 2	·1151					
12. 30	52. 20	9. 16	·1154					
13. 45	52. 45	10. 57	·1149					
20. 0	51. 55	11. 39	·1151					
21. 0	50. 50	12. 38	·1150					
22. 12	50. 10	13. 18	·1155					
22. 44	50. 50	13. 44	·1152					
23. 2	50. 5	14. 2	·1155					
23. 48	51. 0	14. 38	·1154					
23. 59	50. 15	15. 14	·1157					
		15. 30	·1156					
		16. 16	·1157					
		16. 32	·1160					
		17. 5	·1158					
		20. 43	·1162					
			(†)					
		21. 30	·1161*					
		23. 7	·1155					
		23. 37	·1154					
		23. 52	·1156					
		23. 59	·1156					
Dec. 21		Dec. 21				Dec. 21		
0. 0	20. 50. 0	0. 0	·1156			9. 0	44 ·0	
1. 12	50. 20	0. 37	·1155			21. 0	42 ·0	
1. 31	51. 30	1. 0	·1156					
2. 20	50. 55	1. 33	·1156					
3. 15	51. 50	1. 46	·1159					
4. 18	51. 20	2. 28	·1147					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.⁚	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Dec. 21		Dec. 21						
h m	° ′ ″	h m		h m		h m	°	°
4. 46	20. 51. 20	3. 0	·1154					
8. 31	49. 50	3. 40	·1157					
8. 52	50. 30	4. 8	·1159					
9. 27	48. 30	6. 0	·1162					
9. 57	50. 0	7. 1	·1156					
10. 16	49. 50	8. 46	·1158					
12. 4	50. 20	9. 11	·1166					
14. 49	49. 30	9. 35	·1160					
15. 19	51. 0	11. 23	·1158					
15. 59	48. 30	11. 36	·1161					
19. 13	48. 20	12. 23	·1161					
20. 43	46. 0	12. 56	·1163					
22. 57	47. 30	15. 21	·1165					
23. 14	50. 0	16. 8	·1170					
23. 59	50. 40	17. 33	·1169					
		17. 53	·1167					
		19. 7	·1165					
		20. 30	·1163					
		21. 19	·1163					
		22. 0	·1155					
		22. 28	·1161					
		22. 37	·1161					
		23. 30	·1174					
		23. 54	·1175					
			(†)					
Dec. 22		Dec. 22				Dec. 22		
0. 0	20. 50. 40		(†)			1. 0	45·0	
0. 30	49. 35	1. 0	·1191*			3. 0	46·6	
0. 52	50. 30	1. 15	·1190			9. 0	47·9	
1. 3	49. 10	1. 38	·1186			21. 0	44·1	
1. 28	50. 0	2. 14	·1190					
1. 42	49. 0	3. 32	·1189					
2. 22	49. 25	3. 57	·1192					
4. 37	48. 0	5. 53	·1186					
5. 48	48. 0	6. 8	·1188					
6. 20	46. 55	6. 22	·1186					
6. 46	48. 25	6. 44	·1191					
9. 12	49. 30	7. 1	·1190					
10. 9	47. 50	8. 48	·1186					
10. 42	49. 10	9. 46	·1189					
11. 53	49. 0	10. 1	·1185					
12. 18	47. 35	10. 51	·1188					
12. 26	48. 5	11. 18	·1186					
12. 47	47. 30	11. 54	·1191					
14. 31	50. 40	12. 8	·1189					
15. 32	50. 30	12. 22	·1191					
15. 59	48. 45	12. 39	·1189					
16. 14	49. 10	14. 35	·1191					
16. 20	52. 30	15. 23	·1196					
16. 46	50. 30	16. 8	·1195					
16. 57	52. 0	16. 20	·1204					
17. 10	51. 0	16. 49	·1214					
17. 33	53. 30	17. 28	·1204					
18. 22	50. 30	17. 44	·1212					
18. 38	51. 10	18. 14	·1216					
19. 0	49. 30	18. 22	·1208					
19. 11	50. 0	19. 6	·1187					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Dec. 22		Dec. 22						
h m	° ′ ″	h m		h m		h m	°	°
19. 21	20. 52. 0	19. 14	·1193					
19. 45	52. 50	19. 43	·1184					
19. 57	52. 0	20. 4	·1167					
20. 23	53. 50	20. 17	·1178					
21. 1	48. 40	20. 28	·1162					
21. 22	52. 15	20. 50	·1162					
21. 47	48. 0	21. 17	·1181					
22. 0	49. 40	21. 53	·1174					
22. 20	47. 15	22. 30	·1205					
	***	22. 56	·1200					
22. 57	48. 0	23. 3	·1203					
23. 22	49. 50	23. 25	·1184					
23. 35	51. 55	23. 47	·1182					
23. 59	52. 30	23. 59	·1186					
Dec. 23		Dec. 23				Dec. 23		
0. 0	20. 52. 30	0. 0	·1186			1. 0	47·8	
0. 15	53. 0	0. 10	·1192			3. 0	49·6	
0. 43	51. 30	0. 38	·1196			9. 0	50·0	
1. 4	51. 25		(†)			21. 0	45·5	
1. 30	48. 35	1. 0	·1200*			22. 0	45·5	
	***	1. 30	·1201			23. 0	46·5	
2. 22	47. 25	1. 50	·1197					
	***	2. 15	·1200					
3. 26	49. 50	2. 32	·1198					
3. 38	48. 30	2. 53	·1202					
	***	3. 8	·1192					
4. 26	45. 0	3. 23	·1195					
	***	3. 43	·1180					
5. 7	49. 20		***					
	***	4. 38	·1206					
9. 1	47. 0	4. 46	·1203					
	***	5. 13	·1209					
9. 55	48. 30	5. 16	·1196					
10. 14	47. 30	5. 39	·1201					
10. 38	48. 0	5. 44	·1199					
11. 0	46. 10	5. 59	·1200					
11. 30	47. 35	6. 0	·1204					
	***	6. 7	·1202					
18. 44	48. 0	6. 32	·1201					
20. 23	47. 0	6. 39	·1208					
21. 1	47. 55	6. 47	·1190					
21. 29	46. 10	6. 52	·1194					
21. 33	47. 10	8. 24	·1201					
21. 44	46. 0	8. 31	·1198					
21. 52	47. 0	9. 8	·1195					
22. 54	45. 0	9. 17	·1197					
23. 40	51. 0	9. 31	·1196					
23. 59	48. 55	9. 43	·1200					
		9. 58	·1193					
		10. 28	·1197					
		10. 45	·1191					
		11. 4	·1199					
		11. 26	·1199					
		11. 40	·1191					
		12. 23	·1193					
		12. 32	·1196					
		12. 38	·1194					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol ⁚ attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
		Dec. 23						
h m	° ′ ″	h m		h m		h m	°	°
		12. 50	·1196					
		13. 10	·1194					
		13. 23	·1196					
		13. 30	·1199					
		13. 52	·1195					
		14. 10	·1198					
		14. 11	·1194					
		14. 40	·1195					
		15. 1	·1198					
		15. 29	·1197					
		15. 47	·1201					
		16. 45	·1204					
		16. 52	·1206					
		16. 59	·1203					
		17. 35	·1207					
		18. 17	·1204					
		19. 59	·1204					
		20. 34	·1195					
		21. 20	·1198					
		21. 28	·1202					
		21. 35	·1195					
		21. 40	·1199					
		22. 14	·1192					
		22. 20	·1196					
		23. 0	·1188					
			(†)					
Dec. 24		Dec. 24				Dec. 24		
0. 0	20. 49. 0		(†)			0. 0	47·0	
0. 8	49. 25	1. 0	·1186*			1. 0	47·9	
0. 53	45. 15	1. 47	·1164			3. 0	50·0	
1. 37	47. 50	1. 59	·1159			6. 0	50·3	
1. 54	46. 50	2. 5	·1161			9. 0	50·0	
2. 6	48. 45	2. 19	·1156			12. 0	49·5	
2. 27	44. 30	2. 43:	·1172			23. 7	49·0	
3. 0	47. 0	3. 14	·1169					
3. 24	44. 30	3. 45:	·1178					
3. 42	46. 15	4. 11	·1150					
4. 0	45. 25	4. 43	·1173					
4. 18	42. 50	5. 15	·1170					
5. 7	46. 20	5. 35:	·1176					
5. 18	45. 15	6. 0	·1157					
5. 37	46. 50	6. 12	·1148					
6. 14	38. 0	6. 38	·1168					
6. 33	37. 10	6. 54	·1174					
7. 3	41. 30	7. 1	·1157					
7. 15	40. 25	7. 16	·1159					
7. 25	40. 40	7. 42:	·1141					
7. 55	34. 10	7. 59	·1150					
8. 20	36. 30	8. 9	·1151					
8. 41	40. 15	8. 29	·1155					
9. 2	39. 20	8. 43	·1153					
9. 30	40. 25	8. 57	·1159					
9. 57	36. 50	9. 6	·1157					
10. 7	32. 10	9. 28	·1157					
10. 14	33. 10	9. 38	·1163					
10. 16	32. 50	9. 48	·1165					
10. 27	34. 40	10. 0	·1146					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Of V. F. Magnet.
Dec. 24		Dec. 24						
h m	° ′ ″	h m		h m		h m	°	°
11. 8	20. 40. 30	10. 22	·1169					
12. 40	23. 10	10. 28	·1161					
12. 45	26. 0	10. 51	·1198					
13. 3	29. 45	10. 53	·1194					
13. 23	30. 45	11. 0	·1201					
14. 14:	24. 30	11. 20	·1153					
14. 45	35. 5	11. 33	·1144					
14. 55	34. 10	11. 53	·1170					
	***	12. 0	·1166					
15. 17	36. 20	12. 5	·1171					
15. 28	34. 10	12. 19	·1154					
15. 46	40. 25	12. 26	·1156					
16. 3	44. 50	12. 34	·1146					
16. 45	45. 30	12. 59	·1140					
17. 0	42. 55	13. 25	·1172					
17. 26:	38. 55	13. 43	·1142					
17. 57	44. 55	13. 52	·1137					
18. 7	45. 0	14. 32	·1171					
18. 56	54. 5	14. 48	·1155					
19. 3	52. 35	15. 8	·1157					
19. 27	56. 50	15. 24	·1152					
19. 33	55. 50	15. 31	·1145					
19. 46	56. 30	15. 57	·1160					
21. 14:	50. 0	16. 2	·1159					
22. 18	54. 0	16. 17	·1165					
22. 32	51. 10	16. 22	·1160					
23. 2	55. 0	16. 48	·1191					
23. 10	53. 20	16. 57	·1182					
23. 30	20. 54. 30	17. 34	·1213					
23. 59	21. 5. 10	17. 49	·1210					
		18. 13	·1184					
		18. 40	·1191					
		18. 49	·1181					
		19. 2	·1181					
		19. 16	·1171					
		19. 30	·1181					
		19. 47	·1181					
		20. 10:	·1173					
		20. 23	·1179					
		20. 32	·1175					
		20. 40	·1177					
		21. 9	·1176					
		21. 52	·1162					
		21. 56	·1167					
		22. 7	·1157					
		22. 34	·1169					
		22. 43	·1158					
			(†)					
Dec. 25		Dec. 25				Dec. 25		
0. 0	21. 5. 0		(†)			7. 41	49·0	
0. 43	20. 54. 10	0. 59	·1170			21. 0	47·0	
2. 12	53. 45	1. 7	·1172					
2. 31	52. 45	1. 37	·1186					
3. 3	53. 0	2. 18	·1195					
3. 20	53. 55	2. 33	·1187					
3. 52	53. 10	2. 47	·1188					
4. 13	45. 0	3. 0	·1182					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Dec. 25		Dec. 25						
h m	° ′ ″	h m		h m		h m	°	°
4. 16	20. 46. 0	3. 15	·1183					
4. 25	41. 0	3. 38	·1178					
4. 33	44. 55	4. 0	·1179					
4. 45	46. 0	4. 11	·1166					
4. 56	44. 10	4. 24	·1187					
5. 1	45. 55	4. 26	·1183					
5. 12	42. 10	4. 42	·1199					
5. 41	51. 55	4. 58	·1173					
5. 53	50. 30	5. 5	·1181					
6. 0	51. 45	5. 16	·1171					
6. 12	50. 10	5. 35:	·1187					
6. 25	51. 30	5. 56	·1162					
6. 42	51. 30	6. 1	·1164					
7. 27	46. 50	6. 15	·1160					
7. 41	48. 40	6. 25	·1162					
8. 22	50. 0	6. 34	·1159					
8. 44	49. 0	7. 0	·1168					
9. 44	49. 15	7. 6	·1182					
10. 3	48. 15	7. 25	·1171					
10. 30	48. 45	7. 47	·1188					
11. 2	46. 20	7. 58	·1181					
11. 27	47. 45	8. 10	·1180					
12. 23	45. 0	8. 18	·1186					
12. 53	45. 30	8. 30	·1182					
13. 53	50. 10	9. 0	·1188 ***					
14. 15	47. 35							
14. 35	51. 0	9. 58	·1184 ***					
15. 15	47. 0							
18. 30	47. 10	10. 31	·1195					
19. 3	51. 25	11. 0	·1187 ***					
19. 40	47. 0							
21. 44	44. 0	11. 20	·1189 ***					
23. 14	48. 5 (†)							
		12. 20	·1185 ***					
		13. 0	·1191					
		13. 8	·1189					
		13. 35	·1190					
		13. 52	·1198 ***					
		14. 17	·1191 ***					
		15. 16	·1196 ***					
		16. 22	·1191 ***					
		16. 43	·1194 ***					
		17. 52	·1198 ***					
		18. 32	·1198					
		19. 7	·1186					
		19. 29	·1192					
		19. 40	·1189 ***					
		20. 40	·1196					
		21. 8	·1195					
		21. 30	·1191					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
		Dec. 25						
h m	° ′ ″	h m		h m		h m	°	°
		22. 49	·1163					
		23. 0	·1166					
		23. 8	·1164					
		23. 19	·1172					
		23. 59	·1171					
		Dec. 26				Dec. 26		
		0. 0	·1171			1. 0	49·5	
		0. 10	·1174			3. 0	51·0	
		0. 17	·1170			9. 25	51·0	
		0. 42	·1184			21. 0	46·5	
		0. 53	·1170					
		1. 4	·1185					
		1. 29	·1197					
		1. 38	·1184					
		1. 47	·1190					
		1. 53	·1178					
		2. 0	·1172					
		2. 5	·1179					
		2. 9	·1173					
		2. 22	·1184					
		2. 32	·1173					
		2. 54	·1179					
		3. 0	·1175					
		3. 13	·1190					
		3. 22	·1184					
		3. 30	·1191					
		3. 37	·1178					
		3. 45	·1184					
		3. 52	·1162					
		4. 7	·1196					
		4. 28	·1186					
		4. 32	·1190					
		5. 1	·1179					
		5. 22	·1187					
		5. 32	·1183					
		5. 46	·1182					
		6. 7	·1171					
		6. 45	·1165					
		7. 30	·1178					
		7. 47	·1174					
		8. 0	·1192					
		8. 5	·1182					
		8. 18	·1191					
		8. 32	·1215					
		9. 2	·1185					
		9. 23	·1189					
		9. 43	·1188					
		10. 28	·1189					
		10. 42	·1193					
		11. 28	·1188					
		12. 8	·1190					
		13. 0	·1190					
		17. 15	·1195					
		18. 1	·1191					
		18. 45	·1193					
		20. 47	·1190					
		21. 15	·1203					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

December 26, 27 and 29. The Declination Magnet was under adjustment.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.	
							Of H. F. Magnet.	Of V. F. Magnet.
		Dec. 26						
h m	° ′ ″	h m		h m		h m	°	°
		22. 31	·1200					
			(†)					
		23. 59	·1201					
		Dec. 27				Dec. 27		
		0. 0	·1201			1. 0	48·5	
		0. 17	·1202			3. 0	51·0	
		0. 25	·1198			9. 0	51·8	
		2. 33	·1204			22. 0	50·0	
		3. 0	·1199					
		3. 59	·1199					
		6. 52	·1196					
		7. 43	·1199					
		15. 16	·1198					
		15. 46	·1201					
		15. 58	·1200					
		16. 45	·1202					
		18. 8	·1200					
		19. 17	·1198					
		21. 2	·1194					
		21. 23	·1195					
		22. 7	·1193					
		22. 24	·1198					
		22. 37	·1192					
		23. 13	·1194					
		23. 59	·1196					
Dec. 28		Dec. 28				Dec. 28		
0. 0	20. 53. 10	0. 0	·1196			9. 0	51·0	
1. 45	53. 30	1. 23	·1203			21. 0	49·2	
3. 17	52. 0	1. 49	·1205					
4. 33	53. 15	3. 14	·1200					
6. 16	50. 5	3. 26	·1202					
7. 52	49. 10	4. 54	·1198					
8. 15	50. 0	5. 38	·1201					
8. 45	48. 30	7. 3	·1203					
11. 59	48. 0	7. 45	·1200					
20. 59	49. 0	7. 53	·1201					
21. 50	51. 25	8. 21:	·1195					
22. 38	51. 55	8. 45	·1198					
	(†)	9. 35	·1197					
		10. 2	·1199					
		10. 21	·1198					
		10. 44	·1200					
		11. 0	·1197					
		11. 28	·1201					
		11. 46	·1198					
		12. 8	·1201					
		12. 30	·1198					
		13. 38	·1197					
		14. 17	·1203					
		14. 39	·1202					
		18. 23	·1206					
		19. 44	·1202					
		20. 20	·1193					
		20. 59	·1198					
		21. 30	·1191					
			(†)					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.	
							Of H. F. Magnet.	Of V. F. Magnet.
		Dec. 29				Dec. 29		
h m	° ′ ″	h m		h m		h m	°	°
			(†)			1. 0	51·1	
		1. 0	·1195*			3. 0	52·9	
		1. 30	·1198			9. 18	51·8	
		2. 23	·1198			21. 0	47·0	
		2. 46	·1204					
		3. 15	·1193					
			***					
		4. 36	·1194					
		9. 20	·1201					
		9. 48	·1197					
		10. 31	·1198					
		10. 36	·1202					
		11. 6	·1203					
		11. 15	·1200					
		11. 23	·1203					
		11. 36	·1197					
		11. 52	·1197					
		12. 10	·1203					
		12. 30	·1198					
		12. 49	·1200					
		12. 59	·1198					
		15. 2	·1202					
		15. 16	·1205					
		15. 30	·1202					
		17. 25	·1211					
		18. 20	·1210					
		18. 42	·1206					
		18. 58	·1208					
		20. 10	·1207					
		20. 27	·1205					
		21. 22	·1199					
		22. 42	·1197					
		23. 1	·1192					
		23. 25	·1192					
		23. 59	·1198					
Dec. 30		Dec. 30				Dec. 30		
	(†)	0. 0	·1198			1. 0	49·5	
2. 6	20. 57. 15		(†)			3. 0	50·3	
	***	0. 45	·1206			9. 0	49·9	
3. 8	56. 0	1. 8	·1212			21. 0	44·5	
	***	2. 7	·1209			22. 0	44·2	
4. 12	53. 25	2. 14	·1219			23. 0	44·6	
	***	2. 30	·1214					
4. 23	54. 5	3. 32	·1226					
	***	3. 39	·1233					
5. 3	53. 15	4. 7	·1238					
	***	4. 19	·1236					
5. 33	54. 15	4. 26	·1237					
6. 50	52. 25	4. 38	·1233					
	***	5. 16	·1235					
7. 23	53. 15	5. 36	·1226					
	***	6. 17	·1228					
13. 42	50. 35	6. 38	·1225					
14. 0	52. 40	7. 0	·1227					
14. 24	51. 5	7. 15	·1222					
16. 17	52. 15	7. 24	·1229					
	***	7. 31	·1224					

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

December 29. The Declination Magnet was under adjustment.

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Dec. 30		Dec. 30						
h m	° ′ ″	h m		h m		h m	°	°
21. 24	20. 52. 15	8. 1	·1229					
21. 45	49. 45	8. 45	·1227					
	(†)	9. 4	·1222					
		9. 16	·1224					
		9. 46	·1219					
		10. 0	·1220					
		11. 5	·1216					
		11. 30	·1218					
		11. 47	·1212					
		12. 17	·1217					
		12. 30	·1222					
		12. 52	·1215					
		13. 9	·1218					
		13. 39	·1217					
		13. 50	·1221					
		14. 43	·1218					
		16. 25	·1225					
		16. 38	·1223					
		18. 8	·1229					
		19. 5	·1224					
		19. 26	·1222					
		20. 52	·1221					
		21. 11	·1219					
		21. 41	·1218					
		23. 20	·1222					
			(†)					
Dec. 31		Dec. 31				Dec. 31		
	(†)		(†)			0. 0	45·1	
1. 35	20. 55. 5	0. 18	·1108			1. 0	46·1	
2. 55	52. 35	0. 33	·1120			2. 0	47·0	
4. 7	52. 35	1. 2	·1106			3. 0	48·0	
4. 28	53. 15	1. 19	·1106			6. 0	49·6	
5. 43	53. 15	1. 35	·1099			9. 0	48·3	
5. 58	53. 55	1. 45	·1105			12. 0	47·6	
6. 7	53. 5	2. 17	·1095			18. 0	46·2	
6. 29	53. 55	3. 8	·1112			21. 0	46·7	
6. 45	53. 15	3. 28	·1106					
7. 8	54. 15	3. 37	·1120					
7. 28	53. 40	4. 1	·1124					
7. 45	54. 15	4. 25	·1115					
9. 1	52. 15	4. 45	·1120					
9. 47	51. 45	4. 59	·1130					
10. 5	53. 25	5. 15	·1125					
10. 58	51. 25	5. 25	·1130					
11. 8	52. 15	5. 35	·1128					
11. 25	52. 5	5. 44	·1135					
11. 40	53. 5	6. 3	·1140					
12. 0	52. 25	6. 17	·1135					
12. 7	50. 0	6. 31	·1133					
12. 30	55. 15		***					
13. 0	49. 45	7. 10:	·1145					
13. 15	52. 15	7. 47	·1136					
13. 27	51. 30	8. 33:	·1141					
13. 35	51. 35		***					
13. 24	50. 10	9. 5	·1131					

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers. Of H. F. Magnet.	Readings of Thermometers. Of V. F. Magnet.
Dec. 31		Dec. 31						
h m	° ′ ″	h m		h m		h m	°	°
14. 0	20. 50. 10	9. 22	·1134					
14. 9	52. 40	9. 45	·1124					
14. 33	51. 50	10. 8	·1121					
14. 40	54. 15	10. 15	·1116					
15. 2	52. 25	10. 27	·1123					
	***	10. 56	·1117					
16. 23	53. 40	11. 38	·1123					
16. 39	52. 25	11. 46	·1114					
16. 47	54. 50	12. 0	·1114					
17. 17	51. 25	12. 1	·1091					
17. 29	51. 55	12. 22	·1119					
17. 52	51. 10	12. 52	·1097					
	***	13. 11	·1110					
18. 17	52. 5	13. 42	·1094					
18. 28	54. 15		***					
18. 42	52. 25	14. 0	·1094					
18. 57	53. 45	14. 8	·1101					
	***	14. 21	·1090					
19. 32	53. 25		***					
19. 40	51. 30	14. 32	·1086					
19. 50	53. 45	14. 39	·1092					
20. 2	50. 15		***					
20. 12	54. 35	15. 7	·1088					
20. 22	54. 45		***					
20. 33	52. 15	15. 29	·1073					
20. 43	53. 45	15. 33	·1078					
20. 45	53. 25	15. 39	·1070					
20. 48	53. 15	15. 47	·1073					
20. 52	54. 25	15. 55	·1062					
21. 8	52. 35	16. 15	·1060					
	***		***					
21. 23	55. 45	16. 32	·1080					
21. 28	54. 35	16. 38	·1074					
21. 36	55. 25	16. 46	·1081					
22. 15	54. 5	17. 0	·1071					
22. 26	55. 0	17. 17	·1083					
22. 48	53. 55	17. 29	·1078					
23. 22	58. 35	17. 44	·1080					
23. 59	55. 45	17. 47	·1076					
		18. 6	·1072					
		18. 13	·1078					
		18. 18	·1074					
		18. 26	·1079					
		19. 6	·1074					
		19. 26	·1060					
		19. 52	·1057					
		20. 2	·1069					
		20. 22	·1062					
		20. 35	·1070					
		20. 38	·1054					
		20. 50	·1052					
		20. 52	·1057					
		21. 0	·1049					
		21. 15	·1068					
		21. 25	·1060					
			(†)					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

December 31. The series on December 31 of the Horizontal-Force-Magnet is about 0·01 smaller than that ending December 30. The cause of the change is unknown.

December 31^{d}. 21^{h}. The Horizontal-Force-Magnet was removed for adjustment.

TABLE showing the APPROXIMATE MEAN MONTHLY WESTERN DECLINATION, at the ROYAL OBSERVATORY, GREENWICH, in the Year 1862.

MONTH.	1862.
	° ′ ″
January	20. 58. 37
February	58. 21
March	57. 32
April	50. 43
May	49. 5
June	52. 31
July	49. 39
August	51. 46
September	50. 33
October	50. 6
November	50. 9
December	49. 35
Mean	20. 52. 23

ROYAL OBSERVATORY, GREENWICH.

RESULTS

OF

OBSERVATIONS

OF THE

MAGNETIC DIP.

1862.

MAGNETIC DIP, observed at the ROYAL OBSERVATORY, GREENWICH, with AIRY'S DIP APPARATUS, in the Year 1862.

Day and Approximate Hour, 1862.		Needle.	Length of Needle.	Magnetic Dip.	Observer.	Day and Approximate Hour, 1862.		Needle.	Length of Needle.	Magnetic Dip.	Observer.
	d h			° ′ ″			d h			° ′ ″	
January	23. 22	C 1	6 inches	68. 11. 24	H C	July	14. 23	C 1	6 inches	68. 16. 42	N
	26. 22	C 1	6 ,,	68. 10. 20	H C		15. 0	D 1	3 ,,	68. 20. 25	N
	26. 23	C 3	6 ,,	67. 53. 42	H C		15. 23	B 2	9 ,,	68. 9. 21	N
	27. 0	C 2	6 ,,	68. 12. 56	H C		16. 0	C 2	6 ,,	68. 14. 34	N
							16. 1	D 2	3 ,,	68. 15. 14	N
February	6. 0	C 1	6 ,,	68. 8. 46	H C		17. 23	D 1	3 ,,	68. 2. 58	H C
	7. 0	C 2	6 ,,	68. 11. 36	H C		18. 0	C 1	6 ,,	68. 10. 59	H C
	8. 0	C 3	6 ,,	67. 51. 34	H C		18. 1	B 1	9 ,,	68. 16. 12	H C
	15. 0	C 3	6 ,,	67. 58. 42	H C		21. 23	B 2	9 ,,	68. 5. 10	H C
	20. 0	C 1	6 ,,	68. 10. 30	H C		22. 0	C 2	6 ,,	68. 6. 57	H C
	21. 23	C 2	6 ,,	68. 12. 57	H C		22. 1	D 2	3 ,,	68. 10. 54	H C
	24. 22	C 3	6 ,,	67. 57. 3	H C		30. 0	D 1	3 ,,	68. 8. 36	N
	25. 23	C 1	6 ,,	68. 3. 57	H C		30. 1	C 1	6 ,,	67. 59. 13	N
March	1. 0	C 2	6 ,,	68. 21. 20	H C	August	4. 1	B 1	9 ,,	68. 15. 18	N
	2. 22	C 1	6 ,,	68. 12. 31	H C		6. 22	C 1	6 ,,	68. 12. 39	N
	6. 23	C 3	6 ,,	68. 3. 55	H C		6. 23	D 1	3 ,,	68. 9. 7	N
	7. 0	C 1	6 ,,	68. 7. 42	H C		7. 1	C 2	6 ,,	67. 58. 49	N
	10. 23	C 2	6 ,,	68. 16. 52	H C		7. 22	B 2	9 ,,	68. 15. 14	N
							7. 23	C 2	6 ,,	68. 8. 44	N
April	3. 21	C 3	6 ,,	68. 3. 23	H C		8. 0	D 2	3 ,,	68. 8. 48	N
	3. 22	C 3	6 ,,	68. 2. 36	N		11. 0	D 3	3 ,,	68. 17. 25	N
	4. 22	C 1	6 ,,	68. 10. 2	H C		11. 2	C 3	6 ,,	68. 8. 14	N
	5. 0	C 1	6 ,,	68. 7. 42	N		11. 21	C 1	6 ,,	67. 58. 15	N
	23. 22	C 3	6 ,,	68. 12. 2	H C		11. 22	C 2	6 ,,	68. 13. 9	N
	24. 0	C 2	6 ,,	68. 3. 43	H C		11. 23	C 3	6 ,,	67. 54. 45	N
	24. 1	C 1	6 ,,	68. 8. 23	H C		21. 1	B 1	9 ,,	68. 14. 58	N
							25. 1	B 2	9 ,,	68. 12. 36	N
May	19. 23	C 1	6 ,,	67. 57. 44	H C		25. 2	C 2	6 ,,	68. 12. 1	N
	21. 21	C 2	6 ,,	68. 10. 40	H C						
	21. 22	C 3	6 ,,	68. 3. 38	N	September	6. 1	C 1	6 ,,	68. 19. 16	N
	21. 23	C 1	6 ,,	68. 4. 33	N		6. 2	D 1	3 ,,	68. 16. 47	N
	26. 23	C 2	6 ,,	68. 10. 54	H C		9. 0	D 2	3 ,,	68. 12. 25	N
	27. 22	C 1	6 ,,	68. 8. 51	N		9. 2	B 1	9 ,,	68. 1. 43	N
	29. 1	C 2	6 ,,	68. 2. 48	N		15. 2	B 2	9 ,,	68. 14. 3	N
	29. 21	C 1	6 ,,	68. 19. 11	H C		17. 22	C 2	6 ,,	68. 3. 13	N
	30. 0	C 2	6 ,,	68. 0. 16	N		18. 0	D 2	3 ,,	68. 2. 50	N
	30. 1	C 3	6 ,,	68. 0. 7	N		18. 1	D 1	3 ,,	68. 7. 40	N
June	4. 2	C 1	6 ,,	68. 10. 54	N	October	6. 2	D 1	3 ,,	68. 10. 24	N
	9. 23	D 1	3 ,,	68. 5. 34	H C		24. 2	B 2	9 ,,	68. 12. 42	N
	11. 1	D 2	3 ,,	67. 57. 55	H C		24. 3	B 1	9 ,,	68. 12. 10	N
	12. 23	D 3	3 ,,	68. 4. 58	H C		25. 0	C 1	6 ,,	68. 20. 22	N
	13. 21	D 1	3 ,,	68. 4. 8	H C		25. 1	C 2	6 ,,	68. 8. 55	N
	13. 22	D 2	3 ,,	68. 15. 42	H C						
	13. 23	D 3	3 ,,	68. 19. 12	H C	November	16. 22	B 1	9 ,,	68. 12. 26	N
	26. 1	D 1	3 ,,	67. 54. 0	N		25. 2	B 1	9 ,,	68. 12. 8	N
							27. 0	B 1	9 ,,	68. 8. 4	N
July	1. 23	D 2	3 ,,	68. 14. 5	H C		27. 2	C 1	6 ,,	68. 9. 45	N
	3. 23	D 1	3 ,,	68. 16. 25	H C						
	4. 0	D 2	3 ,,	68. 12. 12	H C	December	1. 23	C 1	6 ,,	68. 12. 59	N
	4. 2	D 3	3 ,,	68. 15. 15	H C		2. 0	C 2	6 ,,	68. 16. 35	N
	6. 23	D 1	3 ,,	68. 0. 15	H C		2. 1	C 3	6 ,,	68. 32. 26	N
	7. 0	D 2	3 ,,	68. 9. 59	H C		2. 22	C 3	6 ,,	68. 13. 53	N
	7. 1	C 1	6 ,,	68. 16. 33	H C		2. 23	C 2	6 ,,	68. 8. 27	N
	7. 2	C 2	6 ,,	68. 19. 28	H C		3. 0	D 1	3 ,,	68. 16. 18	N
	9. 23	C 2	6 ,,	68. 19. 9	H C		3. 1	D 2	3 ,,	68. 8. 45	N
	10. 0	B 1	9 ,,	68. 14. 45	H C		12. 2	D 1	3 ,,	68. 32. 16	N
	10. 1	B 2	9 ,,	68. 10. 17	H C		30. 2	B 1	9 ,,	68. 13. 6	N
	14. 22	B 1	9 ,,	68. 15. 15	N		31. 2	C 1	6 ,,	68. 20. 17	N

From October 27 to November 15 the instrument was in the hands of its maker.

The initials H C and N are those of Mr. Henry Criswick and Mr. W. C. Nash.

MONTHLY MEANS of MAGNETIC DIPS, at the ROYAL OBSERVATORY, GREENWICH, with AIRY'S DIP APPARATUS, in the Year 1862.

Month, 1862.	B 1, 9-inch Needle.	Number of Obser-vations.	B 2, 9-inch Needle.	Number of Obser-vations.	C 1, 6-inch Needle.	Number of Obser-vations.	C 2, 6-inch Needle.	Number of Obser-vations.
	° ′ ″		° ′ ″		° ′ ″		° ′ ″	
January	....	..	....	..	68. 10. 20	1	68. 12. 56	1
February	....	..	....	..	68. 7. 44	3	68. 12. 17	2
March	....	..	....	..	68. 10. 7	2	68. 19. 6	2
April	....	..	....	..	68. 8. 42	3	68. 3. 43	1
May	....	..	....	..	68. 7. 35	4	68. 6. 17	4
June	....	..	....	..	68. 10. 54	1	....	..
July	68. 15. 24	3	68. 8. 16	3	68. 10. 52	4	68. 15. 2	4
August	68. 15. 8	2	68. 13. 55	2	68. 5. 27	2	68. 8. 11	4
September	68. 1. 43	1	68. 14. 3	1	68. 19. 16	1	68. 3. 13	1
October	68. 12. 10	1	68. 12. 42	1	68. 20. 22	1	68. 8. 55	1
November	68. 10. 53	3	....	..	68. 9. 45	1	....	..
December	68. 13. 6	1	....	..	68. 16. 38	2	68. 12. 31	2
Means	(68. 10. 14)	..	(68. 9. 54)	..	68. 10. 19	25	68. 10. 40	22

Month, 1862.	C 3, 6-inch Needle, loaded.	Number of Obser-vations.	D 1, 3-inch Needle.	Number of Obser-vations.	D 2, 3-inch Needle.	Number of Obser-vations.	D 3, 3-inch Needle, loaded.	Number of Obser-vations.
	° ′ ″		° ′ ″		° ′ ″		° ′ ″	
January	68. 2. 54	2	....	..	....	..	....	..
February	67. 55. 34	3	....	..	....	..	....	..
March	68. 3. 55	1	....	..	....	..	....	..
April	68. 6. 0	3	....	..	....	..	....	..
May	68. 1. 53	2	....	..	....	..	....	..
June	....	..	68. 1. 14	3	68. 6. 48	2	68. 12. 5	2
July	....	..	68. 9. 44	5	68. 12. 29	5	68. 15. 15	1
August	68. 1. 30	2	68. 9. 7	1	68. 8. 48	1	68. 17. 25	1
September	....	..	68. 12. 13	2	68. 7. 38	2	....	..
October	....	..	68. 10. 24	1	....	..	....	..
November	....	..	....	..	....	..	....	..
December	68. 23. 10	2	68. 24. 17	2	68. 8. 45	1	....	..
Means	(68. 5. 44)	..	(68. 8. 8)	..	(68. 8. 26)	..	(68. 15. 12)	..

For this table the monthly means have been formed without reference to the hour at which the observation was made on each day, as in preceding years no certain difference was found between observations taken at 21^h and at 3^h.
In combining the monthly results, to form the annual means, weights have been given proportional to the number of observations.
The means in brackets have been found by applying to the mean of the observed results a correction deduced by taking the difference between the mean result for the same months and that of the whole year, using C 1 as a standard.

YEARLY MEANS of MAGNETIC DIPS for each of the NEEDLES, and GENERAL MEAN.

Lengths of the several Sets of Needles.	Needles.	Mean Dip from Observations with each Needle during the Year, uncorrected.	Number of Observa-tions.	Adopted yearly Mean Dip for each Needle.	Including all Needles. Mean yearly Dip from each Set of Needles.	Including all Needles. Mean yearly Dip from all the Sets of Needles.	Excluding loaded Needles. Mean yearly Dip from each Set of Needles.	Excluding loaded Needles. Mean yearly Dip from all the Sets of Needles.
		° ′ ″		° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″
9-inch Needles	B 1	68. 12. 22	11	68. 10. 14	68. 10. 4		68. 10. 4	
	B 2	68. 11. 20	7	68. 9. 54				
6-inch Needles	C 1	68. 10. 19	25	68. 10. 19				
	C 2	68. 10. 40	22	68. 10. 40	68. 8. 54	68. 9. 50	68. 10. 30	68. 9. 37
	C 3	68. 4. 30	15	68. 5. 44				
3-inch Needles	D 1	68. 10. 22	14	68. 8. 8				
	D 2	68. 9. 54	11	68. 8. 26	68. 10. 35		68. 8. 17	
	D 3	68. 14. 12	4	68. 15. 12				

ROYAL OBSERVATORY, GREENWICH.

OBSERVATIONS

OF

DEFLEXION OF A MAGNET

FOR

ABSOLUTE MEASURE

OF

HORIZONTAL FORCE.

1862.

ABSTRACT of the OBSERVATIONS of DEFLEXION of a MAGNET for ABSOLUTE MEASURE of HORIZONTAL FORCE, observed with the OLD APPARATUS.

Month and Day, 1862.	Position of Deflecting Magnet with regard to Suspended Magnet.	Distances of Centers of Magnets.	Temperature.	Observed Deflexion.	Mean of the Times of Vibration of Deflecting Magnet.	Number of Vibrations.	Temperature.	Observer.
		ft. in.	°	° ′ ″	s		°	
January 30	Lateral	1. 0	51 ·9	8. 20. 26 ·40	5 ·953	100	50 ·5	N
	Lateral	1. 6		2. 30. 3 ·94	5 ·980	100	51 ·8	
January 31	Lateral	1. 0	55 ·0	8. 21. 8 ·67	5 ·963	100	54 ·0	N
	Lateral	1. 6		2. 29. 44 ·73	5 ·942	100	55 ·0	
February 3	Lateral	1. 0	54 ·1	8. 20. 14 ·47	5 ·964	100	53 ·3	N
	Lateral	1. 6		2. 29. 8 ·29	5 ·932	100	54 ·5	

The lengths of 1 foot and 1 foot 6 inches answer to 304·8 and 457·2 millimètres respectively.
The initial N is that of Mr. W. C. Nash.

COMPUTATION of the VALUES of ABSOLUTE MEASURE of HORIZONTAL FORCE, with the OLD APPARATUS.

Month and Day, 1862.	In English Measure.								Value of X in French Measure.
	Apparent Value of a.	Apparent Value of b.	Adopted Value of a, assuming the Value of b (−0·00259) as applicable to all.	Log. $\frac{1}{2}a$ = Log. $\frac{m}{X}$	Adopted Time of Vibration of Deflecting Magnet.	Log. m X.	Value of X.	Value of m.	
					s				
January 30	+0·14906	−0·00400	+0·14783	8·86873	5·967	0·03703	3·838	0·2837	1·770
31	+0·14833	−0·00307	+0·14792	8·86899	5·953	0·03907	3·846	0·2845	1·773
February 3	+0·14746	−0·00246	+0·14758	8·86503	5·948	0·03980	3·867	0·2834	1·783

The value of b employed in these reductions, namely −0·00259, is the mean from the observations taken between 1861, July 17, and 1862, February 3, when the series with the old apparatus ended.

ABSTRACT of the OBSERVATIONS of DEFLEXION of a MAGNET for ABSOLUTE MEASURE of HORIZONTAL FORCE, made with the KEW UNIFILAR INSTRUMENT.

Month and Day, 1862.	Position of Deflecting Magnet with regard to Suspended Magnet.	Distances of Centers of Magnets.	Temperature.	Observed Deflexion.	Mean of the Times of Vibration of Deflecting Magnet.	Number of Vibrations.	Temperature.	Observer.
		ft.	°	° ′ ″	s		°	
January 29	Lateral .... Lateral	1 ·0 1 ·3	50 ·2	16. 8. 57 7. 16. 43	4 ·744	150	49 ·5	H C
January 30	Lateral .... Lateral	1 ·0 1 ·3	49 ·9	16. 8. 59 7. 16. 44	4 ·749	150	50 ·2	H C
February 1	Lateral .... Lateral	1 ·0 1 ·3	52 ·1	16. 8. 22 7. 17. 5	4 ·754 4 ·752	150 150	52 ·0 53 ·2	H C

The lengths of 1 foot and 1·3 foot answer to 304·8 and 396·2 millimètres respectively.
The initials H C are those of Mr. Henry Criswick.

ABSTRACT of the OBSERVATIONS of DEFLEXION of a MAGNET for ABSOLUTE MEASURE of HORIZONTAL FORCE, observed with the KEW UNIFILAR INSTRUMENT—*concluded.*

Month and Day, 1862.	Position of Deflecting Magnet with regard to Suspended Magnet.	Distances of Centers of Magnets.	Temperature.	Observed Deflexion.	Mean of the Times of Vibration of Deflecting Magnet.	Number of Vibrations.	Temperature.	Observer.
		ft.	°	° ′ ″	s		°	
March 31	Lateral .... Lateral	1·0 1·3	56·9	16. 4. 2 7. 15. 29	4·686 4·727	150 150	56·4 59·0	H C
April 25	Lateral .... Lateral	1·0 1·3	61·1	16. 1. 16 7. 13. 42	4·724	150	60·3	H C
May 28	Lateral .... Lateral	1·0 1·3	63·1	15. 56. 36 7. 11. 52	4·771 4·769	150 150	64·0 65·0	H C
June 3	Lateral .... Lateral	1·0 1·3	66·1	15. 57. 5 7. 11. 33	4·781 4·771	150 150	68·0 68·0	H C
June 12	Lateral .... Lateral	1·0 1·3	58·5	15. 53. 10 7. 9. 14	4·780 4·785	150 150	58·0 59·0	H C
June 25	Lateral .... Lateral	1·0 1·3	61·1	15. 52. 26 7. 9. 17	4·786 4·788	150 150	60·0 63·0	H C
July 3	Lateral .... Lateral	1·0 1·3	60·7	15. 53. 51 7. 9. 49	4·784 4·782	150 150	61·0 60·5	H C
August 15	Lateral .... Lateral	1·0 1·3	68·4	15. 48. 3 7. 7. 17	4·800 4·810	150 150	67·0 68·5	N
December 24	Lateral .... Lateral	1·0 1·3	49·6	15. 42. 0 7. 4. 22	4·809 4·818	150 150	46·6 48·9	N

The lengths of 1 foot and 1·3 foot answer to 304·8 and 396·2 millimètres respectively.
The initials H C and N are those of Mr. Henry Criswick and Mr. W. C. Nash.
In the following calculations, every observation is reduced to the temperature 35°.

COMPUTATION of the VALUES of ABSOLUTE MEASURE of HORIZONTAL FORCE, from OBSERVATIONS with the KEW UNIFILAR INSTRUMENT.

Month and Day, 1862.		In English Measure.									Value of X in French Measure.
		Apparent Value of A.	Apparent Value of A′.	Apparent Value of P.	Mean Value of P.	Log. ½ A = Log. $\frac{m}{X}$	Adopted Time of Vibration of Deflecting Magnet.	Log. m X.	Value of X.	Value of m.	
							s				
January	29	+0·13940	0·08254	−0·00176		9·14526	4·744	0·30799	3·814	0·5329	1·759
	30	+0·13940	0·08254	−0·00176		9·14525	4·749	0·30712	3·810	0·5323	1·757
February	1	+0·13937	0·08264	−0·00511		9·14545	4·753	0·30654	3·807	0·5321	1·755
March	31	+0·13887	0·08240	−0·00690		9·14405	4·707	0·31542	3·852	0·5367	1·776
April	25	+0·13859	0·08213	−0·00372		9·14289	4·724	0·31239	3·844	0·5341	1·772
May	28	+0·13798	0·08181	−0·00516	−0·00241	9·14110	4·770	0·30426	3·816	0·5281	1·759
June	3	+0·13812	0·08180	−0·00213		9·14127	4·776	0·30341	3·811	0·5276	1·757
	12	+0·13740	0·08125	+0·00143		9·13869	4·783	0·30148	3·814	0·5249	1·759
	25	+0·13735	0·08130	−0·00071		9·13873	4·787	0·30096	3·812	0·5246	1·758
July	3	+0·13754	0·08139	−0·00036		9·13928	4·783	0·30170	3·812	0·5254	1·758
August	15	+0·13691	0·08102	−0·00036		9·13729	4·805	0·29813	3·806	0·5221	1·755
December	24	+0·13562	0·08003	+0·00666		9·12911	4·813	0·29611	3·833	0·5160	1·767

This instrument was in the hands of its maker from August 20 to December 5.
The mean value of P used in the reductions of December 24, is +0·00752, obtained from the observations made between 1862, December 24, and 1863, February 3.

ROYAL OBSERVATORY, GREENWICH.

RESULTS

OF

METEOROLOGICAL OBSERVATIONS.

1862.

MONTH and DAY, 1862.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	Readings of Thermometers. Dry. Highest.	Dry. Lowest.	Dry. Mean Daily Value.	Dew Point. Mean Daily Value.	Highest in the Sun, as shewn by a Self-Registering Thermometer read at 9h P.M.	Lowest on the Grass, as shewn by a Self-Registering Thermometer read at 9h A.M. next morning.	In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9h A.M. next morning. Highest.	In the Water of the Thames. Lowest.	Difference between the Dew Point Temperature and Air Temperature. Mean Daily Value.	Difference. Greatest.	Difference. Least.	Difference between the Mean Temperature of the Day and the Mean Temperature of the same Day on an Average of 43 Years.	Wind as deduced from Anemometers. Osler's. General Direction. A.M.	Osler's. General Direction. P.M.	Osler's. Pressure in lbs. on the square foot. Greatest.	Pressure. Least.	Pressure. Mean of 24 Obs.	Whewell's. Amount of Horizontal Movement of the Air on each Day.	Robinson's. Amount of Horizontal Movement of the Air on each Day.	Rain in Inches read at 9h P.M.
		in.	°	°	°	°	°	°	°	°	°	°	°	°			lbs.	lbs.	lbs.	miles.	miles.	in.
Jan. 1	..	30·245	37·8	30·4	33·3	29·4	38·5	29·0	39·6	36·4	3·9	5·4	0·2	− 3·2	NNE	Calm	0·0	0·0	0·0	40	91	0·01
2	..	30·249	41·4	34·2	37·1	33·4	69·0	28·8	38·6	36·4	3·7	8·7	1·0	+ 0·7	NE	NNE	0·0	0·0	0·0	55	125	0·00
3	..	29·857	40·5	32·5	35·4	33·9	49·0	29·0	38·6	36·4	1·5	2·6	0·0	− 1·0	WSW	W	0·0	0·0	0·0	120	258	0·01
4	..	29·702	41·8	32·3	36·5	30·4	47·0	28·5	40·6	37·4	6·1	8·5	3·8	+ 0·2	NW ; N	NW ; W	3·0	0·0	0·3	125	280	0·00
5	In Equator	29·659	45·0	32·5	39·0	34·2	55·0	27·0	45·6	36·4	4·8	6·5	1·5	+ 2·9	W ; NW	N	2·0	0·0	0·0	100	215	0·03
6	..	29·967	37·3	29·5	33·0	26·8	41·0	22·0	39·6	36·9	6·2	9·4	5·4	− 3·0	W	NW ; SW	0·0	0·0	0·0	65	133	0·00
7	First Qr.	29·912	43·8	31·3	38·9	36·8	56·0	23·0	38·6	36·4	2·1	4·2	1·4	+ 3·1	SW	SW	2·0	0·0	0·0	155	293	0·00
8	..	29·562	50·8	37·3	44·1	41·9	61·0	33·0	38·6	36·4	2·2	5·0	1·5	+ 8·6	SW	SW	4·0	0·0	1·0	195	391	0·14
9	..	29·540	53·5	45·7	49·7	47·9	54·0	32·0	39·6	37·4	1·8	2·4	1·3	+14·3	SW	SW	7·0	0·5	1·8	255	497	0·21
10	Apogee	29·630	51·0	45·5	47·8	43·5	57·0	39·0	41·5	37·9	4·3	5·9	2·3	+12·1	SW	SW	3·0	0·0	1·0	185	382	0·07
11	..	29·309	52·1	43·5	47·7	41·2	58·0	43·1	43·6	39·4	6·5	8·6	5·4	+12·1	SW	SW; W	12·0	0·5	3·0	255	572	0·03
12	..	29·515	48·0	36·9	43·6	42·3	57·5	32·0	43·6	40·4	1·3	3·4	0·0	+ 8·0	W	SW ; NW	3·0	0·0	0·2	100	221	0·03
13	Greatest Declination N.	29·581	45·0	34·3	39·2	36·1	56·5	28·0	44·1	40·9	3·1	6·4	0·5	+ 3·6	NW	W ; SW	0·0	0·0	0·0	65	116	0·00
14	..	29·497	43·8	36·7	40·2	38·6	48·0	32·7	43·6	40·4	1·6	4·8	0·2	+ 4·6	SW	NE	0·0	0·0	0·0	40	91	0·16
15	..	29·843	39·8	32·3	35·9	30·5	48·0	30·0	43·6	41·9	5·4	7·0	1·2	+ 0·4	NE	NE; E	0·0	0·0	0·0	20	72	0·00
16	Full	29·935	39·0	26·0	32·1	26·6	69·0	21·0	43·6	41·4	5·5	9·7	2·6	− 3·4	E	S ; SE	0·0	0·0	0·0	50	89	0·00
17	..	29·925	31·3	23·3	27·0	17·8	61·4	18·0	42·6	40·4	9·2	11·0	9·0	− 8·9	SE	SE	0·0	0·0	0·0	65	113	0·00
18	..	29·936	32·0	22·0	26·8	10·6	75·0	17·0	40·6	38·4	16·2	21·0	13·0	− 9·5	SE	SE	0·0	0·0	0·0	60	121	0·00
19	..	29·735	28·4	20·4	25·3	17·7	39·5	13·4	39·6	36·4	7·6	8·9	6·7	−11·2	SE	Calm	0·0	0·0	0·0	15	51	0·00
20	In Equator	29·510	30·8	26·7	28·0	20·5	36·0	26·0	39·6	36·9	7·5	9·9	4·0	− 8·8	Calm	SE	2·0	0·0	0·1	95	206	0·00
21	..	29·383	33·1	28·0	30·5	27·4	38·0	25·0	38·6	36·4	3·1	4·6	2·1	− 6·6	ESE	Calm	1·5	0·0	0·0	65	146	0·07
22	..	29·358	48·3	31·5	40·9	39·0	80·0	27·0	38·6	36·4	1·9	5·5	0·7	+ 3·6	SE; SW	SW	3·0	0·0	0·2	130	246	0·03
23	Last Qr.	29·424	43·0	35·5	39·6	37·8	57·0	31·7	39·6	37·4	1·8	3·7	0·9	+ 2·1	S	SE	3·0	0·0	0·3	180	347	0·11
24	..	29·350	52·3	41·5	48·0	41·6	82·0	32·7	41·1	37·9	6·4	9·2	4·4	+10·2	SW	SW	6·0	0·0	3·0	225	455	0·00
25	..	29·627	46·0	35·3	40·7	40·1	49·0	31·0	39·6	37·4	0·6	2·3	0·0	+ 2·7	SW	N; W	1·5	0·0	0·0	85	178	0·41
26	Perigee; Greatest Dec. S.	30·132	46·0	31·5	38·1	32·6	81·2	25·0	39·6	37·4	5·5	9·7	1·8	− 0·2	WSW	SW	0·0	0·0	0·0	95	165	0·00
27	..	30·033	46·3	35·3	40·6	34·5	71·0	28·6	39·6	37·4	6·1	10·3	1·5	+ 2·3	SSW	S; SE	2·0	0·0	0·1	125	225	0·00
28	..	29·679	51·3	34·3	42·7	40·0	74·0	28·0	39·6	38·4	2·7	5·5	1·0	+ 4·6	S	SW	3·0	0·0	0·2	190	370	0·02
29	..	29·582	53·0	43·1	48·5	46·3	61·0	36·0	41·6	..	2·2	6·4	1·1	+10·6	SW	WSW	6·0	0·0	1·5	255	514	0·03
30	New	29·553	52·0	45·3	48·0	45·4	53·0	41·5	42·6	..	2·6	5·0	0·0	+10·4	W	W	4·0	0·0	0·8	195	398	0·41
31	..	29·628	55·0	47·7	52·1	46·6	65·0	40·6	42·6	..	5·5	7·6	4·6	+14·8	WNW	W	8·0	0·5	2·0	280	564	0·02
Means	..	29·705	43·9	34·3	39·0	34·6	57·7	29·0	40·9	38·0	4·4	7·0	2·6	+ 2·4	...	...	..	..	..	Sum 3885	Sum 7925	Sum 1·79

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The absolute maximum in the month was 30in·284 on the 2nd; the first minimum in the month was 29in·618 on the 5th.
The second maximum ,, was 30in·025 on the 6th; the second minimum ,, was 29in·509 on the 8th.
The third maximum ,, was 29in·691 on the 8th; the third minimum ,, was 29in·512 on the 9th.
The fourth maximum ,, was 29in·678 on the 10th; the absolute minimum ,, was 29in·198 on the 11th.
The fifth maximum ,, was 29in·599 on the 12th; the fifth minimum ,, was 29in·446 on the 12th.
The sixth maximum ,, was 29in·611 on the 13th; the sixth minimum ,, was 29in·403 on the 14th.
The seventh maximum ,, was 29in·991 on the 18th; the seventh minimum ,, was 29in·289 on the 22nd.
The eighth maximum ,, was 29in·524 on the 23rd; the eighth minimum ,, was 29in·283 on the 23rd.
The ninth maximum ,, was 30in·155 on the 26th; the ninth minimum ,, was 29in·531 on the 30th.
The range in the month was 1in·086.
The mean for the month was 29in·705, being 0in·064 *lower* than the average of the preceding 21 years.

TEMPERATURE OF THE AIR.

The highest in the month was 55°·0 on the 31st; the lowest was 20°·4 on the 19th; and the range in the month was 34°·6.
The mean ,, of all the highest daily readings was 43°·9, being 0°·8 *higher* than the average of the preceding 21 years.
The mean ,, of all the lowest daily readings was 34°·3, being 0°·9 *higher* than the average of the preceding 21 years.
The mean daily range was 9°·6, being 0°·1 *less* than the average of the preceding 21 years.
The mean for the month was 39°·0, being 0°·9 *higher* than the average of the preceding 21 years.

MONTH and DAY, 1862.	ELECTRICITY.		CLOUDS AND WEATHER.	
	A.M.	P.M.	A.M.	P.M.
Jan. 1	w	w	10, gt.-glm	10 : f, r
2	0	0 : w	10	7, li.-cl
3	0	0	10, th.-r	10, th.-r : 7, f
4	0	0	0	10, li.-cl : 0, h
5	0	0	10, ci.-s, ci, h	10, r : 7
6	s	0	10	10, li.-cl, h : 10, f
7	0	m	10, r	10 : 7, li.-cl
8	0	0	10, h.-r	7 : 0 : 10, s, ci.-s
9	0	0	10, r	10, r
10	m	m : s, sps	10, r : 0 : 2, ci.-cu, ci	10 : 10, oc.-r
11	0	0	10, h.-r : 10, s, ci.-cu, sc	10, oc.-r : 0
12	0	0	10	10 : 10 oc.-r
13	0	0	10, h	10, h, li.-cl
14	0	0	10, h.-r	10, oc.-r
15	0	0 : s, sps	10, li.-cl, h : 10	10
16	s	s	10, li.-cl	2, ci.-cu, ci.-s, ci : 0, h.-f
17	w	w	10, h.-f	1, ci : 1, h.-f
18	0	w	9, ci.-cu, ci, h.-f : 0	0 : 3, ci.-cu, ci
19	0	0	10, h.-f	7 : 10
20	0	m	10	10, cu.-s, ci.-s : 10
21	0	w	10, sn	10, oc.-sn
22	0	v	10, r : 7, li.-cl	0, h
23	0	0	0, h.-f : 10	10, li.-cl : 10, r
24	0	0	10, r : 7, li.-cl	7, ci.-s, sc : 0
25	0	0	10, h.-r	10, r : 0, h
26	0	0 : w	0, h.-f	0 : 10
27	0	0	10, li.-cl	7, li.-cl : 0, h
28	0	0 : w	10	10, r : 1, ci : 10, oc.-r
29	0	0	10, li.-cl	10, oc.-r
30	0	w, N : 0	10, li.-cl	10, r : h.-r
31	0	0	10	10

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $50^{\circ}\cdot3$ on the 9th; and the lowest was $9^{\circ}\cdot1$ on the 18th.

The mean ,, was $34^{\circ}\cdot6$, being $0^{\circ}\cdot6$ *lower* than the average of the preceding 21 years.

Elastic Force of Vapour.—The mean for the month was $0^{\text{in}}\cdot200$, being $0^{\text{in}}\cdot003$ *less* than the average of the preceding 21 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $2^{\text{gr}}\cdot3$, being $0^{\text{gr}}\cdot1$ *less* than the average of the preceding 21 years.

Degree of Humidity.—The mean for the month was 85 (that of Saturation being represented by 100), being 4 *less* than the average of the preceding 21 years.

Weight of a Cubic Foot of Air.—The mean for the month was 552 grains, being 2 grains *less* than the average of the preceding 21 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by 0 and a cloudy sky by 10, was 7·8.

WIND.

The proportions were of N. 3, S. 11, W. 11, and E. 6. The greatest pressure in the month was $12^{\text{lbs}}\cdot0$ on the square foot on the 11th.

RAIN.

Fell on 17 days in the month, amounting to $1^{\text{in}}\cdot8$, as measured in the simple cylinder gauge partly sunk below the ground; being the *same* as the average fall of the preceding 47 years.

MONTH and DAY, 1862.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	Readings of Thermometers. Dry. Highest.	Dry. Lowest.	Dry. Mean Daily Value.	Dew Point. Mean Daily Value.	Highest in the Sun, as shewn by a Self-Registering Thermometer read at 9h P.M.	Lowest on the Grass, as shewn by a Self-Registering Thermometer read at 9h A.M. next morning.	In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9h A.M. next morning. Highest.	Thames. Lowest.	Difference between the Dew Point Temperature and Air Temperature. Mean Daily Value.	Difference. Greatest.	Difference. Least.	Difference between the Mean Temperature of the Day and the Mean Temperature of the same Day on an Average of 43 Years.	Wind as deduced from Anemometers. Osler's. General Direction. A.M.	Osler's. General Direction. P.M.	Osler's. Pressure in lbs. on the square foot. Greatest.	Pressure. Least.	Pressure. Mean of 24 Obs.	Amount of Horizontal Movement of the Air on each Day. Whewell's	Amount of Horizontal Movement. Robinson's	Rain in Inches read at 9h P.M.
		in.	°	°	°	°	°	°	°	°	°	°	°	°			lbs.	lbs.	lbs.	miles.	miles.	in.
Feb. 1	In Equator	29·798	53·0	48·5	50·9	45·9	59·0	48·0	46·6	..	5·0	6·4	3·7	+13·7	WNW	W	6·0	0·0	1·8	190	366	0·05
2	..	29·977	52·5	46·8	49·0	43·3	65·0	42·4	47·6	..	5·7	6·8	2·9	+12·0	SW	SW	2·5	0·0	0·3	180	361	0·00
3	..	30·031	54·0	46·7	50·3	46·7	72·0	41·5	48·1	47·4	3·6	6·4	1·3	+13·0	SW	SW	2·0	0·0	0·0	165	313	0·00
4	..	30·056	55·5	47·1	51·2	48·2	62·0	42·5	50·6	47·4	3·0	5·4	2·3	+13·5	WSW	WSW	3·0	0·0	1·0	210	398	0·00
5	..	29·881	55·0	44·0	49·0	44·2	79·0	40·7	49·6	46·4	4·8	8·4	1·7	+10·6	WSW	W	6·0	0·0	1·5	165	305	0·00
6	First Qr.	29·827	49·5	36·7	42·4	39·2	60·0	31·7	48·6	46·4	3·2	6·5	1·3	+ 3·4	W	Calm	0·0	0·0	0·0	85	155	0·00
7	Apogee	30·090	39·0	28·0	32·4	25·0	79·0	24·0	46·6	44·4	7·4	10·3	3·2	− 6·8	SE	NE	2·0	0·0	0·3	70	185	0·00
8	..	30·466	34·4	24·4	28·1	16·0	63·0	17·6	46·6	44·4	12·1	14·6	9·2	−11·1	NE	NE	1·0	0·0	0·0	40	122	0·00
9	Greatest Declination N.	30·425	39·7	25·7	32·3	27·2	43·5	17·0	45·6	43·4	5·1	9·4	1·2	− 6·7	NW	N	1·0	0·0	0·0	115	174	0·00
10	..	30·318	43·0	28·0	34·4	28·3	79·0	21·0	45·6	43·4	6·1	14·1	2·5	− 4·3	N	N; W	0·0	0·0	0·0	65	140	0·00
11	..	30·079	41·7	26·5	34·6	33·5	43·0	19·0	42·6	39·4	1·1	4·8	0·0	− 3·9	WSW	NW	0·0	0·0	0·0	50	88	0·00
12	..	29·893	44·5	37·3	40·3	37·8	45·0	36·0	43·6	41·4	2·5	4·6	0·7	+ 2·0	NW	W	0·0	0·0	0·0	70	134	0·04
13	..	29·938	39·2	35·2	36·6	32·5	52·0	32·0	43·1	41·4	4·1	6·8	1·8	− 1·6	NE	Calm	0·0	0·0	0·0	30	49	0·00
14	Full	29·954	40·4	34·5	36·8	33·0	47·5	33·5	42·6	40·4	3·8	7·1	2·6	− 1·2	NE	ENE	0·0	0·0	0·0	10	20	0·00
15	..	29·985	43·7	34·5	38·5	32·2	64·0	30·8	39·6	36·4	6·3	10·1	0·8	+ 0·4	Calm	SE	0·0	0·0	0·0	65	..	0·00
16	In Equator	29·729	43·5	32·3	36·8	31·5	79·0	27·5	41·6	39·4	5·3	11·2	0·6	− 1·3	SE	ESE	1·0	0·0	0·0	105	..	0·00
17	..	29·313	44·8	32·7	39·1	39·1	48·0	28·0	41·6	39·4	0·0	0·5	0·0	+ 0·9	ESE	Calm; SW	0·0	0·0	0·0	35	..	0·18
18	..	29·260	56·0	40·2	47·4	44·9	92·0	40·0	41·6	39·4	2·5	7·6	1·1	+ 9·1	SE	SSW	3·0	0·0	0·1	145	..	0·02
19	Perigee	29·399	55·5	44·0	49·6	45·3	67·7	39·0	41·6	39·4	4·3	9·4	1·3	+11·2	S	S	3·5	0·0	0·5	175	..	0·15
20	..	29·502	56·3	44·2	50·0	43·8	86·0	42·5	42·6	40·4	6·2	11·0	1·8	+11·5	S; SW	SW	6·0	0·0	0·4	145	..	0·00
21	Last Qr.	29·718	56·2	37·8	47·5	42·0	101·0	30·3	42·6	40·4	5·5	11·2	0·0	+ 9·0	S	SE	3·0	0·0	0·3	120	..	0·00
22	Greatest Declination S.	29·627	56·0	40·7	47·4	44·6	88·0	38·5	44·6	42·4	2·8	6·0	1·1	+ 8·8	SE	SE	0·0	0·0	0·0	35	..	0·00
23	..	29·986	52·5	38·5	45·2	44·8	60·3	36·0	45·6	42·4	0·4	3·2	0·0	+ 6·3	SE	Calm	0·0	0·0	0·0	40	..	0·00
24	..	29·959	40·2	37·8	38·3	35·0	59·0	36·0	45·6	43·4	3·3	3·8	0·7	− 0·8	SE	SE	4·0	0·0	0·8	165	..	0·02
25	..	30·018	41·8	36·2	38·1	32·3	47·0	36·0	45·6	43·4	5·8	9·7	1·0	− 1·4	SE	E	4·0	0·0	1·3	145	273	0·00
26	..	30·185	35·8	32·5	33·6	29·0	47·5	32·0	45·6	43·4	4·6	8·0	2·4	− 6·1	E	NE	3·0	0·0	1·0	125	328	0·00
27	..	30·051	36·9	32·5	34·2	29·2	44·0	31·2	43·6	41·4	5·0	7·9	1·6	− 5·6	E	E	4·0	0·0	1·3	135	365	0·00
28	New	29·883	40·6	33·2	35·9	30·7	47·0	31·7	42·6	40·4	5·2	8·5	1·3	− 4·1	E	E	3·0	0·0	0·8	125	336	0·00
Means	..	29·905	46·5	36·7	41·1	36·6	63·6	33·1	44·7	42·2	4·5	7·8	1·7	+ 2·5	...	...	..	..	..	Sum 3005	Sum 18 days 4112	Sum 0·46

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The first maximum in the month was 30in·081 on the 3rd; the first minimum in the month was 29in·820 on the 6th.
The absolute maximum ,, was 30in·495 on the 8th; the second minimum ,, was 29in·883 on the 12th.
The third maximum ,, was 30in·011 on the 15th; the absolute minimum ,, was 29in·201 on the 18th.
The fourth maximum ,, was 29in·816 on the 21st; the fourth minimum ,, was 29in·565 on the 22nd.
The fifth maximum ,, was 30in·053 on the 23rd; the fifth minimum ,, was 29in·898 on the 24th.
The sixth maximum ,, was 30in·205 on the 26th.
The range in the month was 1in·294.
The mean for the month was 29in·905, being 0in·122 *higher* than the average of the preceding 21 years.

TEMPERATURE OF THE AIR.

The highest in the month was 56°·3 on the 20th; the lowest was 24°·4 on the 8th; and the range in the month was 31°·9.
The mean ,, of all the highest daily readings was 46°·5, being 1°·7 *higher* than the average of the preceding 21 years.
The mean ,, of all the lowest daily readings was 36°·7, being 3°·3 *higher* than the average of the preceding 21 years.
The mean daily range was 9°·8, being 1°·6 *less* than the average of the preceding 21 years.
The mean for the month was 41°·1, being 2°·5 *higher* than the average of the preceding 21 years.

MONTH and DAY, 1862.	ELECTRICITY.		CLOUDS AND WEATHER.	
	A.M.	P.M.	A.M.	P.M.
Feb. 1	o	o	10, th.-r	10
2	o	o	10	10, cu.-s, ci.-s : o
3	o	o	10	10
4	o	o	10	10
5			10, li.-cl	10, ci, ci.-cu, ci.-s
6			10, ci, ci-cu, cu.-s, ci.-s	10, li.-cl : 7, lu.-ha
7			5, ci, ci.-cu, ci.-s	5 : 10
8			o, h.-f	8, li.-cl, sn : cu.-s, ci.-s
9			10, oc.-sn	10
10			10, li.-cl, h	2, ci.-cu, ci : o, f
11			10, h, h.-f	10, h, h.-f : 10, f
12			10, oc.-r	10, f : 9, cu.-s, ci.-s
13			10	10 : m.-r : f
14			10	10
15			10	7 : 10
16			7, li.-cl	8, ci.-s, ci : 5, ci.-s
17			10, r	10, h.-r : th.-f
18			10, cu.-s, ci.-s	10, m.-r : 9, ci.-cu, cu.-s : o
19			10, cu.-s, ci.-s	10, ci.-s, oc.-r
20			7, ci.-cu, ci.-s	7, li.-cl : o
21			7, ci.-s, f	o
22			3, ci.-cu, ci.-s	5, li.-cl : 10
23	o	o	10, m.-r, f	10 : 3 : 10, th.-f
24	o	w	10, r	10, th.-r
25	o	o : w	10	10 : 10, oc.-r
26	o	o : w	10	10
27	o	o	10	10 : 9, ci.-s
28	o	m	10	10 : 10, oc.-r

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $50^{\circ}\cdot 3$ on the 4th; and the lowest was $12^{\circ}\cdot 4$ on the 8th.

The mean „ was $36^{\circ}\cdot 6$, being $2^{\circ}\cdot 0$ *higher* than the average of the preceding 21 years.

Elastic Force of Vapour.—The mean for the month was $0^{\text{in}}\cdot 217$ being $0^{\text{in}}\cdot 014$ *greater* than the average of the preceding 21 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $2^{\text{gr}}\cdot 5$, being $0^{\text{gr}}\cdot 1$ *greater* than the average of the preceding 21 years.

Degree of Humidity.—The mean for the month was 84 (that of Saturation being represented by 100), being 1 *less* than the average of the preceding 21 years.

Weight of a Cubic Foot of Air.—The mean for the month was 553 grains, being the *same* as the average of the preceding 21 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by 0 and a cloudy sky by 10, was $8\cdot 5$.

WIND.

The proportions were of N. 5, S. 6, W. 8, and E. 9. The greatest pressure in the month was $6^{\text{lbs}}\cdot 0$ on the square foot on the 1st, 5th, and 20th.

RAIN.

Fell on 6 days in the month, amounting to $0^{\text{in}}\cdot 5$, as measured in the simple cylinder gauge partly sunk below the ground; being $1^{\text{in}}\cdot 1$ *less* than the average fall of the preceding 47 years.

ELECTRICITY.—From February 5 to 22, the apparatus was under repair.

MONTH and DAY, 1862.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	Readings of Thermometers. Dry. Highest.	Dry. Lowest.	Dry. Mean Daily Value.	Dew Point. Mean Daily Value.	Highest in the Sun, as shewn by a Self-Registering Thermometer read at 9h P.M.	Lowest on the Grass, as shewn by a Self-Registering Thermometer read at 9h. A.M. next morning.	In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9h A.M. next morning. Highest.	In the Water of the Thames. Lowest.	Difference between the Dew Point Temperature and Air Temperature. Mean Daily Value.	Difference. Greatest.	Difference. Least.	Difference between the Mean Temperature of the Day and the Mean Temperature of the same Day on an Average of 43 Years.	Wind as deduced from Anemometers. Osler's. General Direction. A.M.	Osler's. General Direction. P.M.	Osler's. Pressure in lbs. on the square foot. Greatest.	Pressure. Least.	Pressure. Mean of 24 Obs.	Whewell's. Amount of Horizontal Movement of the Air on each Day.	Robinson's. Amount of Horizontal Movement of the Air on each Day.	Rain in Inches read at 9h P.M.
		in.	°	°	°	°	°	°	°	°	°	°	°	°			lbs.	lbs.	lbs.	miles.	miles.	in.
Mar. 1	In Equator	29·806	44·0	32·2	36·6	29·3	66·0	29·0	42·6	39·4	7·3	11·3	3·8	− 3·5	E	E	3·0	0·0	0·5	70	195	0·00
2	..	29·354	38·0	27·0	31·1	22·3	46·0	25·0	41·6	39·4	8·8	14·2	7·0	− 8·9	SE ; NE	NNE	0·0	0·0	0·0	55	153	0·00
3	..	29·134	38·3	25·3	30·8	25·8	46·0	20·6	40·6	38·4	5·0	8·9	1·5	− 9·1	WSW	N	0·0	0·0	0·0	50	149	0·00
4	..	29·555	40·6	22·5	29·9	20·5	68·0	14·0	39·6	37·4	9·4	14·6	6·4	−10·0	NW	SW	0·0	0·0	0·0	70	169	0·00
5	..	29·654	45·0	25·5	35·5	26·2	78·0	18·0	39·6	37·4	9·3	18·7	0·9	− 4·5	SW	SW	10·0	0·0	2·0	More than 232	579	0·13
6	..	29·386	55·0	39·0	48·3	46·1	64·0	32·0	39·6	37·4	2·2	4·4	1·0	+ 8·2	WSW	SW	8·0	1·0	2·5	275	569	0·03
7	Apogee	29·323	57·2	46·8	51·9	46·2	79·0	46·0	41·6	37·4	5·7	9·7	2·1	+11·8	SW	SW	8·0	0·5	1·8	200	479	0·05
8	First Quarter; Greatest Dec. N.	29·420	60·5	47·8	53·3	47·8	99·0	43·6	44·6	42·4	5·5	8·7	1·9	+13·2	SW	SSE; SW	4·0	0·0	0·5	175	345	0·05
9	..	29·374	52·8	44·7	47·2	42·6	61·6	40·5	45·6	42·4	4·6	10·4	0·7	+ 7·0	SW	SW	8·0	0·0	2·0	205	420	0·21
10	..	29·825	53·0	42·0	46·4	42·1	63·4	33·0	44·6	40·4	4·3	8·6	2·9	+ 6·1	SW	SW	2·0	0·0	0·0	90	200	0·02
11	..	29·641	51·0	41·0	46·1	46·1	56·0	32·0	45·6	43·4	0·0	1·7	0·0	+ 5·6	SW	SW	3·0	0·0	0·3	115	230	0·15
12	..	29·561	53·8	41·4	46·5	43·1	72·0	40·5	47·6	45·4	3·4	8·8	0·9	+ 5·9	SW	W ; SW	0·0	0·0	0·0	40	115	0·01
13	..	29·842	51·3	38·7	44·9	44·7	60·2	30·5	48·6	46·4	0·2	2·8	0·0	+ 3·9	Calm	NE	2·0	0·0	0·0	105	250	0·07
14	..	30·009	46·0	39·8	41·8	40·2	56·0	34·6	48·6	46·4	1·6	5·0	0·7	+ 0·5	ENE	ENE	0·0	0·0	0·0	85	240	0·05
15	In Equator	29·964	47·8	38·5	41·5	39·0	63·0	36·5	48·6	46·4	2·5	7·6	0·2	0·0	ENE	ENE	2·0	0·0	0·0	80	225	0·00
16	Full	29·767	45·9	40·0	41·5	41·0	51·5	39·8	45·6	43·4	0·5	0·9	0·0	− 0·2	NE	NE	0·0	0·0	0·0	45	136	0·01
17	..	29·639	46·8	38·9	41·7	40·0	54·0	37·0	47·6	45·4	1·7	2·9	0·4	− 0·1	NE	SW	0·0	0·0	0·0	100	215	0·72
18	Perigee	29·598	49·1	37·3	41·8	40·8	61·0	36·0	47·6	45·4	1·0	2·9	0·7	0·0	SW	NW	0·0	0·0	0·0	20	86	0·13
19	..	29·448	51·4	33·5	41·1	37·0	102·0	27·5	47·6	45·4	4·1	10·1	2·0	− 0·7	NE	NE ; E	0·0	0·0	0·0	100	253	0·00
20	..	29·212	39·5	33·9	36·1	35·0	57·0	33·0	47·6	45·4	1·1	1·7	0·5	− 5·8	NE	NE	7·0	0·0	1·8	165	391	0·41
21	Greatest Declination S.	29·384	37·6	32·3	34·7	32·0	48·0	28·3	46·6	44·4	2·7	4·1	1·4	− 7·2	NE	NE	4·0	0·0	1·0	145	352	0·60
22	Last Qr.	29·863	44·0	33·5	37·7	30·4	79·0	32·0	47·6	45·4	7·3	11·9	4·1	− 4·2	NE	SE	0·0	0·0	0·0	75	181	0·00
23	..	29·551	50·0	34·9	39·9	39·9	51·0	31·8	46·6	44·4	0·0	0·4	0·0	− 2·1	SE	SE ; SW	3·0	0·0	0·2	155	300	0·52
24	..	29·378	63·6	46·1	53·3	48·4	108·0	41·6	46·6	44·4	4·9	12·4	2·6	+11·2	SW	S ; SW	1·5	0·0	0·0	60	135	0·00
25	..	29·318	62·5	49·3	53·8	50·4	85·0	42·5	46·6	44·4	3·4	9·3	2·3	+11·6	SW	SE ; SW	0·0	0·0	0·0	40	111	0·09
26	..	29·343	55·0	44·3	48·1	47·3	83·0	39·8	47·6	45·4	0·8	3·0	0·0	+ 5·8	W ; E	ESE	0·0	0·0	0·0	30	90	0·07
27	..	29·226	62·6	43·3	50·7	49·0	108·0	40·8	47·6	45·4	1·7	6·7	0·0	+ 8·3	E	SE	0·0	0·0	0·0	35	105	0·05
28	In Equator	29·052	49·5	44·3	45·9	44·5	56·0	40·6	48·6	46·4	1·4	2·9	0·0	+ 3·3	Calm	NE	0·0	0·0	0·0	50	125	0·11
29	..	29·119	49·0	40·7	43·5	40·4	58·0	40·0	50·6	48·4	3·1	7·1	0·7	+ 0·7	NE	NW ; S	0·0	0·0	0·0	35	98	0·00
30	New	29·221	52·5	42·2	46·1	43·7	62·0	37·5	51·6	..	2·4	5·5	1·1	+ 3·1	SW	SW	0·0	0·0	0·0	50	195	0·00
31	..	29·461	58·0	43·2	48·8	44·1	83·0	40·2	50·6	..	4·7	13·7	1·5	+ 5·4	WSW	SW	0·0	0·0	0·0	120	243	0·07
Means	..	29·498	50·0	38·4	43·1	39·5	68·5	34·3	46·0	43·2	3·6	7·5	1·5	+ 1·8	...	...	..	..	..	Sum 3072	Sum 7334	Sum 3·55

Barometer Readings from Eye-Observations.

The first minimum in the month was 29in·105 on the 3rd.
The first maximum in the month was 29in·802 on the 5th ; the second minimum ,, was 29in·284 on the 7th.
The second maximum ,, was 29in·542 on the 8th ; the third minimum ,, was 29in·290 on the 8th.
The third maximum ,, was 29in·908 on the 10th ; the fourth minimum ,, was 29in·538 on the 12th.
The absolute maximum ,, was 30in·023 on the 14th ; the fifth minimum ,, was 29in·151 on the 20th.
The fifth maximum ,, was 29in·904 on the 22nd ; the absolute minimum ,, was 29in·049 on the 28th.
The range in the month was 0in·974.
The mean for the month was 29in·498, being 0in·286 *lower* than the average of the preceding 21 years.

Temperature of the Air.

The highest in the month was 63°·6 on the 24th ; the lowest was 22°·5 on the 4th ; and the range in the month was 41°·1.
The mean ,, of all the highest daily readings was 50°·0, being 0°·1 *lower* than the average of the preceding 21 years.
The mean ,, of all the lowest daily readings was 38°·4, being 3°·1 *higher* than the average of the preceding 21 years.
The mean daily range was 11°·6, being 3°·2 *less* than the average of the preceding 21 years.
The mean for the month was 43°·1, being 1°·3 *higher* than the average of the preceding 21 years.

MONTH and DAY, 1862.	ELECTRICITY. A.M.	ELECTRICITY. P.M.	CLOUDS AND WEATHER. A.M.	CLOUDS AND WEATHER. P.M.
March 1	o	o	10, li.-cl	10, li.-cl : 7
2	o	o	10	10, cu.-s, ci.-s : o, f
3	w	o	7, li.-cl	10, sn, h : o, th.-f
4	o		10, li.-cl, h	7, li.-cl. : o, f
5			7, li.-cl	10, li.-cl : 10, h.-sqs.-w.-r
6			10	10, oc.-r
7			10, r	10, li.-cl : 7, ci.-s, sc
8			10 : 7, li.-cl	7, li.-cl : 10, l, oc.-r : o
9	o	o	10, oc.-shs.-r	10, r : 7
10	o	o : w	10	10, gt.-glm : 10, ci.-cu : 7, cu.-s, ci.-s
11	o	o	10, h.-r	10, oc.-r : 10, s, ci.-s
12	o	s	10, fr.-shs.-r	10, fr.-shs.-r : 7, ci.-cu, ci.-s
13	v	v	10, h.-r : 10	10 : 10, oc.-r
14	o	w	10	10
15	w	o : w	10, m.-r	10
16	o	w	10, m.-r	10 : 10, r
17	o	s, N : w	10, c.-r	10, oc.-r : 10, h.-r
18	o	s	10, h.-r	10 : o, f
19	s, N	w	10	7, li.-cl : 10
20			10, r	10, r : 10, h.-r, sn
21			10, sn, r	10, sn, r : 10, th.-r : 10
22			10	10, ci.-s : o
23			10, h.-r	10, h.-r : o, h
24			8, li.-cl	8, ci.-cu, ci.-s, ci : sl.-r
25			10, r	10, ci.-s, r : o
26			10, f	10, r : 10 : f
27			10, th.-r	4, ci.-cu, ci : 10, h.-r
28			10, r : 10, gt.-glm	10, h
29			10	10 : 7, li.-cl, h
30			10	10, m.-r
31			10, li.-cl	7 li.-cl : 10, h.-shs.-r o

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was 53°·8 on the 25th and 27th; and the lowest was 15°·8 on the 4th.
The mean ,, was 39°·5, being 2°·9 *higher* than the average of the preceding 21 years.

Elastic Force of Vapour.—The mean for the month was 0in·242, being 0in·024 *greater* than the average of the preceding 21 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was 2gr·8, being 0gr·3 *greater* than the average of the preceding 21 years.

Degree of Humidity.—The mean for the month was 86 (that of Saturation being represented by 100), being 4 *greater* than the average of the preceding 21 years.

Weight of a Cubic Foot of Air.—The mean for the month was 544 grains, being 6 grains *less* than the average of the preceding 21 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by 0 and a cloudy sky by 10, was 8·9.

WIND.

The proportions were of N. 6, S. 8, W. 9, and E. 8. The greatest pressure in the month was 10lbs·0 on the square foot on the 5th.

RAIN.

Fell on 21 days in the month, amounting to 3in·5, as measured in the simple cylinder gauge partly sunk below the ground; being 2in·0 *greater* than the average fall of the preceding 47 years.

ELECTRICITY.—From March 5 to 8. The insulating lamp was not burning; from March 20 to May 12, the Electrometer was not in action.

MONTH and DAY, 1862.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	Readings of Thermometers. Dry. Highest.	Dry. Lowest.	Dry. Mean Daily Value.	Dew Point. Mean Daily Value.	Highest in the Sun, as shewn by a Self-Registering Thermometer read at 9h P.M.	Lowest on the Grass, as shewn by a Self-Registering Thermometer read at 9h. A.M. next morning.	In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9h A.M. next morning. Highest.	In the Water of the Thames. Lowest.	Difference between the Dew Point Temperature and Air Temperature. Mean Daily Value.	Difference. Greatest.	Difference. Least.	Difference between the Mean Temperature of the Day and the Mean Temperature of the same Day on an Average of 43 Years.	Wind as deduced from Anemometers. Osler's. General Direction. A.M.	Osler's. General Direction. P.M.	Osler's. Pressure in lbs. on the square foot. Greatest.	Pressure. Least.	Pressure. Mean of 24 Obs.	Whewell's. Amount of Horizontal Movement of the Air on each Day.	Robinson's. Amount of Horizontal Movement of the Air on each Day.	Rain in Inches read at 9h P.M.
		in.	°	°	°	°	°	°	°	°	°	°	°	°			lbs.	lbs.	lbs.	miles.	miles.	in.
April 1	..	29·723	53·5	41·0	48·1	45·0	75·0	36·0	51·6	..	3·1	7·8	0·9	+ 4·5	SW	SW	4·0	0·0	0·5	240	486	0·00
2	..	29·498	55·0	49·5	51·9	50·5	65·0	45·5	51·6	..	1·4	2·8	0·6	+ 7·8	SW	SW	8·0	0·5	2·5	190	389	0·27
3	Apogee.	29·534	63·7	45·0	50·3	44·8	107·0	40·0	52·6	50·4	5·5	10·6	0·0	+ 5·8	SW ; NW	SW	2·0	0·0	0·1	95	192	0·05
4	..	29·931	52·0	42·0	46·0	43·9	62·0	35·0	52·6	50·4	2·1	4·6	1·1	+ 1·2	SW ; NW	NNE ; SW	0·0	0·0	0·0	45	125	0·00
5	Greatest Declination N.	29·871	56·5	42·7	48·9	44·8	92·0	40·0	53·6	51·4	4·1	11·6	1·5	+ 3·8	SW	WSW	4·5	0·0	0·7	215	459	0·00
6	..	29·826	56·5	47·8	50·6	48·5	60·3	45·5	53·6	51·4	2·1	3·8	1·4	+ 5·2	WSW	WSW	3·0	0·0	0·5	130	257	0·00
7	First Qr.	30·027	52·2	45·5	47·4	46·2	68·0	43·5	53·6	51·4	1·2	3·6	0·0	+ 1·9	WSW ; NE	NE	0·0	0·0	0·0	90	205	0·30
8	..	30·085	46·3	42·2	43·2	41·7	50·2	42·0	53·6	51·4	1·5	3·6	0·4	— 2·3	NE	NE	0·0	0·0	0·0	120	244	0·01
9	..	29·888	47·8	39·8	43·2	42·6	50·6	37·5	52·6	50·4	0·6	3·2	0·0	— 2·2	NE	NE	0·0	0·0	0·0	65	161	1·10
10	..	29·808	55·5	41·7	45·9	44·4	66·0	39·5	51·6	49·4	1·5	4·8	0·2	+ 0·8	NE	NE	0·0	0·0	0·0	70	169	0·41
11	..	30·015	45·0	37·1	39·6	34·3	54·0	35·0	50·6	48·4	5·3	7·9	4·2	— 5·4	NE	NE	3·0	0·0	0·4	160	380	0·01
12	In Equator	30·100	46·0	30·4	36·6	27·2	94·0	27·2	47·6	45·4	9·4	17·2	8·9	— 8·3	NE	NNE	0·5	0·0	0·0	75	203	0·00
13	..	30·043	47·4	26·7	35·8	27·6	105·0	21·0	47·6	45·4	8·2	18·5	..	— 9·4	N	NE	3·0	0·0	0·2	110	261	0·00
14	Full.	29·938	47·0	28·9	37·8	31·0	80·0	20·5	45·6	43·4	6·8	13·0	3·7	— 7·7	W; NE	NW ; SW	0·0	0·0	0·0	55	168	0·00
15	Perigee.	29·981	51·2	33·0	39·2	33·6	86·0	25·0	45·6	43·4	5·6	14·5	1·6	— 6·5	NE	NE ; SE	0·0	0·0	0·0	50	135	0·00
16	..	29·919	53·0	28·0	41·7	36·6	97·0	20·5	45·6	43·4	5·1	14·2	4·8	— 4·3	SW	SW	2·5	0·0	0·6	215	437	0·00
17	..	29·722	58·5	43·4	48·6	37·2	104·0	37·5	45·6	43·4	11·4	16·9	4·2	+ 2·4	SW ; NW	W	2·0	0·0	0·1	155	330	0·05
18	Greatest Declination S.	29·727	57·0	40·9	48·8	42·3	87·0	35·0	46·6	44·4	6·5	13·2	..	+ 2·4	W	SW	1·0	0·0	0·0	180	391	0·00
19	..	29·696	58·6	48·3	52·3	44·5	85·0	48·0	46·6	45·4	7·8	11·2	5·4	+ 5·8	SW	SW	6·0	0·0	1·0	230	481	0·00
20	..	29·860	62·8	49·6	53·3	48·5	96·6	47·0	48·6	46·4	4·8	11·8	2·8	+ 6·6	SW	SW	1·0	0·0	0·0	110	265	0·02
21	Last Qr.	29·830	62·5	43·1	52·6	46·5	112·0	39·5	50·6	48·4	6·1	13·4	4·6	+ 5·6	SW	SW	0·0	0·0	0·0	155	300	0·00
22	..	29·490	60·5	46·0	51·7	47·9	105·0	40·0	51·6	49·4	3·8	11·2	2·5	+ 4·4	SW	SW	4·0	0·0	1·0	180	525	0·11
23	..	29·622	61·5	46·3	50·7	42·8	108·8	40·8	52·6	50·4	7·9	16·5	3·2	+ 3·1	SSW	W ; SW	7·0	0·0	1·2	190	390	0·03
24	In Equator.	29·831	64·2	44·0	54·0	44·8	110·5	38·8	53·6	51·4	9·2	19·8	5·8	+ 6·4	SW	SW	2·0	0·0	0·0	75	160	0·00
25	..	29·715	75·0	51·0	60·2	55·1	116·0	45·0	53·6	51·4	5·1	17·2	1·5	+12·6	SW	SW	0·0	0·0	0·0	55	110	0·09
26	..	29·758	67·5	51·0	56·8	53·2	99·0	45·0	55·6	53·4	3·6	8·6	1·7	+ 9·2	SE	W	2·0	0·0	0·1	100	232	0·39
27	..	29·936	66·5	42·9	53·8	45·3	110·5	37·5	56·6	54·4	8·5	14·7	4·0	+ 5·8	W	W ; SW	0·0	0·0	0·0	35	103	0·00
28	New.	30·023	68·0	40·7	54·2	45·0	107·0	33·8	55·6	53·4	9·2	22·0	3·5	+ 5·7	SW	NE ; SSW	0·0	0·0	0·0	10	64	0·00
29	..	30·113	65·5	40·5	53·6	46·2	114·8	36·5	58·6	56·4	7·4	16·9	4·8	+ 4·5	SE	SE	4·0	0·0	0·5	140	281	0·00
30	..	29·909	67·8	43·1	55·2	48·1	118·5	42·5	58·6	56·4	7·1	18·4	4·6	+ 5·7	SE	SE	2·0	0·0	0·2	80	195	0·00
Means	..	29·847	57·5	41·7	48·4	43·0	89·6	37·4	51·5	49·3	5·4	11·8	2·9	+ 2·2	...	...	..	..	..	Sum 3620	Sum 8098	Sum 2·84

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The first maximum in the month was $29^{in}\cdot747$ on the 1st; the first minimum in the month was $29^{in}\cdot440$ on the 2nd.
The second maximum ,, was $29^{in}\cdot970$ on the 4th; the second minimum ,, was $29^{in}\cdot808$ on the 6th.
The third maximum ,, was $30^{in}\cdot121$ on the 8th; the third minimum ,, was $29^{in}\cdot788$ on the 10th.
The fourth maximum ,, was $30^{in}\cdot136$ on the 12th; the fourth minimum ,, was $29^{in}\cdot814$ on the 14th.
The fifth maximum ,, was $30^{in}\cdot056$ on the 15th; the fifth minimum ,, was $29^{in}\cdot678$ on the 19th.
The sixth maximum ,, was $29^{in}\cdot871$ on the 20th; the absolute minimum ,, was $29^{in}\cdot414$ on the 22nd.
The seventh maximum ,, was $29^{in}\cdot896$ on the 24th; the seventh minimum ,, was $29^{in}\cdot698$ on the 25th.
The absolute maximum ,, was $30^{in}\cdot148$ on the 29th.
The range in the month was $0^{in}\cdot734$.
The mean for the month was $29^{in}\cdot847$, being $0^{in}\cdot100$ *higher* than the average of the preceding 21 years.

TEMPERATURE OF THE AIR.

The highest in the month was 75°·0 on the 25th; the lowest was 26°·7 on the 13th; and the range in the month was 48°·3.
The mean ,, of all the highest daily readings was 57°·5, being 0°·8 *higher* than the average of the preceding 21 years.
The mean ,, of all the lowest daily readings was 41°·7, being 3°·2 *higher* than the average of the preceding 21 years.
The mean daily range was 15°·8, being 2°·4 *less* than the average of the preceding 21 years.
The mean for the month was 48°·4, being 2°·1 *higher* than the average of the preceding 21 years.

MONTH and DAY, 1862.	ELECTRICITY.		CLOUDS AND WEATHER.	
	A.M.	P.M.	A.M.	P.M.
April 1			8, ci.-cu, ci.-s	10, oc.-shs.-r
2			10, th.-r	10, r : 10, th.-r
3			10, r	7, ci.-cu, ci.-s : 10, oc.-r : 1
4			10	10
5			10, li.-cl	10, oc.-r
6			10, oc.-r	10 : 10, th.-r
7			10, h.-r	10, r
8			10	10, r
9			10, h.-r	10 : 10, h.-r
10			10, r	10, oc.-r
11			10, oc.-r	10, ci.-s
12			1, ci	7, li.-cl : 0, f
13			7, cu, cu.-s, ci.-s	7, ci.-s : 0
14			0 : 10, s, ci.-s	10, ci.-cu, ci.-s
15			10, oc.-r	8, ci.-cu, ci.-s : ci.-cu, ci.-s, sn : 0
16			5, ci : 10, ci.-s	10, ci.-s
17			3, ci.-cu, ci.-s	3, li.-cl : 0
18			10, cu.-s, ci.-s	10
19			10, ci.-s	10
20			10, ci.-s, oc. r	10, ci.-s
21			5, li.-cl.	8, li.-cl : 0
22			7, li.-cl : 10, oc.-shs.-r	10, fr.-r : 0
23			7, ci.-s, sc	7, li.-cl : 0
24			10, ci.-s	9, cu.-s, ci.-s
25			10, fr.-shs.-r, t	10, li.-cl : 0
26			10, h.-shs. r	10, oc.-shs.-r : 2
27			3, h	3, h : 0
28			7, cu, ci.-cu, ci	7, cu, ci.-cu, ci : 3
29			0	0
30			0	0 : 5, s, li.-cl 0

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $58^{\circ}\cdot 2$ on the 25th; and the lowest was $24^{\circ}\cdot 5$ on the 12th.
The mean ,, was $43^{\circ}\cdot 0$, being $3^{\circ}\cdot 1$ *higher* than the average of the preceding 21 years.

Elastic Force of Vapour.—The mean for the month was $0^{in}\cdot 277$, being $0^{in}\cdot 030$ *greater* than the average of the preceding 21 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $3^{gr}\cdot 1$, being $0^{gr}\cdot 2$, *greater* than the average of the preceding 21 years.

Degree of Humidity.—The mean for the month was 81 (that of Saturation being represented by 100), being 2 *greater* than the average of the preceding 21 years.

Weight of a Cubic Foot of Air.—The mean for the month was 545 grains, being 3 grains *greater* than the average of the preceding 21 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by 0 and a cloudy sky by 10, was $7\cdot 3$.

WIND.

The proportions were of N. 5, S. 8, W. 12, and E. 5. The greatest pressure in the month was $8^{lbs}\cdot 0$ on the square foot on the 2nd.

RAIN.

Fell on 13 days in the month, amounting to $2^{in}\cdot 8$, as measured in the simple cylinder gauge partly sunk below the ground; being $1^{in}\cdot 0$ *greater* than the average fall of the preceding 47 years.

ELECTRICITY.—The Electrometer was not in action throughout the month.

MONTH and DAY, 1862.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	Readings of Thermometers. Dry. Highest.	Dry. Lowest.	Dry. Mean Daily Value.	Dew Point. Mean Daily Value.	Highest in the Sun, as shewn by a Self-Registering Thermometer read at 9h P.M.	Lowest on the Grass, as shewn by a Self-Registering Thermometer read at 9h. A.M. next morning.	In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9h A.M. next morning. Highest.	In the Water. Lowest.	Difference between the Dew Point Temperature and Air Temperature. Mean Daily Value.	Difference. Greatest.	Difference. Least.	Difference between the Mean Temperature of the Day and the Mean Temperature of the same Day on an Average of 43 Years.	Wind as deduced from Anemometers. Osler's. General Direction. A.M.	Osler's. General Direction. P.M.	Osler's. Pressure in lbs. on the square foot. Greatest.	Pressure. Least.	Pressure. Mean of 24 Obs.	Whewell's. Amount of Horizontal Movement of the Air on each Day.	Robinson's. Amount of Horizontal Movement of the Air on each Day.	Rain in Inches read at 9h P.M.
		in.	°	°	°	°	°	°	°	°	°	°	°	°			lbs.	lbs.	lbs.	miles.	miles.	in.
May 1	Apogee	29·806	77·0	50·5	61·1	54·3	121·0	40·3	58·6	56·4	6·8	19·7	2·1	+11·1	SE	SW	1·0	0·0	0·0	120	249	0·11
2	Greatest Declination N.	30·048	64·0	47·0	52·4	46·6	117·0	45·7	58·6	56·4	5·8	10·8	2·7	+ 1·9	SW ; NW	NE ; E	0·0	0·0	0·0	70	199	0·00
3	..	29·926	51·6	37·8	44·7	43·3	66·5	30·6	58·6	56·4	1·4	8·8	0·0	− 6·2	SE	ESE	3·5	0·0	0·3	115	293	0·00
4	..	29·627	76·3	46·8	59·8	52·0	102·0	40·6	58·6	56·4	7·8	24·8	0·8	+ 8·5	SE	SW	2·0	0·0	0·0	35	118	0·02
5	..	29·834	76·8	53·4	62·7	54·7	128·0	45·0	58·6	56·4	8·0	19·0	4·6	+11·1	SW	SSW ; SE	0·0	0·0	0·0	40	119	0·01
6	..	29·877	81·5	52·3	65·4	55·6	132·0	46·8	59·6	57·4	9·8	23·9	0·6	+13·6	SE	SE	2·0	0·0	0·1	70	179	0·03
7	First Qr.	29·632	69·0	50·7	55·9	53·8	103·1	47·8	60·6	58·4	2·1	9·1	0·8	+ 4·0	NW ; E	SW	3·0	0·0	0·5	150	320	0·58
8	..	29·765	64·0	48·3	54·6	48·5	106·4	43·8	60·6	58·4	6·1	14·1	2·3	+ 2·8	SW	SW	2·5	0·0	0·2	105	234	0·03
9	In Equator	29·446	63·0	46·1	51·5	46·6	110·8	46·0	60·6	58·4	4·9	10·8	0·6	− 0·1	SW	SW	4·0	0·0	0·3	200	400	0·77
10	..	29·486	65·0	47·5	52·6	47·5	110·5	46·5	59·6	57·4	5·1	15·1	2·0	+ 1·2	WSW	SW	2·0	0·0	0·0	130	271	0·02
11	..	29·528	63·0	46·9	51·9	46·7	85·0	46·0	59·6	57·4	5·2	9·3	2·5	+ 0·6	NNW	W	2·0	0·0	0·1	50	152	0·09
12	..	29·494	59·0	44·9	51·4	46·1	81·5	42·0	59·6	57·4	5·3	9·7	2·0	+ 0·1	Calm	Calm	0·0	0·0	0·0	40	106	0·00
13	Full	29·755	62·3	43·1	50·5	44·9	106·0	37·4	59·6	57·4	5·6	10·3	1·3	− 0·9	ENE	NE	0·0	0·0	0·0	75	181	0·00
14	Perigee	29·755	56·0	47·9	50·0	44·8	74·6	32·5	58·6	56·4	5·2	10·8	3·4	− 1·8	NE	E ; NE	0·0	0·0	0·0	120	264	0·00
15	Greatest Declination S.	29·718	51·2	43·9	46·9	46·8	56·2	40·0	58·6	56·4	0·1	1·7	0·0	− 5·3	NE	NE	2·0	0·0	0·2	90	220	0·69
16	..	29·755	66·8	47·5	55·7	53·1	98·0	46·0	56·6	54·4	2·6	9·4	1·4	+ 3·1	NE	W	0·0	0·0	0·0	50	154	0·14
17	..	29·996	68·5	46·3	57·2	54·5	96·0	41·8	56·6	54·4	2·7	10·1	1·0	+ 4·4	W	W ; SE	0·0	0·0	0·0	10	55	0·00
18	..	29·974	69·6	47·0	58·5	54·6	92·0	43·0	57·6	55·4	3·9	13·0	0·8	+ 5·4	W	SE ; SW	0·0	0·0	0·0	20	66	0·00
19	..	29·880	75·4	46·8	60·6	54·5	118·5	44·0	57·6	55·4	6·1	16·9	0·8	+ 7·3	SW	SW	0·0	0·0	0·0	50	112	0·00
20	Last Qr.	29·580	69·0	49·6	58·0	50·2	108·5	44·0	59·6	57·4	7·8	13·0	4·0	+ 4·4	SW	SW	2·0	0·0	0·0	140	283	0·00
21	..	29·373	60·0	42·4	48·2	44·5	102·0	41·2	59·6	57·4	3·7	11·8	2·3	− 5·6	SW	SW	3·0	0·0	0·1	150	307	0·17
22	In Equator	29·639	63·6	39·1	51·0	44·5	103·2	34·0	59·6	57·4	6·5	17·1	1·4	− 3·1	W	W ; SW	4·0	0·0	0·3	185	388	0·02
23	..	29·634	65·5	48·7	55·1	52·8	89·0	45·6	59·6	57·4	2·3	14·0	1·4	+ 0·8	SW	SW	3·0	0·0	0·5	160	336	0·00
24	..	29·808	68·0	51·0	57·9	49·8	112·0	48·3	59·6	57·4	8·1	16·7	2·4	+ 3·5	SW ; NW	W	0·0	0·0	0·0	110	232	0·00
25	..	29·952	65·7	45·5	54·7	46·7	98·0	42·0	59·6	57·4	8·0	17·8	5·4	+ 0·1	W	NW	0·0	0·0	0·0	65	157	0·00
26	..	29·936	71·0	42·1	55·6	48·3	121·3	36·3	59·6	57·4	7·3	16·4	1·4	+ 0·9	NW	WSW	1·0	0·0	0·0	145	296	0·00
27	..	29·740	63·0	51·7	56·1	53·4	81·9	46·0	59·6	57·4	2·7	7·4	1·4	+ 1·2	WSW	W	2·0	0·0	0·1	165	330	0·06
28	Apogee ; New	29·752	68·8	54·1	59·1	55·2	86·1	44·0	60·6	58·4	3·9	9·0	2·2	+ 3·9	W	SW	0·0	0·0	0·0	65	151	0·00
29	Greatest Declination N.	29·660	71·4	54·9	60·9	57·2	117·7	54·0	60·6	58·4	3·7	12·4	1·3	+ 5·5	SW	E	1·0	0·0	0·0	100	232	0·03
30	..	29·339	66·8	56·1	59·1	56·3	84·8	54·5	60·6	58·4	2·8	6·3	1·9	+ 3·4	E ; SE	S ; SW	0·0	0·0	0·0	120	241	0·07
31	..	29·793	64·8	54·0	57·4	51·6	77·0	50·8	61·6	59·4	5·8	9·5	4·4	+ 1·3	NW	W	0·0	0·0	0·0	45	136	0·00
Means	..	29·726	66·4	47·9	55·4	50·3	99·6	43·4	59·3	57·1	5·1	12·9	1·9	+ 2·5	...	...	..	..	..	Sum 2990	Sum 6781	Sum 2·84

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The absolute maximum in the month was $30^{\text{in}}\cdot 106$ on the 2nd; the first minimum in the month was $29^{\text{in}}\cdot 788$ on the 1st.

The second maximum ,, was $29^{\text{in}}\cdot 927$ on the 6th; the second minimum ,, was $29^{\text{in}}\cdot 577$ on the 4th.

The third maximum ,, was $29^{\text{in}}\cdot 794$ on the 8th; the third minimum ,, was $29^{\text{in}}\cdot 594$ on the 7th.

The fourth maximum ,, was $29^{\text{in}}\cdot 788$ on the 14th; the fourth minimum ,, was $29^{\text{in}}\cdot 404$ on the 9th.

The fifth maximum ,, was $30^{\text{in}}\cdot 010$ on the 17th; the fifth minimum ,, was $29^{\text{in}}\cdot 671$ on the 15th.

The sixth maximum ,, was $29^{\text{in}}\cdot 982$ on the 26th; the sixth minimum ,, was $29^{\text{in}}\cdot 329$ on the 21st.

the absolute minimum ,, was $29^{\text{in}}\cdot 319$ on the 30th.

The range in the month was $0^{\text{in}}\cdot 787$.

The mean for the month was $29^{\text{in}}\cdot 726$, being $0^{\text{in}}\cdot 044$ *lower* than the average of the preceding 21 years.

TEMPERATURE OF THE AIR.

The highest in the month was $81^{\circ}\cdot 5$ on the 6th; the lowest was $37^{\circ}\cdot 8$ on the 3rd; and the range in the month was $43^{\circ}\cdot 7$.

The mean ,, of all the highest daily readings was $66^{\circ}\cdot 4$, being $2^{\circ}\cdot 0$ *higher* than the average of the preceding 21 years.

The mean ,, of all the lowest daily readings was $47^{\circ}\cdot 9$, being $3^{\circ}\cdot 8$ *higher* than the average of the preceding 21 years.

The mean daily range was $18^{\circ}\cdot 5$, being $1^{\circ}\cdot 8$ *less* than the average of the preceding 21 years.

The mean for the month was $55^{\circ}\cdot 4$, being $2^{\circ}\cdot 6$ *higher* than the average of the preceding 21 years.

MONTH and DAY, 1862.	ELECTRICITY. A.M.	ELECTRICITY. P.M.	CLOUDS AND WEATHER. A.M.	CLOUDS AND WEATHER. P.M.
May 1			10, oc.-shs.-r.	10, li.-cl : 10, h.-r
2			10	7, li.-cl : o
3			10 : 10, oc.-r	10 : l
4			10, li.-cl	10, ci.-s, ci : oc.-r
5			10, li.-cl	7, ci.-cu, cu.-s, ci.-s : o : l
6			8, ci.-cu, ci.-s.	8. ci.-cu, ci.-s : 10, t.-s
7			7, ci, h : 10, r	10, h.-r : 10
8			3, ci.-cu, ci	9, ci.-cu, cu.-s, ci.-s : 10, th.-r
9			10, r : 7, ci.-cu, cu.-s	10, cu.-s, ci.-s, shs.-r : 10
10			8, ci.-cu, cu.-s, ci	8, ci.-s, oc.-r
11			10, cu, cu.-s, ci.-s, oc.-r	10, cu, cu.-s, ci.-s, shs.-r
12			10, cu.-s, ci.-s	10, ci.-s : 10, cu.-s, ci.-s, s
13	o	o : s	10	10, ci.-s
14	o	o	7, ci.-cu, ci.-s	10
15	o	o	10, r	10, r : 10, h.-r
16	o	o	10, ci.-s	10. ci.-s : 10, oc.-r
17	o	o	o, h	8, ci.-s, h
18	o	o	10, li.-cl, h	10, ci.-s, h : 2, ci, h
19	o	o	o, h	10, cu.-s, ci.-s : 9, cu, ci.-cu, ci
20	o	o : m	10, ci.-s	10, cu.-s, ci.-s : o
21	o	s, N, sps. : o	10, cu.-s, ci.-s, r	10, ci.-s : 7, oc.-r : l
22	o : s, N, sps	o	7, ci.-s	6, ci.-cu, ci, hl, r : 10
23	o	o	10, oc.-r	10, ci.-s : oc.-r
24	o	v	10, ci.-s	10, cu, ci.-cu, ci : 4, ci.-s, ci
25	o	o : w	o, h	o, h
26	m	m	3, ci, h	10, ci.-s. ci : 2, cu, ci.-cu
27	w	w	10, r	10, oc.-r : 10, ci.-cu, ci.-s
28	o	o	10	10
29	v	v	10	7, ci.-cu, ci.-s : l
30	s	s	10, oc.-r	10 : 10, th.-r
31	o	o : w	10, ci.-s	10, ci.-s : 7, ci.-s

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $60^{\circ}\cdot0$ on the 29th; and the lowest was $40^{\circ}\cdot9$ on the 21st.

The mean „ was $50^{\circ}\cdot3$, being $4^{\circ}\cdot9$ *higher* than the average of the preceding 21 years.

Elastic Force of Vapour.—The mean for the month was $0^{in}\cdot365$ being $0^{in}\cdot065$ *greater* than the average of the preceding 21 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $4^{gr}\cdot0$, being $0^{gr}\cdot6$ *greater* than the average of the preceding 21 years.

Degree of Humidity.—The mean for the month was 84 (that of Saturation being represented by 100), being 8 *greater* than the average of the preceding 21 years.

Weight of a Cubic Foot of Air.—The mean for the month was 534 grains, being 4 grains *less* than the average of the preceding 21 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by 0 and a cloudy sky by 10, was 8·3.

WIND.

The proportions were of N. 4, S. 7, W. 13, and E. 7. The greatest pressure in the month was $4^{lbs}\cdot0$ on the square foot on the 9th, and 22nd.

RAIN.

Fell on 16 days in the month, amounting to $2^{in}\cdot8$, as measured in the simple cylinder gauge partly sunk below the ground; being $0^{in}\cdot7$ *greater* than the average fall of the preceding 47 years.

ELECTRICITY.—The Electrometer was not in action from May 1 to 12.

MONTH and DAY, 1862.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	Readings of Thermometers. Dry. Highest.	Dry. Lowest.	Dry. Mean Daily Value.	Dew Point. Mean Daily Value.	Highest in the Sun, as shewn by a Self-Registering Thermometer read at 9h P.M.	Lowest on the Grass, as shewn by a Self-Registering Thermometer read at 9h A.M. next morning.	In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9h A.M. next morning. Highest.	In the Water of the Thames. Lowest.	Difference between the Dew Point Temperature and Air Temperature. Mean Daily Value.	Difference. Greatest.	Difference. Least.	Difference between the Mean Temperature of the Day and the Mean Temperature of the same Day on an Average of 43 Years.	Wind as deduced from Anemometers. Osler's. General Direction. A.M.	Osler's. General Direction. P.M.	Osler's. Pressure in lbs. on the square foot. Greatest.	Pressure. Least.	Pressure. Mean of 24 Obs.	Whewell's. Amount of Horizontal Movement of the Air on each Day.	Robinson's. Amount of Horizontal Movement of the Air on each Day.	Rain in Inches read at 9h P.M.
		in.	°	°	°	°	°	°	°	°	°	°	°	°			lbs.	lbs.	lbs.	miles.	miles.	in.
June 1	..	29.862	72.6	50.2	59.9	51.8	125.0	44.8	61.6	59.4	8.1	19.3	0.0	+ 3.5	NE	NE ; SE	0.0	0.0	0.0	40	120	0.00
2	..	29.909	73.5	47.0	59.7	52.7	105.5	40.0	62.6	60.4	7.0	16.9	3.4	+ 3.1	NE	SW	0.0	0.0	0.0	70	158	0.00
3	..	29.904	68.5	54.6	58.9	51.5	106.0	50.4	62.6	60.4	7.4	15.6	6.5	+ 2.1	W	W	2.0	0.0	0.0	135	279	0.01
4	..	29.965	71.8	45.7	57.5	48.0	126.0	40.0	62.6	60.4	9.5	20.2	1.9	+ 0.4	WNW	SW	0.0	0.0	0.0	105	217	0.00
5	First Quarter; In Equator.	29.580	63.8	46.5	53.7	51.3	81.3	44.0	63.6	61.4	2.4	10.8	0.2	− 3.4	SW ; S	SW	0.0	0.0	0.0	85	193	0.20
6	..	29.513	65.4	52.7	59.1	53.4	112.0	48.0	63.6	61.4	5.7	10.6	0.7	+ 1.9	SW	SW	7.0	0.0	1.5	245	516	0.04
7	..	29.631	71.0	56.3	61.7	50.0	119.4	52.0	63.6	61.4	11.7	20.2	8.4	+ 4.4	WSW	SW	5.0	0.0	1.0	170	347	0.00
8	..	29.778	70.0	50.3	57.7	49.0	117.0	48.0	63.6	61.4	8.7	15.5	5.3	+ 0.3	SW	WSW ; W	2.5	0.0	0.1	120	269	0.08
9	..	29.834	67.2	45.3	55.3	47.0	117.2	37.0	63.6	61.4	8.3	17.6	2.9	− 2.2	W	WSW	1.0	0.0	0.0	100	219	0.00
10	..	29.745	66.6	43.4	54.1	46.5	115.0	..	63.6	61.4	7.6	16.7	0.9	− 3.6	SW	SSW ; SSE	0.0	0.0	0.0	100	210	0.07
11	Perigee; Greatest Dec. S.	29.264	69.0	50.0	57.8	50.5	116.1	49.0	63.6	61.4	7.3	17.3	3.6	− 0.2	SSE ; SSW	SSW	4.0	0.0	0.4	180	362	0.01
12	Full	29.198	60.8	51.5	54.2	52.0	70.8	47.3	62.6	60.4	2.2	4.4	1.2	− 4.1	SW	SSW ; SW	9.0	0.0	1.2	230	481	0.51
13	..	29.431	66.6	51.5	56.1	48.1	114.0	50.0	62.6	60.4	8.0	13.9	5.8	− 2.4	W	WSW	9.0	0.0	1.7	220	448	0.00
14	..	29.527	62.6	49.1	52.2	49.3	97.0	42.6	61.6	59.4	2.9	6.5	1.5	− 6.6	WSW	WSW	1.0	0.0	0.0	145	295	0.25
15	..	29.665	67.8	45.5	55.7	52.8	96.0	41.0	60.6	58.4	2.9	11.7	0.4	− 3.3	WSW	W	2.0	0.0	0.0	65	164	0.35
16	..	29.835	68.7	49.8	55.6	49.9	107.9	48.3	60.6	58.4	5.7	13.3	0.0	− 3.7	NE	N	0.0	0.0	0.0	35	107	0.01
17	..	29.869	69.3	47.5	56.6	50.1	99.0	41.0	60.6	58.4	6.5	18.0	0.4	− 2.8	NW	W ; SW	1.0	0.0	0.0	110	262	0.19
18	In Equator	29.829	64.4	49.7	54.0	48.0	97.0	49.5	60.6	58.4	6.0	14.8	1.6	− 5.5	N	N	2.6	0.0	0.2	120	279	0.02
19	Last Qr.	29.897	63.5	48.5	53.7	46.4	85.3	41.4	60.6	58.4	7.3	15.4	4.0	− 5.9	NW	SW	0.0	0.0	0.0	120	252	0.02
20	..	29.743	63.6	50.0	54.1	46.3	94.8	44.3	60.6	58.4	7.8	15.2	4.4	− 5.7	NW	NW ; WSW	2.5	0.0	0.3	120	260	0.01
21	..	29.620	61.2	51.1	54.7	47.9	80.0	49.0	60.6	58.4	6.8	11.4	1.0	− 5.2	W	W	1.0	0.0	0.0	140	301	0.00
22	..	29.597	63.7	50.9	55.4	46.6	86.0	50.6	59.6	57.4	8.8	18.2	5.4	− 4.6	NW	NW ; W	1.5	0.0	0.0	160	313	0.00
23	..	29.728	70.6	52.0	56.4	49.0	115.5	51.5	59.6	57.4	7.4	15.3	3.2	− 3.8	W ; N	Variable	0.0	0.0	0.0	85	192	0.06
24	Apogee	29.797	70.8	49.2	57.9	52.2	99.1	47.4	60.6	58.4	5.7	13.9	3.2	− 2.5	W	W ; N	0.0	0.0	0.0	120	256	0.00
25	Greatest Declination N.	29.985	64.2	49.9	55.4	49.6	87.0	42.3	60.6	58.4	5.8	11.2	1.3	− 5.2	N	N ; SSW	0.0	0.0	0.0	95	203	0.00
26	..	29.847	72.5	50.3	60.3	52.2	115.2	47.0	60.6	58.4	8.1	19.6	0.4	− 0.5	SSW ; W	W	0.0	0.0	0.0	105	235	0.00
27	New	29.625	64.0	50.7	55.2	44.1	91.0	46.7	60.6	58.4	11.1	19.8	3.8	− 5.8	W	W	1.5	0.0	0.0	130	298	0.03
28	..	29.758	65.0	43.8	52.8	45.9	100.0	35.4	60.6	58.4	6.9	12.2	1.5	− 8.5	W ; NW	NW	1.0	0.0	0.0	85	242	0.00
29	..	29.827	70.0	44.4	57.5	52.2	110.0	36.0	60.6	58.4	5.3	16.9	0.4	− 4.0	SW	SW	0.0	0.0	0.0	115	292	0.00
30	..	29.766	65.5	53.1	56.5	44.3	105.4	53.0	60.6	58.4	12.2	18.7	5.2	− 5.0	SW ; N	NW	1.5	0.0	0.0	135	278	0.07
Means	..	29.718	67.1	49.3	56.3	49.3	103.1	45.4	61.5	59.4	7.0	15.0	2.6	− 2.6	...	...	..	..	..	Sum 3685	Sum 8048	Sum 1.93

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The absolute maximum in the month was $30^{in}\cdot030$ on the 4th; the first minimum in the month was $29^{in}\cdot458$ on the 6th.
The second maximum ,, was $29^{in}\cdot863$ on the 8th; the absolute minimum ,, was $29^{in}\cdot078$ on the 12th.
The third maximum ,, was $29^{in}\cdot922$ on the 17th; the third minimum ,, was $29^{in}\cdot750$ on the 18th.
The fourth maximum ,, was $29^{in}\cdot959$ on the 19th; the fourth minimum ,, was $29^{in}\cdot569$ on the 21st.
The fifth maximum ,, was $30^{in}\cdot016$ on the 25th; the fifth minimum ,, was $29^{in}\cdot592$ on the 27th.
The sixth maximum ,, was $29^{in}\cdot864$ on the 29th.
The range in the month was $0^{in}\cdot952$.
The mean for the month was $29^{in}\cdot718$, being $0^{in}\cdot075$ *lower* than the average of the preceding 21 years.

TEMPERATURE OF THE AIR.

The highest in the month was $73^{\circ}\cdot5$ on the 2nd; the lowest was $43^{\circ}\cdot4$ on the 10th.
The range ,, was $30^{\circ}\cdot1$.
The mean ,, of all the highest daily readings was $67^{\circ}\cdot1$, being $4^{\circ}\cdot1$ *lower* than the average of the preceding 21 years.
The mean ,, of all the lowest daily readings was $49^{\circ}\cdot3$, being $0^{\circ}\cdot9$ *lower* than the average of the preceding 21 years.
The mean daily range was $17^{\circ}\cdot8$, being $3^{\circ}\cdot1$ *less* than the average of the preceding 21 years.
The mean for the month was $56^{\circ}\cdot3$, being $2^{\circ}\cdot9$ *lower* than the average of the preceding 21 years.

MONTH and DAY, 1862.	ELECTRICITY. A.M.	ELECTRICITY. P.M.	CLOUDS AND WEATHER. A.M.	CLOUDS AND WEATHER. P.M.
June 1	w	w	3, ci.-cu, ci	3, ci
2	w, N	m	0, h	7, ci.-s, ci, h : 10, cu.-s, ci.-s
3	0	0 : m	10	10, oc.-shs.-r : 0
4	w	w : s, g-cur	5, cu, ci.-cu, ci.-s	5, cu, ci.-cu, ci : 3, li.-cl
5	s N, s P, sps, g-cur	s N, s P, sps, g-cur	10 : r	10 : 10, h.-r
6	0	0 : w	10, cu.-s, ci.-s	10, cu.-s, ci.-s
7	0	m	7, cu, cu.-s, ci.-s	7, cu, cu.-s, ci.-s : 1 li.-cl : 10
8	v	v	10, r : 10, cu, ci.-cu, ci.-s	10, cu, cu.-s : 0
9	0	s N, s P, sps, g-cur	7, cu, ci.-cu, ci.-s	7, cu, cu.-s : t, shs.-r
10	w	w : s N, sps	7, cu, cu.-s	10, cu.-s, ci.-s : oc.-r
11	0	0	7, cu, cu.-s	7, ci.-cu, cu.-s, oc.-r : sh.-r, lu.-rainbow
12	0	s N, s P, sps, g-cur : 0	10, h.-shs.-r	10, h.-r : 10, ci.-s, sc
13	0	0 : w	10, cu, cu.-s, ci.-s : h.-shs.-r	10, ci.-cu, cu.-s, ci.-s : 5, li.-cl
14	s N, sps, g-cur	0	10, r : 10, h.-r	10, oc.-shs.-r : 0
15			10, li.-cl : 5, cu, ci.-cu, ci	10 : oc.-shs.-r
16	0	0 : w	10 : 5, ci.-cu, ci.-s	10 : sh.-r : 0, f
17	w	0 : s N, sps	7, ci.-cu, ci, h	10, ci.-cu, ci, h : r
18	w	w	10, r	10, n, ci.-s : 8, ci.-cu, cu.-s, ci.-s, shs.-r : 0
19	m	w N : s	10	10, ci.-s : oc.-r
20	0	0	10	10, ci.-cu, ci.-s
21	0	0	10 : 10, oc.-r	10, ci.-s : th.-r
22	m	w N : s	10	10 : 10, r
23	w	0	10, th.-r	5, ci.-cu, cu.-s, ci
24	m	m	10	10 : 5, ci.-s, ci
25	m	w N : m	10, cu.-s, ci.-s	10, ci.-s : 5, ci.-cu, ci, h
26	m	m : s	3, li.-cl	8, ci.-cu, cu.-s : 10, s, ci.-s
27	0	w N : 0	10, ci.-s	10, cu, cu.-s, ci.-s : h.-sh.-r
28	0	w N : w	10, ci.-cu, cu.-s, ci.-s	10, cu.-s, ci.-s, r : 7, ci.-cu, ci
29			7, ci : 10, ci.-s	10, ci.-s
30			9, ci.-cu, ci.-s	10, ci.-s : 5, ci.-cu, ci.-s, s

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $58^{\circ}\cdot0$ on the 6th; and the lowest was $43^{\circ}\cdot4$ on the 27th.

The mean ,, was $49^{\circ}\cdot3$, being $1^{\circ}\cdot6$ *lower* than the average of the preceding 21 years.

Elastic Force of Vapour.—The mean for the month was $0^{\text{in}}\cdot352$, being $0^{\text{in}}\cdot022$ *less* than the average of the preceding 21 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $4^{\text{gr}}\cdot0$, being $0^{\text{gr}}\cdot2$ *less* than the average of the preceding 21 years.

Degree of Humidity.—The mean for the month was 77 (that of Saturation being represented by 100), being 3 *greater* than the average of the preceding 21 years.

Weight of a Cubic Foot of Air.—The mean for the month was 533 grains, being 2 grains *greater* than the average of the preceding 21 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by 0 and a cloudy sky by 10, was $7\cdot8$.

WIND.

The proportions were of N. 6, S. 7, W. 16, and E. 1. The greatest pressure in the month was $9^{\text{lbs}}\cdot0$ on the square foot on the 12th and 13th.

RAIN.

Fell on 17 days in the month, amounting to $1^{\text{in}}\cdot9$, as measured in the simple cylinder gauge partly sunk below the ground; being the *same* as the average fall of the preceding 47 years.

ELECTRICITY.—The insulating lamp was not burning on June 15, 29, and 30.

MONTH and DAY, 1862.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	Readings of Thermometers. Dry. Highest.	Dry. Lowest.	Dry. Mean Daily Value.	Dew Point. Mean Daily Value.	Highest in the Sun, as shewn by a Self-Registering Thermometer read at 9h P.M.	Lowest on the Grass, as shewn by a Self-Registering Thermometer read at 9h A.M. next morning.	In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9h A.M. next morning. Highest.	Thames. Lowest.	Difference between the Dew Point Temperature and Air Temperature. Mean Daily Value.	Greatest.	Least.	Difference between the Mean Temperature of the Day and the Mean Temperature of the same Day on an Average of 43 Years.	Wind as deduced from Anemometers. Osler's. General Direction. A.M.	General Direction. P.M.	Pressure in lbs. on the square foot. Greatest.	Least.	Mean of 24 Obs.	Whewell's. Amount of Horizontal Movement of the Air on each Day.	Robinson's.	Rain in Inches read at 9h P.M.
		in.	°	°	°	°	°	°	°	°	°	°	°	°			lbs.	lbs.	lbs.	miles.	miles.	in.
July 1	..	29·762	69·0	48·7	57·9	53·8	88·6	38·7	56·6	54·4	4·1	12·4	0·5	− 3·6	WSW	W	3·0	0·0	0·2	205	428	0·00
2	..	29·656	70·3	50·0	56·9	49·1	107·1	46·0	58·6	56·9	7·8	18·4	4·8	− 4·5	WSW	W	4·0	0·0	0·8	170	352	0·00
3	In Equator	29·724	60·7	48·0	51·4	48·3	84·0	41·9	59·6	57·4	3·1	9·9	1·3	−10·0	WSW	W	0·0	0·0	0·0	90	203	0·27
4	First Qr.	29·723	67·5	45·6	56·2	50·8	110·5	44·0	59·6	57·4	5·4	14·6	0·7	− 5·3	WNW	SW	0·0	0·0	0·0	55	145	0·00
5	..	29·419	76·0	51·6	61·5	56·1	118·4	49·8	61·1	58·9	5·4	14·5	2·0	− 0·1	SE	SE ; SW	1·0	0·0	0·0	100	214	0·01
6	..	29·313	71·0	55·7	60·6	52·4	113·0	51·0	61·1	58·9	8·2	18·5	3·8	− 1·1	SW	SW	2·0	0·0	0·2	190	381	0·03
7	..	29·501	66·5	54·7	58·0	54·1	101·0	52·7	59·6	57·4	3·9	9·7	1·7	− 3·8	W	WSW	4·0	0·0	0·5	130	274	0·18
8	..	29·902	75·5	53·7	61·6	54·8	116·0	51·0	61·6	59·9	6·8	16·2	1·2	− 0·1	WNW	SW	2·0	0·0	0·0	135	263	0·00
9	Greatest Declination S.	29·825	66·5	54·0	58·9	55·7	86·0	52·0	60·1	57·9	3·2	9·9	1·9	− 2·6	SW	SW	4·0	0·0	0·6	180	372	0·02
10	Perigee	29·608	66·6	50·0	56·6	52·3	100·2	48·5	61·1	58·9	4·3	9·9	1·2	− 4·9	WSW	W	3·0	0·0	0·5	150	324	0·25
11	Full	29·737	65·8	44·7	53·3	47·0	110·7	42·2	62·6	60·4	6·3	16·6	1·8	− 8·3	NW	SW	1·0	0·0	0·1	105	214	0·00
12	..	29·316	72·2	51·0	58·4	55·7	107·5	46·9	59·6	59·4	2·7	8·6	1·0	− 3·3	SW	W	3·0	0·0	0·2	140	281	0·25
13	..	29·718	74·3	49·3	60·4	54·6	119·0	42·0	63·6	61·4	5·8	17·3	2·3	− 1·4	WNW	SW	2·0	0·0	0·1	145	291	0·00
14	..	29·699	74·8	54·9	63·2	56·5	119·0	45·0	62·6	60·4	6·7	16·7	5·5	+ 1·5	W	SW	3·0	0·0	0·2	155	314	0·00
15	In Equator	29·621	71·6	51·0	58·3	51·4	114·5	49·0	62·1	59·9	6·9	14·0	1·8	− 3·4	W	SW	3·0	0·0	0·5	165	329	0·18
16	..	29·613	68·0	48·8	57·2	52·7	114·5	47·1	62·6	60·4	4·5	9·3	2·1	− 4·5	W	W	5·0	0·0	0·6	150	300	0·34
17	..	29·726	69·8	46·9	57·0	51·9	111·5	44·5	62·6	60·4	5·1	12·6	1·4	− 4·7	W	SW	2·0	0·0	0·2	135	253	0·00
18	Last Qr.	29·824	72·6	54·5	61·6	51·2	120·0	51·8	62·6	60·4	10·4	16·7	6·8	− 0·1	SW ; NW	SW	2·0	0·0	0·3	105	230	0·02
19	..	29·864	66·3	52·9	58·5	53·7	94·0	50·8	64·1	61·9	4·8	10·6	3·4	− 3·2	SW	WSW ; W	4·5	0·0	1·0	200	408	0·00
20	..	29·965	73·0	50·0	59·8	50·1	120·5	48·0	64·1	61·9	9·7	20·5	1·5	− 1·8	W	W	5·0	0·0	1·1	165	352	0·00
21	..	30·047	72·2	56·8	61·1	49·9	113·8	49·5	64·1	61·9	11·2	23·0	8·9	− 0·4	NW	NW	2·0	0·0	0·3	65	174	0·00
22	Apogee	30·002	70·0	44·6	57·1	51·1	113·2	37·5	64·6	62·4	6·0	14·9	2·4	− 4·4	WSW	SW	0·0	0·0	0·0	25	114	0·00
23	Greatest Declination N.	29·786	62·1	51·4	55·7	55·2	70·5	50·4	64·6	62·4	0·5	5·7	0·0	− 5·8	E	N	0·0	0·0	0·0	40	165	0·11
24	..	29·844	70·5	51·3	58·7	56·8	105·3	48·1	63·6	61·4	1·9	4·5	0·8	− 2·9	SW	SW	7·0	0·0	1·3	215	443	0·00
25	..	29·916	75·6	56·6	64·5	55·4	123·8	50·4	64·6	62·4	9·1	19·7	5·6	+ 2·7	W	W	5·0	0·0	1·3	55	184	0·00
26	New	29·884	79·0	48·7	64·1	54·7	125·6	43·0	64·6	62·4	9·4	21·4	1·1	+ 2·0	SW	SW	0·0	0·0	0·0	70	185	0·00
27	..	29·913	75·0	52·2	61·8	48·5	129·5	45·0	65·1	62·9	13·3	21·8	0·0	− 0·5	W	WNW	2·0	0·0	0·3	55	182	0·00
28	..	29·956	71·4	46·0	58·9	48·5	110·2	43·4	66·1	63·9	10·4	20·7	1·4	− 2·6	Calm	Calm	0·0	0·0	0·0	5	61	0·00
29	..	29·908	75·6	48·0	61·1	49·4	124·4	45·0	65·6	63·4	11·7	23·8	0·0	− 1·4	Calm	N ; SE	0·0	0·0	0·0	20	124	0·00
30	In Equator	29·938	71·5	53·7	60·0	50·1	112·0	52·1	66·6	64·4	9·9	18·2	2·8	− 2·5	N	N ; WSW	0·0	0·0	0·0	70	198	0·03
31	..	29·908	74·2	49·8	60·6	52·8	121·0	45·0	66·6	64·4	7·8	17·6	3·8	− 1·9	SW	SW	4·0	0·0	0·8	165	341	0·00
Means	..	29·762	70·8	50·8	59·1	52·4	109·8	46·9	62·6	60·5	6·7	15·1	2·4	− 2·7	...	...	..	..	..	Sum. 3655	Sum 8099	Sum 1·69

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The first maximum in the month was $29^{in}\cdot944$ on the 8th; the first minimum in the month was $29^{in}\cdot316$ on the 6th.
The second maximum ,, was $29^{in}\cdot771$ on the 11th; the second minimum ,, was $29^{in}\cdot595$ on the 10th.
The third maximum ,, was $29^{in}\cdot747$ on the 13th; the absolute minimum ,, was $29^{in}\cdot294$ on the 12th.
The absolute maximum ,, was $30^{in}\cdot098$ on the 21st; the fourth minimum ,, was $29^{in}\cdot588$ on the 16th.
The fifth maximum ,, was $29^{in}\cdot989$ on the 25th; the fifth minimum ,, was $29^{in}\cdot765$ on the 23rd.
The sixth maximum ,, was $29^{in}\cdot990$ on the 28th; the sixth minimum ,, was $29^{in}\cdot851$ on the 26th.
The range in the month was $0^{in}\cdot804$.
The mean for the month was $29^{in}\cdot762$, being $0^{in}\cdot033$ *lower* than the average of the preceding 21 years.

TEMPERATURE OF THE AIR.

The highest in the month was 79°·0 on the 26th; the lowest was 44°·6 on the 22nd.
The range ,, was 34°·4.
The mean ,, of all the highest daily readings was 70°·8, being 2°·9 *lower* than the average of the preceding 21 years.
The mean ,, of all the lowest daily readings was 50°·8, being 2°·4 *lower* than the average of the preceding 21 years.
The mean daily range was 20°·0, being 0°·5 *less* than the average of the preceding 21 years.
The mean for the month was 59°·1, being 2°·7 *lower* than the average of the preceding 21 years.

MONTH and DAY, 1862.	ELECTRICITY.		CLOUDS AND WEATHER.	
	A.M.	P.M.	A.M.	P.M.
July 1	m	m : w	10, ci.-s, th.-r	10, ci.-s, sc
2	o	m	10, ci.-s : 10, h.-shs.-r	10, ci.-s, r : 7, cu, ci.-cu, ci.-s : o, h
3	w	s N, sps, g cur : s P	10, ci.-s, li.-cl : h.-r	10, s, r
4	v	v	7, ci.-cu, ci	10, ci.-cu, c
5	w : s N, sps, g cur	s N, sps, g cur : w.	10, oc.-r	10, th.-r : 10, cu, ci.-cu, cu.-s, shs.-r
6	m	m	o : 10, ci.-cu, ci.-s	10, cu.-s, ci.-s
7	o : w	w : m	10, ci.-cu, ci.-s : h.-sh.-r	10 : 10, oc.-shs.-r
8	w	w : m	3, cu.-s, ci.-s	8, ci.-cu, cu.-s, ci.-s : o
9	w	w	10, th.-r	10, ci.-s : 10, oc.-r
10	s N, s P, sps, g cur	s N, s P, sps, g cur	10, h.-r : 10, ci.-cu, cu.-s, ci.-s	10, ci.-s : h.-r
11	o	o	10	10, ci.-cu, cu.-s, ci.-s : 10
12	o	o : s N, s P, sps, g cur	10, r	10, ci.-s : 10, t, h.-r : 1
13	w	w	3, li.-cl	10, ci.-cu, ci.-s : o
14	m	m	o : 10, ci.-s	9, ci.-cu, ci : o
15	o	o : s N, s P, sps, g cur	10, ci.-cu, ci	10, ci.-cu, cu.-s, ci.-s : h.-r
16	o	s N, s P, sps, g cur : o	7, ci.-cu, ci, r : 10	10, cu.-s, ci.-s, h.-sh.-r : 10, ci.-s
17	o	o : s	3, li.-cl : 5, ci.-cu, cu.-s	10 : th.-r
18	o : N, w	N, w : m	10, oc.-r : 6, cu.-s, ci	10, ci.-cu, cu.-s : 7, li.-cl
19	o	o : s	10, ci.-cu, ci.-s	10, th.-r : o
20	o	o : w	7, cu, ci.-cu	7 : 10
21	o	o : w	8, ci.-cu, cu.-s	8, ci.-cu, cu.-s
22	w	o	8, ci.-cu, ci.-s	10, ci.-cu, ci.-s : 10, oc.-r
23	o	o : w	10, r	10, th.-r : o
24	w	w	10	10 : o
25	w	o : w	3, ci.-cu, ci	o : 5, li.-cl
26	o	m : s	o	o
27	o	o	o	o
28	o	o : w	o, h	3, li.-cl : o, h
29	m	m : w	o, h	7, ci.-cu, cu.-s
30	w	w : m	10, s, ci.-s, r : 7, ci.-cu, ci	7, ci.-cu, ci
31	m	o	8, ci.-cu, ci.-s	2, li.-cl : 5, ci.-s, ci

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $62^{\circ}\cdot0$ on the 24th; and the lowest was $43^{\circ}\cdot0$ on the 2nd.

The mean „ was $52^{\circ}\cdot4$, being $1^{\circ}\cdot5$ *lower* than the average of the preceding 21 years.

Elastic Force of Vapour.—The mean for the month was $0^{in}\cdot394$ being $0^{in}\cdot023$ *less* than the average of the preceding 21 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $4^{gr}\cdot5$, being $0^{gr}\cdot1$ *less* than the average of the preceding 21 years.

Degree of Humidity.—The mean for the month was 78 (that of Saturation being represented by 100), being 2 *greater* than the average of the preceding 21 years.

Weight of a Cubic Foot of Air.—The mean for the month was 531 grains, being 3 grains *greater* than the average of the preceding 21 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by o and a cloudy sky by 10, was $7\cdot2$.

WIND.

The proportions were of N. 3, S. 8, W. 19, and E. 1. The greatest pressure in the month was $7^{lbs}\cdot0$ on the square foot on the 24th.

RAIN.

Fell on 12 days in the month, amounting to $1^{in}\cdot7$, as measured in the simple cylinder gauge partly sunk below the ground; being $1^{in}\cdot0$ *less* than the average fall of the preceding 47 years.

MONTH and DAY, 1862.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	Readings of Thermometers. Dry. Highest.	Dry. Lowest.	Dry. Mean Daily Value.	Dew Point. Mean Daily Value.	Highest in the Sun, as shewn by a Self-Registering Thermometer read at 9h P.M.	Lowest on the Grass, as shewn by a Self-Registering Thermometer read at 9h. A.M. next morning.	In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9h A.M. next morning. Highest.	In the Water of the Thames. Lowest.	Difference between the Dew Point Temperature and Air Temperature. Mean Daily Value.	Difference. Greatest.	Difference. Least.	Difference between the Mean Temperature of the Day and the Mean Temperature of the same Day on an Average of 43 Years.	Wind as deduced from Anemometers. Osler's. General Direction. A.M.	Osler's. General Direction. P.M.	Osler's. Pressure in lbs. on the square foot. Greatest.	Pressure. Least.	Pressure. Mean of 24 Obs.	Whewell's. Amount of Horizontal Movement of the Air on each Day.	Robinson's. Amount of Horizontal Movement of the Air on each Day.	Rain in Inches read at 9h P.M.
		in.	°	°	°	°	°	°	°	°	°	°	°	°			lbs.	lbs.	lbs.	miles.	miles.	in.
Aug. 1	..	29·846	79·9	52·5	64·8	51·5	128·2	45·2	66·6	64·4	13·3	25·3	0·6	+ 2·3	SW	SW	1·5	0·0	0·4	95	202	0·00
2	..	29·816	76·5	50·1	61·8	54·2	123·0	41·1	66·6	64·4	7·6	20·6	0·0	− 0·5	SW	NW; W	1·5	0·0	0·0	45	172	0·00
3	First Qr.	29·924	76·8	48·7	61·0	52·1	123·0	43·0	66·6	64·4	8·9	18·4	0·0	− 1·2	WSW	SW	0·0	0·0	0·0	20	159	0·14
4	..	29·768	74·5	48·8	61·3	51·8	123·0	44·0	66·6	64·4	9·5	19·8	3·4	− 0·8	SW	SE	2·0	0·0	0·2	80	213	0·00
5	Greatest Declination S.	29·513	73·0	56·8	63·1	52·0	116·0	55·0	67·1	64·9	11·1	18·7	6·5	+ 1·1	SW	SW	5·0	0·0	1·3	185	390	0·00
6	Perigee	29·635	72·0	50·8	59·0	50·1	118·0	42·0	67·1	64·9	8·9	17·3	3·4	− 3·0	WSW	SW	8·0	0·0	1·4	175	381	0·03
7	..	29·254	70·2	54·5	58·9	55·8	112·0	47·8	66·6	64·4	3·1	9·2	0·4	− 3·1	SSW	WSW	18·0	0·0	3·0	215	452	0·23
8	..	29·385	68·6	51·5	56·1	51·4	112·0	50·0	66·1	63·9	4·7	8·9	2·0	− 5·9	WSW	W	7·0	0·0	1·4	135	307	0·08
9	Full	29·628	69·2	53·2	58·7	51·6	109·0	49·0	65·6	63·4	7·1	11·2	2·4	− 3·2	WNW	NW; N	2·5	0·0	0·2	70	226	0·02
10	..	29·850	66·8	47·3	56·6	52·1	103·0	40·2	63·6	61·4	4·5	13·7	1·3	− 5·2	WNW	WNW	2·0	0·0	0·1	70	209	0·00
11	..	29·969	66·8	54·7	59·2	52·8	89·0	50·7	64·1	61·9	6·4	14·2	4·4	− 2·5	WNW	WNW	0·0	0·0	0·0	30	158	0·00
12	In Equator	29·968	74·0	48·8	59·8	54·2	116·6	44·0	64·1	61·9	5·6	11·5	1·3	− 1·8	WSW	SW	0·0	0·0	0·0	105	220	0·00
13	..	29·774	71·9	50·8	60·6	58·1	101·3	45·0	63·6	61·4	2·5	8·3	1·3	− 0·9	SW	SW	2·0	0·0	0·1	95	228	0·00
14	..	29·603	70·5	55·6	58·7	57·8	101·0	55·2	63·6	61·4	0·9	3·8	0·0	− 2·8	SW	SW	1·0	0·0	0·0	70	160	0·41
15	..	29·638	67·0	53·9	58·9	57·4	92·5	49·8	64·1	61·9	1·5	5·8	0·0	− 2·5	SW	Calm	0·0	0·0	0·0	2	72	0·34
16	..	29·646	65·5	51·7	57·4	57·4	81·0	45·0	64·1	61·9	0·0	1·0	0·0	− 4·0	NE	NE; N	1·0	0·0	0·1	125	285	0·19
17	Last Qr.	29·648	61·0	55·6	56·9	56·9	67·3	53·9	64·1	61·9	0·0	1·3	0·0	− 4·4	N	N	1·5	0·0	0·1	125	276	1·27
18	Apogee	29·797	62·6	53·2	56·1	52·7	75·0	52·3	63·6	61·9	3·4	9·1	0·0	− 5·0	N	N; Calm	1·5	0·0	0·1	60	157	0·17
19	Greatest Declination N.	29·802	74·8	49·4	61·5	56·7	122·7	46·3	64·1	61·9	4·8	14·8	0·0	+ 0·6	SW	SW	1·0	0·0	0·0	55	197	0·00
20	..	29·840	74·0	51·0	60·7	57·7	121·2	44·2	64·1	61·9	3·0	9·4	0·0	− 0·1	SW	Calm	0·0	0·0	0·0	..	42	0·00
21	..	29·758	73·4	56·5	63·3	58·8	102·0	56·0	64·1	61·9	4·5	12·4	0·4	+ 2·7	Calm	SW	0·0	0·0	0·0	25	138	0·00
22	..	29·767	72·0	56·5	60·1	55·4	115·2	56·1	64·1	61·4	4·7	16·0	1·6	− 0·3	W	W	0·0	0·0	0·0	50	203	0·13
23	..	30·011	71·2	46·8	58·8	54·6	120·5	43·0	64·1	61·9	4·2	11·5	0·0	− 1·5	WSW	Calm	0·0	0·0	0·0	10	105	0·00
24	..	30·123	68·6	44·7	57·1	48·3	120·0	41·0	64·1	61·9	8·8	18·5	0·0	− 3·2	Calm	Calm	0·0	0·0	0·0	10	105	0·00
25	New	30·042	70·9	46·7	58·4	49·7	116·0	41·3	64·1	61·9	8·7	18·4	3·0	− 1·8	Calm; SE	E	3·5	0·0	0·3	75	195	0·00
26	In Equator	29·756	76·0	48·6	61·7	52·6	125·7	44·0	64·3	62·1	9·1	22·1	4·4	+ 1·8	ENE	E	2·0	0·0	0·2	70	175	0·00
27	..	29·821	73·0	54·5	61·2	52·0	125·0	51·0	64·6	62·4	9·2	17·8	4·2	+ 1·5	NE	NE; SE	0·0	0·0	0·0	20	100	0·00
28	..	29·952	72·4	48·8	58·5	50·4	121·5	44·6	64·6	62·4	8·1	21·2	1·2	− 1·1	NE	NE; SE	0·0	0·0	0·0	20	85	0·00
29	..	29·977	69·5	49·1	56·8	49·7	116·5	44·9	64·6	62·4	7·1	17·8	1·9	− 2·6	NE	NE	0·0	0·0	0·0	45	125	0·00
30	..	29·917	69·0	48·5	56·8	51·2	117·0	39·7	64·6	62·4	5·6	15·3	2·9	− 2·3	NE	WSW; Calm	0·0	0·0	0·0	20	105	0·00
31	..	29·906	70·1	53·5	60·0	51·4	117·5	50·0	64·6	62·4	8·6	14·8	1·6	+ 1·0	NE	NE	0·0	0·0	0·0	40	142	0·00
Means	..	29·785	71·0	51·4	59·5	53·5	110·7	46·9	64·8	62·6	6·0	13·8	1·6	− 1·6	...	...	..	..	..	Sum 2142	Sum 5984	Sum 3·01

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The first maximum in the month was $29^{in}\cdot933$ on the 3rd; the first minimum in the month was $29^{in}\cdot805$ on the 2nd.
The second maximum ,, was $29^{in}\cdot649$ on the 6th; the second minimum ,, was $29^{in}\cdot496$ on the 5th.
The third maximum ,, was $30^{in}\cdot014$ on the 12th; the absolute minimum ,, was $29^{in}\cdot187$ on the 7th.
The fourth maximum ,, was $29^{in}\cdot867$ on the 20th; the fourth minimum ,, was $29^{in}\cdot590$ on the 14th.
The absolute maximum ,, was $30^{in}\cdot154$ on the 24th; the fifth minimum ,, was $29^{in}\cdot728$ on the 22nd.
The sixth maximum ,, was $29^{in}\cdot995$ on the 29th; the sixth minimum ,, was $29^{in}\cdot738$ on the 26th.
The range in the month was $0^{in}\cdot967$.
The mean for the month was $29^{in}\cdot785$, being $0^{in}\cdot006$ *lower* than the average of the preceding 21 years.

TEMPERATURE OF THE AIR.

The highest in the month was 79°·9 on the 1st; the lowest was 44°·7 on the 24th; and the range in the month was 35°·2.
The mean ,, of all the highest daily readings was 71°·0, being 1°·9 *lower* than the average of the preceding 21 years.
The mean ,, of all the lowest daily readings was 51°·4, being 2°·0 *lower* than the average of the preceding 21 years.
The mean daily range was 19°·6, being 0°·1 *greater* than the average of the preceding 21 years.
The mean for the month was 59°·5, being 1°·9 *lower* than the average of the preceding 21 years.

MONTH and DAY, 1862.	ELECTRICITY		CLOUDS AND WEATHER.	
	A.M.	P.M.	A.M.	P.M.
Aug. 1	o	o : m	o	o
2	m	o : N, s	10, ci.-s	7, ci.-cu, cu.-s : 10, h.-r
3	m	m : w	10, cu.-s, s, h	8, cu.-s, ci.-s : 5, ci.-cu, h
4	m	m	7, li.-cl	o : 5, ci.-cu, ci.-s, a
5	w	w : m	8, li.-cl	8, li.-cl : 8, cu.-s, ci.-s, s
6	s N, s P, sps, g cur	s N, s P, sps, g cur : m	7, li.-cl	10, shs.-r : 9, cu.-s, ci.-s
7	o	s N, sps, g cur : m	10, oc.-r	10, r : 10, oc.-shs.-r : o
8	o	s N, s P, sps, g cur	10, li.-cl	10, oc.-r, t : 10, shs.-r
9	o	o	10	10, oc.-r
10	o	o	10, li.-cl, h	10, cu.-s, ci.-s
11	o	o : s	10, li.-cl	10, li.-cl
12	o	o	10, ci.-s	10, ci.-s : o
13	o	o	10, ci.-s	10, ci.-s
14	o	N, m	10, r	10, oc.-r : 7, shs.-r : 1
15	o	s N, s P, sps, g cur	10, r	10, h.-shs.-r : 10, h.-r : 5, s, li.-cl
16	m : N	m : o	10 : 10, h.-r	10 : 10, oc.-r
17	o	o	10, h.-r	10, h.-r
18	o	o	10, r	10 : o, f
19	o	o : s	o	4, ci.-cu, ci, li.-cl : o
20	o	o	7, ci, h	10, ci.-s, ci, h
21	o : w	w : o	10, f	10 : 10, oc.-r
22	o	o	10, h.-r	7, ci.-cu, cu.-s, ci.-s : o
23	o	o : w	5, ci	5, ci.-cu, cu.-s, ci : 10
24	w : o	w : o	o : 10, ci.-cu, ci.-s, h	3, li.-cl : h
25	w	o : w	1, ci.-cu, ci	o
26	m	m	3, ci	3, ci.-cu, ci : 10, ci.-s
27	w	o : s	7, ci.-s, ci	7, ci.-cu, cu.-s : o
28	v	v	5, ci	o
29	m	m : s, sps	10, ci.-s	10, ci.-cu, cu.-s, ci.-s : o
30	m	m	10	o : 10
31	m	m	10, cu, cu.-s, ci.-s	10, cu.-s, ci.-s

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $61^{\circ}\cdot6$ on the 22nd; and the lowest was $47^{\circ}\cdot2$ on the 29th.

The mean „ was $53^{\circ}\cdot5$, being $0^{\circ}\cdot6$ *lower* than the average of the preceding 21 years.

Elastic Force of Vapour.—The mean for the month was $0^{in}\cdot410$, being $0^{in}\cdot012$ *less* than the average of the preceding 21 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $4^{gr}\cdot6$, being $0^{gr}\cdot1$ *less* than the average of the preceding 21 years.

Degree of Humidity.—The mean for the month was 81 (that of Saturation being represented by 100), being 4 *greater* than the average of the preceding 21 years.

Weight of a Cubic Foot of Air.—The mean for the month was 530 grains, being 2 grains *greater* than the average of the preceding 21 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by 0 and a cloudy sky by 10, was 6·9.

WIND.

The proportions were of N. 8, S. 6, W. 13, and E. 4. The greatest pressure in the month was $18^{lbs}\cdot0$ on the square foot on the 7th.

RAIN.

Fell on 11 days in the month, amounting to $3^{in}\cdot0$, as measured in the simple cylinder gauge partly sunk below the ground; being $0^{in}\cdot6$ *greater* than the average fall of the preceding 47 years.

MONTH and DAY, 1862.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	Readings of Thermometers. Dry. Highest.	Dry. Lowest.	Dry. Mean Daily Value.	Dew Point. Mean Daily Value.	Highest in the Sun, as shewn by a Self-Registering Thermometer read at 9h P.M.	Lowest on the Grass, as shewn by a Self-Registering Thermometer read at 9h A.M. next morning.	In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9h A.M. next morning. Highest.	In the Water of the Thames. Lowest.	Difference between the Dew Point Temperature and Air Temperature. Mean Daily Value.	Difference. Greatest.	Difference. Least.	Difference between the Mean Temperature of the Day and the Mean Temperature of the same Day on an Average of 48 Years.	Wind as deduced from Anemometers. Osler's. General Direction. A.M.	Osler's. General Direction. P.M.	Osler's. Pressure in lbs. on the square foot. Greatest.	Pressure. Least.	Pressure. Mean of 24 Obs.	Whewell's. Amount of Horizontal Movement of the Air on each Day.	Robinson's. Amount of Horizontal Movement of the Air on each Day.	Rain in Inches read at 9h P.M.
		in.	°	°	°	°	°	°	°	°	°	°	°	°			lbs.	lbs.	lbs.	miles.	miles	in.
Sept. 1	First Qr.	29·815	66·8	46·5	56·2	51·1	97·3	42·0	64·1	61·9	5·1	13·5	0·2	− 2·6	NE	NE	0·0	0·0	0·0	32	136	0·00
2	Greatest Dec. S. Perigee.	29·559	71·9	53·6	60·2	53·0	112·4	50·0	64·1	61·9	7·2	15·8	1·8	+ 1·6	NNE	SW	0·0	0·0	0·0	110	278	0·03
3	..	29·495	64·8	48·5	55·2	45·8	110·0	45·1	63·6	61·4	9·4	15·6	2·5	− 3·3	SW	SW	5·0	0·0	1·0	105	247	0·22
4	..	29·645	67·8	46·6	55·8	49·7	104·0	36·2	63·6	61·4	6·1	10·5	1·7	− 2·6	SW	SW ; Calm	0·0	0·0	0·0	15	94	0·00
5	..	29·694	65·0	45·6	54·3	51·8	115·3	43·1	63·6	61·4	2·5	6·1	0·8	− 3·9	Calm	Calm	0·0	0·0	0·0	2	78	0·13
6	..	29·799	68·0	48·7	57·2	53·6	98·8	41·8	62·6	60·4	3·6	9·7	0·8	− 0·8	W	SW	0·0	0·0	0·0	20	141	0·01
7	..	29·868	68·0	52·1	59·1	55·9	89·0	47·6	62·1	59·9	3·2	9·5	0·0	+ 1·3	SW	SW	0·0	0·0	0·0	10	130	0·00
8	Full	29·948	70·8	48·9	59·9	56·9	96·0	47·5	62·1	59·9	3·0	12·1	0·6	+ 2·2	SW	SW; W	0·0	0·0	0·0	30	151	0·00
9	In Equator	29·881	73·4	56·1	62·9	55·7	115·7	52·0	62·1	59·9	7·2	15·7	3·0	+ 5·3	SW	SW	0·0	0·0	0·0	50	167	0·00
10	..	29·807	62·0	49·2	53·5	51·6	97·4	48·0	62·6	60·4	1·9	10·6	0·8	− 4·0	SW; NNE	NNE	2·0	0·0	0·0	40	134	0·36
11	..	29·965	64·1	40·4	51·8	47·4	95·0	36·0	62·1	59·9	4·4	16·2	0·0	− 5·6	WSW	W ; SW	0·0	0·0	0·0	15	119	0·00
12	..	30·003	69·8	42·5	56·8	50·5	117·5	38·0	62·1	59·9	6·3	17·5	0·0	− 0·5	SW	SW	2·0	0·0	0·1	100	231	0·00
13	..	29·765	70·6	56·4	61·7	53·5	115·4	54·2	61·6	59·4	8·2	17·6	3·2	+ 4·5	SW	SW	3·0	0·0	0·3	95	259	0·00
14	..	29·660	65·5	56·1	59·2	52·1	94·5	53·0	62·1	59·9	7·1	12·4	4·0	+ 2·2	SW	SSW ; E	2·0	0·0	0·0	15	105	0·06
15	Apogee ; Greatest Dec. N.	29·853	73·8	52·1	61·8	54·8	114·6	46·1	62·1	59·9	7·0	17·6	3·2	+ 5·1	ENE	NE	3·0	0·0	0·2	105	237	0·00
16	Last Qr.	30·077	69·9	54·2	59·1	50·5	110·5	49·8	62·1	59·9	8·6	18·2	4·2	+ 2·6	NE	NE	3·5	0·0	0·8	105	241	0·00
17	..	30·217	65·6	46·7	55·4	49·3	87·0	40·1	62·1	59·9	6·1	14·8	1·7	− 0·9	NE	NE	2·0	0·0	0·5	70	174	0·00
18	..	30·234	68·2	43·6	55·1	51·9	104·3	..	61·6	59·4	3·2	12·4	1·6	− 0·9	NE	NE	1·5	0·0	0·1	55	181	0·00
19	..	30·190	71·7	50·1	59·5	49·8	119·0	42·6	61·1	58·9	9·7	20·5	1·0	+ 3·6	ENE	NE	3·0	0·0	0·5	75	255	0·00
20	..	30·080	70·4	50·1	60·2	50·4	116·2	44·2	61·1	58·9	9·8	19·4	1·0	+ 4·6	NE	NE	4·0	0·0	0·8	75	255	0·00
21	..	30·084	60·8	53·1	55·5	49·8	70·3	52·0	61·6	59·4	5·7	8·6	1·5	0·0	ENE	NE	4·0	0·0	0·7	65	241	0·01
22	In Equator	30·077	60·0	51·1	54·6	45·5	77·0	48·9	60·6	58·4	9·1	11·2	7·2	− 0·8	NE	ENE	2·0	0·0	0·2	40	151	0·00
23	New	29·929	65·8	39·2	52·6	48·6	104·0	32·0	60·6	58·4	4·0	12·4	1·6	− 2·7	ENE	ESE	0·0	0·0	0·0	45	128	0·00
24	..	29·742	65·6	45·5	55·9	53·8	88·8	40·0	59·6	57·4	2·1	8·2	0·4	+ 0·9	ENE ; ESE	SE	2·0	0·0	0·3	45	156	0·00
25	..	29·754	68·2	54·5	58·3	55·6	90·3	51·9	60·1	57·9	2·7	7·9	0·0	+ 3·4	SE; W	SW	1·0	0·0	0·0	70	186	0·13
26	..	29·761	69·8	51·7	59·4	56·9	99·4	46·2	59·6	57·4	2·5	6·7	0·8	+ 4·7	SSW	SW	1·5	0·0	0·1	55	157	0·00
27	Perigee	29·751	66·8	55·5	60·2	58·4	85·5	50·9	59·6	57·4	1·8	4·6	0·0	+ 5·7	Calm	SE	0·0	0·0	0·0	10	44	0·03
28	..	29·760	67·9	54·7	60·1	58·8	95·0	53·9	60·6	58·4	1·3	4·0	0·0	+ 5·8	Calm	SE ; Calm	0·0	0·0	0·0	0	85	0·03
29	Greatest Dec. S.	29·633	68·0	57·3	61·0	60·6	79·5	55·0	60·6	58·4	0·4	2·2	0·0	+ 7·0	S	SSE	0·0	0·0	0·0	70	188	0·38
30	First Qr.	29·715	67·2	52·3	58·5	53·0	95·2	50·5	60·6	58·4	5·5	11·7	1·6	+ 4·7	SW	SW	4·0	0·0	1·0	105	238	0·22
Means	..	29·859	67·6	50·1	57·7	52·5	99·8	46·2	61·7	59·5	5·2	12·1	1·5	+ 1·2	...	...	..	..	..	Sum 1629	Sum 5187	Sum 1·61

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The first maximum in the month was $29^{in}\cdot971$ on the 8th; The absolute minimum in the month was $29^{in}\cdot479$ on the 3rd.
The second maximum ,, was $30^{in}\cdot031$ on the 12th; the second minimum ,, was $29^{in}\cdot777$ on the 10th.
The absolute maximum ,, was $30^{in}\cdot267$ on the 18th; the third minimum ,, was $29^{in}\cdot643$ on the 14th.
The fourth maximum ,, was $29^{in}\cdot791$ on the 28th; the fourth minimum ,, was $29^{in}\cdot686$ on the 24th.
the fifth minimum ,, was $29^{in}\cdot575$ on the 29th.

The range in the month was $0^{in}\cdot788$.
The mean for the month was $29^{in}\cdot859$, being $0^{in}\cdot036$ *higher* than the average of the preceding 21 years.

TEMPERATURE OF THE AIR.

The highest in the month was $73^{\circ}\cdot8$ on the 15th; the lowest was $39^{\circ}\cdot2$ on the 23rd.
The range ,, was $34^{\circ}\cdot6$.
The mean ,, of all the highest daily readings was $67^{\circ}\cdot6$, being $0^{\circ}\cdot1$ *higher* than the average of the preceding 21 years.
The mean ,, of all the lowest daily readings was $50^{\circ}\cdot1$, being $1^{\circ}\cdot2$ *higher* than the average of the preceding 21 years.
The mean daily range was $17^{\circ}\cdot5$, being $1^{\circ}\cdot1$ *less* than the average of the preceding 21 years.
The mean for the month was $57^{\circ}\cdot7$, being $0^{\circ}\cdot8$ *higher* than the average of the preceding 21 years.

MONTH and DAY, 1862.	ELECTRICITY.		CLOUDS AND WEATHER.	
	A.M.	P.M.	A.M.	P.M.
Sept. 1	w	w	10, ci.-s	10, cu.-s, ci.-s
2	w	w N : w	10, ci.-s	5, ci.-cu, ci.-s : 10
3	s N, s P, sps, g cur	s N, s P, sps, g cur : m	10, r	8, ci.-cu, cu.-s, ci.-s, oc.-r : 10
4	o	o	o : 10, ci.-s	10, ci.-cu, ci.-s
5	o	s N, sps, g cur	10, ci.-cu, ci.-s	10, oc.-r : 10, f
6	o	o	10, r : 10, h	10, ci.-cu, ci.-s, gt.-glm : 10, lu.-ha
7	m	m	10, ci.-s	10, ci.-s, oc.-r : o
8	w	w	10, cu.-s, ci.-s	10, ci.-s : 7, ci.-cu, ci.-s, s
9	w	w	5, ci.-cu, ci.-s, ci	10, ci.-cu, cu.-s, ci : 10, ci.-s
10	w N	o	10, ci.-s, r	10, ci.-s, oc.-r : 10, cu.-s : o, f
11	w	w	o : 7, ci, h	7, ci.-cu, ci, h : 10 : 9, ci.-cu
12	m	m	o	o : 10, ci.-cu, cu.-s
13	o	w	7, ci.-cu, cu.-s, ci.-s	7, ci.-cu, cu.-s, ci.-s : 10, ci.-s
14	m	o	10, sl.-r	10, r : o
15	w	o : w	3, ci.-cu, ci	3, ci.-cu, cu.-s, ci : 10
16	w	o : w	10, ci.-s	10, ci.-cu, cu.-s, ci.-s : 8, ci.-s
17	w	w	10, ci.-s	10, ci.-s : o
18	o	o	10, ci.-cu, cu.-s, ci.-s	10, ci.-cu, ci : o : 10
19	w	w	3, ci.-cu, ci	o
20	w	w	o	o : 10
21	o	o : w	10, oc.-r	10
22	m	m : s	10, ci.-s	10, ci.-s : 7 : o
23	m	m	3, ci	10, ci
24	v	v	10, ci.-s	10, ci.-s, th.-r : 10, ci.-s
25	w	w	10, f, h.-r : 10, r	10, ci.-cu, cu.-s, ci.-s
26	w	w	5, ci.-cu, cu.-s : 10, ci.-s	10, ci.-s
27	v	v	5, ci.-s : 10, h.-r	10, ci.-s : 10, t.-s, l
28	m	m	10, f	10, ci.-s : 10, r, l
29	w	w	10, r	10, oc.-r
30	w	w	10, ci.-s, ci	10, ci.-cu, ci.-s, h.-shs.-r

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was 63°·1 on the 29th; and the lowest was 45°·1 on the 21st.

The mean ,, was 52°·5, being 1°·4 *higher* than the average of the preceding 21 years.

Elastic Force of Vapour.—The mean for the month was 0in·396, being 0in·015 *greater* than the average of the preceding 21 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was 4gr·4, being 0gr·2, *greater* than the average of the preceding 21 years.

Degree of Humidity.—The mean for the month was 83 (that of Saturation being represented by 100), being 2 *greater* than the average of the preceding 21 years.

Weight of a Cubic Foot of Air.—The mean for the month was 534 grains, being the *same* as the average of the preceding 21 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by 0 and a cloudy sky by 10, was 7·7.

WIND.

The proportions were of N. 6, S. 8, W. 7, and E. 9. The greatest pressure in the month was 5lbs·0 on the square foot on the 3rd.

RAIN.

Fell on 12 days in the month, amounting to 1in·6, as measured in the simple cylinder gauge partly sunk below the ground; being 0in·8 *less* than the average fall of the preceding 47 years.

MONTH and DAY, 1862.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	Readings of Thermometers. Dry. Highest.	Dry. Lowest.	Dry. Mean Daily Value.	Dew Point. Mean Daily Value.	Highest in the Sun, as shewn by a Self-Registering Thermometer read at 9h P.M.	Lowest on the Grass, as shewn by a Self-Registering Thermometer read at 9h A.M. next morning.	In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9h A.M. next morning. Highest.	Thames. Lowest.	Difference between the Dew Point Temperature and Air Temperature. Mean Daily Value.	Difference. Greatest.	Difference. Least.	Difference between the Mean Temperature of the Day and the Mean Temperature of the same Day on an Average of 43 Years.	Wind as deduced from Anemometers. Osler's. General Direction. A.M.	Osler's. General Direction. P.M.	Osler's. Pressure in lbs. on the square foot. Greatest.	Pressure. Least.	Pressure. Mean of 24 Obs.	Whewell's. Amount of Horizontal Movement of the Air on each Day.	Robinson's. Amount of Horizontal Movement of the Air on each Day.	Rain in Inches read at 9h P.M.
		in.	°	°	°	°	°	°	°	°	°	°	°	°			lbs.	lbs.	lbs.	miles.	miles.	in.
Oct. 1	..	29·973	63·4	43·7	52·2	46·4	107·0	40·0	60·6	58·4	5·8	13·7	0·0	− 1·3	SW ; W	W ; SW	2·0	0·0	0·4	135	287	0·00
2	..	30·007	66·0	50·4	58·5	57·5	84·8	46·2	60·6	58·4	1·0	7·9	0·0	+ 5·1	SW	SW	3·0	0·0	1·2	140	295	0·01
3	..	30·175	71·7	54·5	61·0	57·8	102·4	50·6	60·6	58·4	3·2	11·0	1·9	+ 7·9	WSW	W	2·0	0·0	0·3	80	205	0·00
4	..	30·296	62·4	48·9	55·4	55·4	69·6	48·3	60·6	58·4	0·0	2·3	0·0	+ 2·4	NW	Calm	0·0	0·0	0·0	5	87	0·00
5	In Equator	30·183	65·8	47·7	56·1	51·8	108·0	45·0	60·6	58·4	4·3	12·8	0·0	+ 3·3	NE	E	2·0	0·0	0·0	25	147	0·00
6	..	29·860	70·0	53·0	59·1	56·7	110·1	42·7	60·6	58·4	2·4	8·3	0·0	+ 6·6	SE	Calm	0·0	0·0	0·0	60	181	0·14
7	Full	29·904	58·0	49·3	51·3	47·2	92·7	47·9	60·1	57·9	4·1	9·0	1·1	− 1·0	N	NNE	6·0	0·0	2·3	150	347	0·36
8	..	30·171	65·0	51·3	56·4	52·5	95·0	44·1	59·6	57·4	3·9	10·8	2·8	+ 4·3	NE	ENE	2·0	0·0	0·5	70	210	0·00
9	..	30·103	64·5	51·5	56·0	51·1	110·0	47·6	59·1	56·9	4·9	12·4	0·6	+ 4·1	ENE	NE	2·5	0·0	0·4	55	185	0·00
10	..	29·922	68·4	49·2	57·7	55·9	105·4	45·0	60·1	57·9	1·8	7·7	0·0	+ 6·0	E	E	0·0	0·0	0·0	20	109	0·00
11	..	29·716	66·9	52·6	57·3	55·1	110·0	44·2	60·6	58·4	2·2	7·2	0·0	+ 5·9	Calm	SW	3·0	0·0	0·2	110	238	0·72
12	..	29·548	63·6	53·0	57·0	56·1	69·5	47·4	60·6	58·4	0·9	1·6	0·4	+ 6·0	SW	SW	11·0	0·0	1·6	195	454	0·36
13	Greatest Dec. N. Apogee.	29·692	63·0	50·1	54·7	49·1	89·4	43·9	59·6	57·4	5·6	11·2	3·2	+ 4·2	WSW	SW	4·0	0·0	1·1	155	287	0·02
14	..	29·718	65·0	53·2	60·0	56·8	79·5	52·5	58·6	57·4	3·2	6·7	2·6	+ 9·9	SW	SW	4·0	0·0	0·9	150	295	0·02
15	Last Qr.	29·551	71·4	49·0	58·2	55·2	102·7	46·0	59·6	58·4	3·0	14·0	0·6	+ 8·4	SW	SW	3·0	0·0	0·8	125	259	0·01
16	..	29·886	60·1	47·1	52·0	43·4	99·7	44·2	59·6	57·4	8·6	14·6	1·5	+ 2·4	SW ; W	W ; SW	3·5	0·0	0·6	190	401	0·00
17	..	29·460	61·5	46·0	51·2	46·8	82·6	40·2	58·6	57·4	4·4	13·0	2·0	+ 1·8	SW	WSW	11·0	1·5	3·3	200	408	0·26
18	..	29·404	50·6	40·3	44·5	44·0	53·8	37·5	57·6	55·9	0·5	5·3	0·0	− 4·7	SW	SW ; NE ; W	3·0	0·0	0·3	110	251	0·94
19	..	29·342	56·6	37·5	47·2	44·8	66·5	30·0	56·6	54·4	2·4	6·7	1·2	− 1·9	WSW	SW	18·0	0·0	2·1	230	494	0·58
20	In Equator	29·208	56·0	40·6	45·6	38·6	92·9	35·8	54·6	51·4	7·0	11·0	5·1	− 3·5	W	WSW	11·0	1·0	3·7	240	483	0·00
21	..	29·625	56·0	41·0	47·8	41·6	88·2	34·0	56·6	49·4	6·2	14·4	4·0	− 1·1	W	NW ; SW	11·0	0·0	2·4	210	449	0·00
22	..	29·275	60·0	47·0	53·0	51·0	66·6	33·8	52·6	47·9	2·0	6·4	0·0	+ 4·4	SW	WSW	13·0	1·0	4·4	280	576	0·12
23	New	29·154	56·0	44·5	49·3	44·1	94·8	38·3	51·6	48·4	5·2	15·2	4·4	+ 1·0	SW	WSW	22·0	2·0	5·4	230	482	0·00
24	..	29·561	53·7	37·1	43·9	38·3	86·0	..	50·6	48·4	5·6	12·8	0·0	− 4·0	W	WSW	9·0	0·0	0·5	70	227	0·00
25	Perigee	29·744	54·0	33·4	45·3	43·5	76·1	27·9	50·6	48·4	1·8	6·6	0·0	− 2·2	SW	SW	9·0	0·0	0·8	230	494	0·00
26	Greatest Declination S.	29·539	58·0	43·8	49·0	47·2	89·0	39·8	50·6	48·9	1·8	6·4	0·0	+ 1·6	SW	WSW	10·0	0·0	2·0	160	336	0·30
27	..	29·756	56·9	41·5	50·1	46·5	82·3	35·0	50·6	48·4	3·6	8·8	1·2	+ 2·9	SW	SW	9·0	0·0	4·0	210	445	0·00
28	..	29·665	55·0	44·1	46·4	44·5	56·0	40·3	51·6	49·4	1·9	4·0	1·1	− 0·6	SW ; N	NE	5·0	0·0	0·3	10	52	0·04
29	First Qr.	29·789	50·0	37·9	42·4	39·0	68·9	..	50·6	48·9	3·4	8·8	0·0	− 4·4	N	NNE	0·0	0·0	0·0	10	56	0·06
30	..	29·692	51·8	28·5	40·1	40·1	75·8	25·0	50·6	48·4	0·0	5·0	0·0	− 6·5	Calm	SE	2·0	0·0	0·1	55	137	0·02
31	..	29·596	53·8	45·3	48·6	48·6	55·3	42·9	50·1	48·4	0·0	0·8	0·0	+ 2·1	SE	SE	0·0	0·0	0·0	15	64	0·12
Means	..	29·726	60·5	45·6	51·8	48·6	86·1	41·2	56·6	54·3	3·2	8·9	1·1	+ 1·9	...	...	..	..	..	Sum 3925	Sum 8941	Sum 4·08

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The absolute maximum in the month was $30^{in}\cdot307$ on the 4th; the first minimum in the month was $29^{in}\cdot815$ on the 6th.
The second maximum ,, was $30^{in}\cdot202$ on the 8th; the second minimum ,, was $29^{in}\cdot507$ on the 12th.
The third maximum ,, was $29^{in}\cdot756$ on the 14th; the third minimum ,, was $29^{in}\cdot492$ on the 15th.
The fourth maximum ,, was $29^{in}\cdot926$ on the 16th; the fourth minimum ,, was $29^{in}\cdot420$ on the 17th.
The fifth maximum ,, was $29^{in}\cdot545$ on the 17th; the fifth minimum ,, was $29^{in}\cdot298$ on the 18th.
The sixth maximum ,, was $29^{in}\cdot599$ on the 19th; the absolute minimum ,, was $28^{in}\cdot958$ on the 19th.
The seventh maximum ,, was $29^{in}\cdot747$ on the 21st; the seventh minimum ,, was $29^{in}\cdot095$ on the 23rd.
The eighth maximum ,, was $29^{in}\cdot803$ on the 25th; the eighth minimum ,, was $29^{in}\cdot442$ on the 26th.
The ninth maximum ,, was $29^{in}\cdot816$ on the 27th; the ninth minimum ,, was $29^{in}\cdot660$ on the 28th.
The tenth maximum ,, was $29^{in}\cdot823$ on the 29th; the tenth minimum ,, was $29^{in}\cdot565$ on the 31st.
The range in the month was $1^{in}\cdot349$.
The mean for the month was $29^{in}\cdot726$, being $0^{in}\cdot029$ *higher* than the average of the preceding 21 years.

TEMPERATURE OF THE AIR.

The highest in the month was $71^{\circ}\cdot7$ on the 3rd; the lowest was $28^{\circ}\cdot5$ on the 30th; and the range in the month was $43^{\circ}\cdot2$.
The mean ,, of all the highest daily readings was $60^{\circ}\cdot5$, being $1^{\circ}\cdot9$ *higher* than the average of the preceding 21 years.
The mean ,, of all the lowest daily readings was $45^{\circ}\cdot6$, being $1^{\circ}\cdot7$ *higher* than the average of the preceding 21 years.
The mean daily range was $14^{\circ}\cdot9$, being $0^{\circ}\cdot2$ *greater* than the average of the preceding 21 years.
The mean for the month was $51^{\circ}\cdot8$, being $1^{\circ}\cdot4$ *higher* than the average of the preceding 21 years.

MONTH and DAY, 1862.	ELECTRICITY.		CLOUDS AND WEATHER.	
	A.M.	P.M.	A.M.	P.M.
Oct. 1	w	w	0, h : 3, cu, ci.-cu, ci	4, cu, ci.-cu, ci : lu.-ha : 10, r
2	0	0	10, ci.-s, th.-r	10, ci.-s : th.-r
3	0	w	7, ci.-cu, ci.-s	10, ci.-s : 7, cu, ci.-cu : 0
4	v	v	10, f	10, f
5	m	m	5, cu, ci.-cu, ci	10, ci.-cu, ci : 10, ci.-s
6	m	m	0 : 10, ci.-s, r	8, ci.-cu, cu.-s, ci.-s : 10, r : 0
7	w	s	10, ci.-cu, cu.-s	10, ci.-s, r : 10, r
8	0	w : 0	10, ci.-cu, cu.-s	7, ci.-cu, cu.-s, ci.-s : 10, ci.-s
9	w	w	5, ci.-s, ci : 10, ci.-cu, cu.-s	3, ci.-cu, ci : 0, l
10	m	m	10, t.-s, f	10, ci.-cu, ci.-s : 0
11	0	s N, : m	10, r	10, cu.-s, ci.-s : 0
12	0	0	10, r	10, r : 8, cu.-s, ci.-s
13	m	m	10, ci.-s	10, ci.-cu, ci.-s
14	w	w	10, r : 9, ci.-cu, cu.-s	10, ci.-s : 0
15	v	v	0	10, r : 0
16	w	w	0	5, cu, ci.-cu, cu.-s : 0
17	s N, sps, g cur	w	10, ci.-s, th.-r	10, ci.-cu, cu.-s, ci.-s : 0 : 10 r
18	0	s N, sps, g cur : s	10, ci.-s, r	10, h.-r : 0, f
19	s	s	10, ci.-s	10, h.-r
20	0	0 : w	5, ci.-s, ci	5, ci.-cu, cu.-s, ci.-s : 0, l
21	0	0	10, ci.-s : 3, ci.-cu, ci	0 : 10
22	0	0 : w	10, r	10, ci.-s : 10
23	0	0	5, ci.-cu, cu.-s, ci.-s	5, ci.-cu, cu.-s : 10, ci.-s : 0
24	v	v	2, h	6, cu, ci.-cu, ci
25	v	v	10, ci.-cu, cu.-s, ci.-s	10, ci.-s
26	w : s N	w	10, r	7, ci.-cu, ci.-s
27	0	w	10, ci.-s	10, cu.-s, ci.-s
28	0	w N : w	10, gt.-glm	10, gt.-glm : 10, th.-r
29	0	s	10, ci.-s	10, ci.-cu, cu.-s, ci.-s : 0, f
30	0	s : w	10, f, h.-f : 10, f, r	10, ci.-s : 10, h.-r
31	s	s	10, r	10 : 0

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $61^{\circ}\cdot 8$ on the 3rd; and the lowest was $32^{\circ}\cdot 1$ on the 30th.

The mean „ was $48^{\circ}\cdot 6$, being $2^{\circ}\cdot 4$ *higher* than the average of the preceding 21 years.

Elastic Force of Vapour.—The mean for the month was $0^{\text{in}}\cdot 343$ being $0^{\text{in}}\cdot 028$ *greater* than the average of the preceding 21 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $3^{\text{gr}}\cdot 8$, being $0^{\text{gr}}\cdot 1$ *greater* than the average of the preceding 21 years.

Degree of Humidity.—The mean for the month was 89 (that of Saturation being represented by 100), being 2 *greater* than the average of the preceding 21 years.

Weight of a Cubic Foot of Air.—The mean for the month was 538 grains, being 1 grain *less* than average of the preceding 21 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by 0 and a cloudy sky by 10, was $7\cdot 1$.

WIND.

The proportions were of N. 4, S. 8, W. 13, and E. 6. The greatest pressure in the month was $22^{\text{lbs}}\cdot 0$ on the square foot on the 23rd.

RAIN.

Fell on 17 days in the month, amounting to $4^{\text{in}}\cdot 1$, as measured in the simple cylinder gauge partly sunk below the ground; being $1^{\text{in}}\cdot 3$ *greater* than the average fall of the preceding 47 years.

MONTH and DAY, 1862.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	Readings of Thermometers. Dry. Highest.	Dry. Lowest.	Dry. Mean Daily Value.	Dew Point. Mean Daily Value.	Highest in the Sun, as shewn by a Self-Registering Thermometer read at 9h P.M.	Lowest on the Grass, as shewn by a Self-Registering Thermometer read at 9h A.M. next morning.	In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9h A.M. next morning. Highest.	In the Water of the Thames. Lowest.	Difference between the Dew Point Temperature and Air Temperature. Mean Daily Value.	Difference. Greatest.	Difference. Least.	Difference between the Mean Temperature of the Day and the Mean Temperature of the same Day on an Average of 43 Years.	Wind as deduced from Anemometers. Osler's. General Direction. A.M.	Osler's. General Direction. P.M.	Osler's. Pressure in lbs. on the square foot. Greatest.	Pressure. Least.	Pressure. Mean of 24 Obs.	Whewell's. Amount of Horizontal Movement of the Air on each Day.	Robinson's. Amount of Horizontal Movement of the Air on each Day.	Rain in Inches read at 9h P.M.
		in.	°	°	°	°	°	°	°	°	°	°	°	°			lbs.	lbs.	lbs.	miles.	miles.	in.
Nov. 1	..	29·737	55·0	46·3	51·0	49·9	61·6	43·4	50·1	47·9	1·1	3·2	0·0	+ 4·6	E	Calm	0·0	0·0	0·0	10	50	0·01
2	In Equator.	29·848	55·1	46·3	50·4	48·4	62·0	46·0	50·6	48·4	2·0	6·0	0·0	+ 4·2	Calm	SW	0·0	0·0	0·0	35	98	0·00
3	..	29·919	57·0	43·8	49·9	47·3	69·0	41·8	50·6	49·1	2·6	8·4	0·9	+ 3·8	S	S	0·0	0·0	0·0	40	108	0·00
4	..	29·897	57·0	38·0	49·1	48·5	65·6	33·0	50·6	48·4	0·6	6·5	0·4	+ 3·2	SE	SSW	0·0	0·0	0·0	45	109	0·00
5	..	29·917	49·1	45·4	46·7	46·1	50·5	45·0	50·6	49·4	0·6	0·8	0·0	+ 1·0	NNE	NW	0·0	0·0	0·0	5	56	0·53
6	Full.	29·972	47·8	34·9	40·1	40·1	55·3	32·4	49·6	48·4	0·0	1·3	0·0	− 5·4	Calm	NE	0·0	0·0	0·0	40	105	0·11
7	..	30·140	44·0	35·1	38·6	37·9	56·0	34·1	50·1	48·4	0·7	1·8	0·0	− 6·5	NE	N	0·0	0·0	0·0	35	126	0·05
8	..	30·089	48·1	31·4	40·0	38·7	68·9	31·2	49·6	47·4	1·3	4·8	0·0	− 4·8	SW	SW	1·0	0·0	0·0	155	329	0·00
9	Greatest Declination N.	29·477	53·1	41·0	47·7	45·6	57·0	38·2	48·6	46·4	2·1	5·0	1·9	+ 3·2	SW	SW	12·0	0·0	3·0	185	394	0·13
10	Apogee.	29·243	49·8	35·1	39·9	36·2	79·8	33·1	48·6	46·4	3·7	11·8	1·4	− 4·4	SW	SW	10·0	0·0	1·8	125	277	0·05
11	..	29·420	39·9	28·9	33·3	30·0	43·5	25·0	48·6	45·4	3·3	9·0	2·0	−10·7	SW	N ; W	1·5	0·0	0·0	55	135	0·00
12	..	29·871	43·0	27·0	35·1	30·7	76·1	23·5	46·6	44·4	4·4	9·7	2·4	− 8·8	W	N	3·0	0·0	0·0	45	140	0·00
13	..	29·898	40·4	25·5	31·6	28·0	49·0	25·5	46·6	43·4	3·6	6·5	1·3	−11·9	SW ; Calm	Calm	0·0	0·0	0·0	5	39	0·00
14	Last Qr.	29·787	41·0	24·9	34·1	32·9	47·3	21·5	45·6	42·4	1·2	5·5	0·5	− 9·2	Calm	Calm ; N	0·0	0·0	0·0	45	129	0·00
15	..	29·920	44·4	35·2	39·6	38·9	48·5	31·4	45·6	42·4	0·7	3·5	0·4	− 3·4	NNE	NNE	8·0	0·0	1·0	135	329	0·01
16	In Equator	30·038	47·0	37·8	42·5	38·3	79·0	36·3	44·6	42·4	4·2	9·2	2·0	− 0·1	NNE	N	4·0	0·0	1·0	120	282	0·00
17	..	30·234	47·1	34·1	39·1	35·4	75·4	27·8	43·6	41·4	3·7	9·5	1·3	− 3·3	NNE	NNE	3·0	0·0	0·3	75	180	0·00
18	..	30·161	47·3	32·1	39·3	36·1	76·6	25·5	43·6	41·4	3·2	9·9	2·4	− 2·9	NE	NE	5·0	0·0	0·0	90	222	0·00
19	..	30·003	41·6	37·7	38·8	36·2	43·6	37·2	42·6	41·4	2·6	6·9	1·5	− 3·4	NE	NE	4·0	0·0	0·3	80	225	0·01
20	..	30·039	42·0	31·0	36·6	33·4	61·4	25·1	42·6	40·4	3·2	9·5	0·0	− 5·6	ENE	NE	3·0	0·0	0·1	40	135	0·00
21	New.	29·997	41·0	33·0	36·7	35·8	43·8	32·4	42·1	39·9	0·9	1·8	0·7	− 5·3	NE	Calm	0·0	0·0	0·0	40	119	0·02
22	Perigee; Greatest Dec. S.	29·728	42·6	30·6	35·3	29·7	65·5	27·4	42·6	40·4	5·6	9·9	0·3	− 6·4	NW	NNW	0·0	0·0	0·0	65	163	0·00
23	..	29·601	36·5	24·8	29·5	24·6	41·0	18·0	41·6	39·4	4·9	6·4	3·2	−11·9	WSW	Calm	0·0	0·0	0·0	20	78	0·00
24	..	29·612	41·0	26·1	33·9	29·8	66·3	19·0	41·6	38·9	4·1	7·8	3·8	− 7·1	NE	NE	2·0	0·0	0·0	105	242	0·00
25	..	29·574	40·5	32·2	36·6	30·7	67·3	27·8	41·6	38·4	5·9	7·8	0·0	− 4·2	NE	NE	8·0	0·0	2·0	150	337	0·00
26	..	29·402	41·2	36·4	38·8	37·0	43·1	35·2	41·1	38·4	1·8	4·1	1·0	− 2·1	N by E	N; W	2·0	0·0	0·2	80	186	0·00
27	..	29·431	47·2	31·0	39·6	39·2	69·7	27·1	40·6	38·4	0·4	4·8	0·0	− 1·5	SW by S	SSW	0·0	0·0	0·0	120	235	0·10
28	First Qr.	29·643	51·5	35·5	42·9	42·2	72·3	29·8	40·6	38·4	0·7	4·2	0·0	+ 1·4	SSE	SE	2·0	0·0	0·2	85	187	0·00
29	In Equator	29·514	42·0	34·9	38·3	35·7	50·0	34·0	40·6	38·4	2·6	4·1	0·0	− 3·3	ENE ; SE	SW	0·0	0·0	0·0	15	·61	0·00
30	..	29·658	42·2	33·7	37·7	37·4	43·0	28·0	41·1	38·9	0·3	2·1	0·0	− 3·9	Var.	SE	0·0	0·0	0·0	20	78	0·00
Means	..	29·792	45·8	34·3	39·8	37·4	59·6	31·2	45·4	43·2	2·4	6·1	0·9	− 3·5	...	...	..	..	..	Sum 2065	Sum 5154	Sum 1·02

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The first maximum in the month was 29in·943 on the 3rd; the first minimum in the month was 29in·883 on the 4th.
The second maximum ,, was 30in·209 on the 7th; the absolute minimum ,, was 29in·227 on the 10th.
The third maximum ,, was 29in·979 on the 12th; the third minimum ,, was 29in·771 on the 14th.
The absolute maximum ,, was 30in·248 on the 17th; the fourth minimum ,, was 29in·321 on the 27th.
The fifth maximum ,, was 29in·663 on the 28th; the fifth minimum ,, was 29in·489 on the 29th.
The sixth maximum ,, was 29in·679 on the 30th.
The range in the month was 1in·021.
The mean for the month was 29in·792, being 0in·045 *higher* than the average of the preceding 21 years.

TEMPERATURE OF THE AIR.

The highest in the month was 57°·0 on the 3rd and 4th; the lowest was 24°·8 on the 23rd; and the range in the month was 32°·2.
The mean ,, of all the highest daily readings was 45°·8, being 3°·4 *lower* than the average of the preceding 21 years.
The mean ,, of all the lowest daily readings was 34°·3, being 3°·2 *lower* than the average of the preceding 21 years.
The mean daily range was 11°·5, being 0°·2 *less* than the average of the preceding 21 years.
The mean for the month was 39°·8, being 4°·4 *lower* than the average of the preceding 21 years.

MONTH and DAY, 1862.	ELECTRICITY. A.M.	ELECTRICITY. P.M.	CLOUDS AND WEATHER. A.M.	CLOUDS AND WEATHER. P.M.
Nov. 1	ss, sps : m	ss, sps : m	10, th.-r	10
2	m	m : s, sps	10, th.-r, glm.	10, cu.-s, ci.-s
3	v	v	10	10, s, ci.-s : 0
4	v	v	10	7, ci.-s, ci : 10, ci.-s
5	w N : v	v	10, r	10, r, f : 10 : 3 li.-cl, f
6	m	m	10, f	10, h.-r : 10, th.-r
7	w	w	10, r	10, ci.-s : f
8	s	s	10, f	10
9	o	o : w	10, r	10, h.-r : 10
10	m : o	s N : s	10, ci.-s	10, oc.-shs : 7, ci.-s, ci
11	s, sps : s	s	7, ci.-s, ci, h.-f	7, ci, h, h.-f : f
12	s	s : ss, sps	0, h.-f	0 : h.-f
13	ss, sps	s : ss, sps	0, h.-f	0, h : th.-f
14	v	v	10, ci.-s, f, h.-f	10, ci.-s, f : 7, ci.-s
15	w	w : s	10, ci.-s	10, ci.-s, th.-r
16	s	s	8, ci.-cu, cu.-s, ci.-s	0 : 10, oc.-r
17	s	s	0	0
18	v	v	10	10, ci.-cu, cu.-s
19	w	w	10, r	10 : 10, h
20	m	m	10, ci.-s, ci, h.-f : 10, ci.-s, s	10, ci.-s
21	s	m	10, gt.-glm, r	10 : 10, f
22	m	m	8, cu, ci.-cu, cu.-s	8, ci.-s, ci : 0, f
23	s	s	0, f, h.-f	0, f, h.-f
24	s	m : s, sps	10, ci.-s, h.-f	2, ci : 5, s, ci.-s
25	o	o	2, ci, h.-f	10, ci.-s, ci
26	o : w	w : o : w	10	10
27	o	s : ss, sps	10, r	3, ci.-cu, ci : 0
28	m	m	5, ci.-cu	10, cu, ci.-cu, ci : 10
29	o	o : w	10, ci.-s	10 : 0, f
30	s	s	10 : 10, f	10 : 10, th.-f : 10, f

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was 52°·6 on the 1st; and the lowest was 21°·1 on the 23rd.

The mean ,, was 37°·4, being 2°·6 *lower* than the average of the preceding 21 years.

Elastic Force of Vapour.—The mean for the month was $0^{in}\cdot224$, being $0^{in}\cdot029$ *less* than the average of the preceding 21 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $2^{gr}\cdot5$, being $0^{gr}\cdot4$ *less* than the average of the preceding 21 years.

Degree of Humidity.—The mean for the month was 92 (that of Saturation being represented by 100), being 3 *greater* than the average of the preceding 21 years.

Weight of a Cubic Foot of Air.—The mean for the month was 553 grains, being 6 grains *greater* than the average of the preceding 21 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by 0 and a cloudy sky by 10, was 7·3.

WIND.

The proportions were of N. 11, S. 7, W. 6, and E. 6. The greatest pressure in the month was $12^{lbs}\cdot0$ on the square foot on the 9th.

RAIN.

Fell on 10 days in the month, amounting to $1^{in}\cdot0$ as measured in the simple cylinder gauge partly sunk below the ground; being $1^{in}\cdot4$ *less* than the average fall of the preceding 47 years.

MONTH and DAY, 1862.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	Readings of Thermometers. Dry. Highest.	Dry. Lowest.	Dry. Mean Daily Value.	Dew Point. Mean Daily Value.	Highest in the Sun, as shewn by a Self-Registering Thermometer read at 9h P.M.	Lowest on the Grass, as shewn by a Self-Registering Thermometer read at 9h A.M. next morning.	In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9h A.M. next morning. Highest.	Thames. Lowest.	Difference between the Dew Point Temperature and Air Temperature. Mean Daily Value.	Difference. Greatest.	Difference. Least.	Difference between the Mean Temperature of the Day and the Mean Temperature of the same Day on an Average of 43 Years.	Wind as deduced from Anemometers. Osler's. General Direction. A.M.	General Direction. P.M.	Pressure in lbs. on the square foot. Greatest.	Pressure. Least.	Pressure. Mean of 24 Obs.	Whewell's. Amount of Horizontal Movement of the Air on each Day.	Robinson's. Amount of Horizontal Movement of the Air on each Day.	Rain in Inches read at 9h P.M.
		in.	°	°	°	°	°	°	°	°	°	°	°	°			lbs.	lbs.	lbs.	miles.	miles.	in.
Dec. 1	..	29·470	45·7	36·2	41·4	41·3	53·5	30·4	40·6	38·4	0·1	1·1	0·0	− 0·3	SE	ESE	1·0	0·0	0·0	85	189	0·05
2	..	29·448	46·2	35·5	40·7	39·2	70·9	29·8	40·6	39·4	1·5	5·0	0·5	− 1·1	ESE	ESE; SSE	0·0	0·0	0·0	80	170	0·00
3	..	29·564	48·7	38·3	44·3	42·8	67·1	33·2	41·1	38·9	1·5	5·2	0·9	+ 2·6	SSE	SE	2·0	0·0	0·1	90	189	0·00
4	..	29·702	49·5	42·1	45·9	45·8	51·8	41·2	41·6	39·4	0·1	0·8	0·0	+ 4·4	SE; E	SE; S	0·0	0·0	0·0	65	135	0·04
5	..	29·864	54·5	45·1	50·2	47·9	69·0	41·1	43·6	40·4	2·3	5·8	1·1	+ 8·8	S	S; SW	3·5	0·0	0·4	170	341	0·03
6	Full; Greatest Dec. N.	29·823	56·0	50·4	53·5	51·1	59·0	47·7	44·6	41·9	2·4	5·2	1·4	+12·4	SW	SW	7·0	0·0	1·6	210	433	0·12
7	Apogee	29·886	57·1	47·3	51·7	47·8	77·0	42·2	44·6	41·4	3·9	8·2	0·0	+11·0	WSW	WSW	3·0	0·0	0·3	135	309	0·00
8	..	29·927	44·7	39·8	42·2	35·2	56·1	34·4	47·6	42·4	7·0	9·2	4·6	+ 1·6	W; NW	W	6·0	0·0	1·0	155	359	0·27
9	..	29·884	48·0	39·0	44·3	41·1	50·3	35·2	48·1	42·9	3·2	8·2	1·1	+ 3·8	W; WSW	SW	1·8	0·0	0·1	180	367	0·04
10	..	29·664	53·0	38·7	46·5	41·9	67·0	32·0	47·1	43·4	4·6	9·4	1·2	+ 6·1	SW; W	WNW; W	4·0	0·0	0·5	145	303	0·22
11	..	29·738	49·7	35·4	43·5	41·3	56·6	29·1	46·6	43·4	2·2	6·5	1·1	+ 3·3	WSW; SW	SW; N	2·2	0·0	0·3	135	296	0·14
12	..	30·140	43·0	33·7	38·3	33·9	51·7	27·6	46·6	43·4	4·4	8·8	0·0	− 1·7	NW; W	W; SW	1·8	0·0	0·2	135	319	0·00
13	..	29·850	46·7	34·8	42·1	41·9	47·0	30·1	47·1	43·4	0·2	1·5	0·0	+ 2·5	SW	SW; W	7·0	0·0	1·2	135	286	0·14
14	In Equator; Last Quarter.	30·245	45·3	33·7	39·0	36·1	64·9	27·6	45·6	42·4	2·9	5·7	0·5	− 0·7	WSW	SW	0·0	0·0	0·0	105	215	0·00
15	..	30·228	43·0	33·9	38·7	35·5	45·5	28·2	44·6	41·4	3·2	7·5	0·3	− 1·3	SSW	S	0·0	0·0	0·0	75	166	0·00
16	..	30·190	47·2	34·3	41·7	39·6	47·2	30·2	43·6	40·4	2·1	3·6	1·8	+ 1·4	SW	SW	0·0	0·0	0·0	165	345	0·00
17	..	30·137	52·0	38·7	45·6	44·1	54·6	35·0	43·6	39·9	1·5	3·2	0·0	+ 5·5	SW	SW; N	2·5	0·0	0·2	110	267	0·13
18	..	30·026	51·8	33·9	43·4	42·3	51·8	29·2	43·6	40·4	1·1	4·4	0·4	+ 3·5	SW	WSW	7·0	0·0	1·0	245	532	0·09
19	..	29·600	49·0	43·3	46·2	36·2	56·9	40·0	43·6	40·4	10·0	13·5	7·4	+ 6·7	NW	W	12·0	3·0	4·6	220	534	0·00
20	Greatest Declination S.	29·413	44·0	36·5	40·2	30·8	54·5	29·3	42·6	41·4	9·4	12·1	7·4	+ 1·2	WNW	NNW	17·0	2·0	6·2	270	631	0·00
21	Perigee; New.	29·762	40·5	35·5	38·5	30·8	45·3	29·5	42·6	40·4	7·7	10·1	4·1	+ 0·1	NNW	N	15·0	3·0	7·4	210	531	0·02
22	..	29·994	40·2	33·4	36·4	32·8	43·3	33·0	41·6	39·4	3·6	6·9	0·0	− 1·5	N	N; SW	4·0	0·0	0·5	75	196	0·02
23	..	29·945	45·5	33·9	40·5	40·5	46·0	33·5	41·1	39·9	0·0	1·9	0·0	+ 3·1	SW	N; WSW	0·0	0·0	0·0	40	132	0·04
24	..	30·099	46·0	36·8	42·8	41·6	46·0	30·5	41·6	38·4	1·2	5·0	0·0	+ 5·8	W	WSW	1·0	0·0	0·0	..	320	0·00
25	..	30·231	50·0	40·9	45·4	40·1	53·5	38·0	41·6	38·9	5·3	8·6	3·7	+ 8·9	WSW	W	2·5	0·0	0·2	..	506	0·00
26	In Equator	30·137	50·0	45·0	47·0	39·7	57·0	38·0	43·6	39·4	7·3	8·2	3·0	+10·6	W	W	5·0	0·0	1·5	..	231	0·00
27	First Qr.	30·209	49·5	38·8	44·8	44·5	50·2	30·5	43·6	39·4	0·3	1·9	0·0	+ 8·3	SW	SW	2·0	0·0	0·2	..	400	0·01
28	..	29·886	52·0	45·4	48·2	42·3	78·5	41·0	42·6	39·4	5·9	10·0	2·9	+11·2	SW	SW	3·0	0·0	0·6	..	406	0·00
29	..	29·348	49·2	42·8	46·1	44·1	53·0	42·8	42·6	39·4	2·0	5·5	1·3	+ 8·8	SW	SW	8·0	0·0	1·0	..	344	0·25
30	..	29·387	45·5	38·4	42·0	38·8	56·0	31·8	43·6	41·4	3·2	7·0	1·7	+ 4·6	SW; W	NW	1·0	0·0	0·0	..	250	0·02
31	..	30·011	44·7	33·5	39·7	36·0	60·9	29·9	43·6	41·4	3·7	8·8	1·5	+ 2·7	NW; SW	SW	1·0	0·0	0·0	..	356	0·00
Means	..	29·865	48·0	38·6	43·6	40·2	56·2	33·9	43·7	40·7	3·4	6·4	1·5	+ 4·3	...	...	..	..	..	Sum 3235	Sum 10058	Sum 1·63

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The first minimum in the month was $29^{in}\cdot427$ on the 2nd.
The first maximum in the month was $29^{in}\cdot890$ on the 5th; the second minimum ,, was $29^{in}\cdot791$ on the 6th.
The second maximum ,, was $30^{in}\cdot001$ on the 8th; the third minimum ,, was $29^{in}\cdot547$ on the 10th.
The third maximum ,, was $29^{in}\cdot817$ on the 11th; the fourth minimum ,, was $29^{in}\cdot680$ on the 11th.
The fourth maximum ,, was $30^{in}\cdot199$ on the 12th; the fifth minimum ,, was $29^{in}\cdot787$ on the 13th.
The fifth maximum ,, was $30^{in}\cdot269$ on the 14th; the sixth minimum ,, was $29^{in}\cdot373$ on the 20th.
The sixth maximum ,, was $30^{in}\cdot017$ on the 22nd; the seventh minimum ,, was $29^{in}\cdot889$ on the 23rd.
The absolute maximum ,, was $30^{in}\cdot325$ on the 25th; the eighth minimum ,, was $30^{in}\cdot099$ on the 26th.
The eighth maximum ,, was $30^{in}\cdot273$ on the 27th; the absolute minimum ,, was $29^{in}\cdot310$ on the 29th.
The ninth maximum ,, was $30^{in}\cdot047$ on the 31st.
The range in the month was $1^{in}\cdot015$.
The mean for the month was $29^{in}\cdot865$, being $0^{in}\cdot052$ *higher* than the average of the preceding 21 years.

TEMPERATURE OF THE AIR.

The highest in the month was $57^{\circ}\cdot1$ on the 7th; the lowest was $33^{\circ}\cdot4$ on the 22nd; and the range in the month was $23^{\circ}\cdot7$.
The mean ,, of all the highest daily readings was $48^{\circ}\cdot0$, being $3^{\circ}\cdot0$ *higher* than the average of the preceding 21 years.
The mean ,, of all the lowest daily readings was $38^{\circ}\cdot6$, being $3^{\circ}\cdot1$ *higher* than the average of the preceding 21 years.
The mean daily range was $9^{\circ}\cdot4$, being $0^{\circ}\cdot1$ *less* than the average of the preceding 21 years.
The mean for the month was $43^{\circ}\cdot6$ being $3^{\circ}\cdot5$ *higher* than the average of the preceding 21 years.

MONTH and DAY, 1862.	ELECTRICITY.		CLOUDS AND WEATHER.	
	A.M.	P.M.	A.M.	P.M.
Dec. 1	s : s N, s P, sps, g cur	s	10, f : 10, shs.-r	10, ci.-s : 0
2	s	s	3, ci.-s, ci	3, ci : 10
3	v	v	0	10, ci.-s, ci : 10, oc.-r
4	w	w	10, r	10
5	w	w	10, ci.-cu, cu.-s, ci.-s	10, ci.-s : oc.-r : 10, ci.-s
6	w	s : 0	10, th.-r	10, r
7	w	w : s	10, ci.-s	10, ci.-cu, ci.-s : r
8	0	0	0	10
9	s	s	10, ci.-cu, ci.-s	10, ci.-s : 10, r : 10, ci.-s
10	0	w : s, sps	10, ci.-s	0
11	s	s	0	10, ci.-s : r
12	s	s : 0	3, h.-f, h	3, ci, h : 0
13	0	0 : s	10, oc.-r	10, r : 0
14	s	s	0, h.-f	0 : a
15	s	s	10, ci.-s	10 : 0
16	s	s	7, ci.-cu, ci.-s	10
17	v	v	10 : 10, r	10, r : 0 : 10
18	s	s N : 0	4, li.-cl : 9, ci.-s, ci : 10, r.	10, r : 10
19	0	0	10, ci.-s, sc	10, cu, ci.-s
20	0	0	4, ci.-cu, ci	10, ci.-s, ci
21	0	0	8, cu, cu.-s, ci.-s	8, ci.-s : 10, r
22	0	s	7, li.-cl, h	10 : 10, r
23	0	m	10, th.-r, f	10, oc.-r, f : 10, ci.-s, f
24	s	s	10	10, ci.-s
25	0	0	0, h	3, cu, ci.-s : 0
26	0	0 : m	10, ci.-cu, ci.-s	10, cu.-s, ci.-s, sc : 10, ci.-s
27	s	s	3, ci.-cu, ci	10, th.-r
28	w	w	9, ci.-cu, ci	9, ci.-cu, ci.-s : 10
29	s N	s	10, r	10, r : 7, ci.-s, lu.-ha
30	v	v	0	10, cu, ci.-cu, ci.-s
31	m	m	0, h	0 : 10, cu.-s, ci.-s

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was 52°·7 on the 6th ; and the lowest was 29°·0 on the 21st.

The mean ,, was 40°·2, being 3°·3 *higher* than the average of the preceding 21 years.

Elastic Force of Vapour.—The mean for the month was $0^{in}\cdot249$, being $0^{in}\cdot028$ *greater* than the average of the preceding 21 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $2^{gr}\cdot8$, being $0^{gr}\cdot2$ *greater* than the average of the preceding 21 years.

Degree of Humidity.—The mean for the month was 88 (that of Saturation being represented by 100), being 1 *less* than the average of the preceding 21 years.

Weight of a Cubic Foot of Air.—The mean for the month was 550 grains, being 2 grains *less* than the average of the preceding 21 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by 0 and a cloudy sky by 10, was 7·5.

WIND.

The proportions were of N. 4, S. 10, W. 15, and E. 2. The greatest pressure in the month was $17^{lbs}\cdot0$ on the square foot on the 20th.

RAIN.

Fell on 17 days in the month, amounting to $1^{in}\cdot6$, as measured in the simple cylinder gauge partly sunk below the ground; being $0^{in}\cdot3$ *less* than the average fall of the preceding 47 years.

MAXIMA AND MINIMA READINGS OF THE BAROMETER.

The following table contains the highest and lowest readings of the Barometer, reduced to 32° Fahrenheit, extracted from the photographic records. The readings are accurate; but the times are liable to great uncertainty, as the surface of the quicksilver frequently remains at its highest or lowest point through several hours. The time given is the middle of the stationary period. Where the symbol : follows the time, it denotes that the quicksilver has been sensibly stationary through a period of more than one hour.

MAXIMA.			MINIMA.			MAXIMA.			MINIMA.		
Approximate Mean Solar Time, 1862.		Reading.	Approximate Mean Solar Time, 1862.		Reading.	Approximate Mean Solar Time, 1862.		Reading.	Approximate Mean Solar Time, 1862.		Reading.
	d h m	in.		d h m	in.		d h m	in.		d h m	in.
January	1. 22. 5	30·305	January	4. 21. 0:	29·595	May	2. 10. 30:	30·120	May	3. 23. 18:	29·577
	6. 8. 51:	30·025		8. 0. 0	29·509		5. 21. 45:	29·930		7. 0. 0	29·594
	8. 10. 37:	29·703		9. 7. 0:	29·503		8. 0. 40:	29·794		9. 9. 0	29·404
	10. 9. 37:	29·678		11. 1. 3	29·162		14. 10. 2:	29·788		15. 7. 43:	29·671
	11. 17. 0	29·630		12. 8. 48:	29·446		17. 14. 35:	30·010		21. 3. 29	29·320
	12. 23. 15:	29·611		13. 20. 16	29·380		25. 14. 30:	29·982		30. 0. 0	29·319
	17. 22. 11:	29·997		21. 20. 10:	29·283	June	3. 21. 23	30·035	June	6. 13. 29:	29·444
	22. 21. 11:	29·524		23. 13. 51:	29·283		8. 15. 18:	29·900		12. 7. 12:	29·078
	26. 11. 0:	30·155		30. 13. 40:	29·482		16. 20. 19:	29·942		17. 17. 7:	29·710
February	3. 23. 32	30·088	February	5. 19. 13	29·808		18. 15. 8:	29·974		21. 14. 12:	29·569
	8. 9. 0	30·495		12. 4. 6:	29·883		25. 10. 7:	30·024		27. 5. 48:	29·590
	14. 23. 19:	30·016		17. 21. 40:	29·201		28. 15. 48:	29·851	July	6. 0. 26:	29·316
	20. 20. 33:	29·816		21. 17. 14:	29·542	July	8. 11. 45:	29·945		10. 1. 53:	29·586
	23. 10. 21:	30·066		24. 13. 38:	29·878		10. 22. 23:	29·771		12. 4. 58:	29·294
	25. 23. 30	30·214	March	2. 21. 44	29·065		13. 9. 0	29·747		15. 23. 37:	29·588
March	4. 19. 23	29·812		6. 19. 38:	29·276		21. 11. 27:	30·098		23. 4. 10:	29·765
	7. 20. 38:	29·542		8. 8. 54	29·288		25. 12. 20:	30·013		26. 11. 30:	29·851
	10. 9. 4:	29·933		11. 21. 0:	29·538		27. 21. 0	29·990	August	2. 5. 47:	29·805
	13. 22. 41:	30·023		20. 9. 0	29·151	August	3. 10. 30:	29·936		5. 11. 51:	29·496
	22. 9. 0	29·904		28. 14. 17:	29·034		6. 0. 45	29·651		7. 0. 30	29·183
April	1. 0. 53:	29·747	April	2. 18. 43	29·410		11. 10. 20:	30·033		14. 4. 41:	29·590
	4. 10. 9:	29·970		5. 18. 7:	29·783		19. 22. 10:	29·867		21. 17. 32:	29·704
	7. 19. 28	30·121		9. 21. 11	29·776		24. 9. 47:	30·160		26. 5. 32:	29·738
	11. 21. 8	30·136		14. 13. 4:	29·810		29. 10. 35:	30·002	September	2. 15. 23:	29·420
	15. 13. 52:	30·073		19. 4. 55:	29·675	September	7. 22. 3:	29·975		9. 18. 17:	29·770
	20. 11. 26:	29·873		22. 12. 20:	29·402		11. 11. 0:	30·031		13. 22. 18:	29·643
	23. 20. 49:	29·900		25. 2. 41	29·695		17. 21. 0:	30·267		24. 14. 58:	29·661
	28. 19. 38	30·148	May	0. 21. 41	29·765		27. 20. 53:	29·791		29. 10. 42:	29·575

MAXIMA AND MINIMA READINGS OF THE BAROMETER—*concluded.*

MAXIMA.		MINIMA.		MAXIMA.		MINIMA.	
Approximate Mean Solar Time, 1862.	Reading.	Approximate Mean Solar Time, 1862.	Reading.	Approximate Mean Solar Time, 1862.	Reading.	Approximate Mean Solar Time, 1862.	Reading.
d h m	in.	d h m	in.	d h m	in.	d h m	in.
October 4. 0. 0	30·307	October 6. 9. 0	29·815	November 17. 9. 25	30·256	November 13. 22. 3:	29·771
8. 9. 0	30·202	12. 5. 45:	29·463	28. 10. 28:	29·663	26. 20. 13:	29·321
14. 1. 34:	29·756	15. 0. 0	29·492	29. 23. 48:	29·679	29. 1. 49	29·480
16. 6. 39:	29·952	17. 0. 0	29·420	December 4. 21. 0:	29·890	December 2. 1. 6	29·406
17. 9. 0	29·545	18. 3. 0	29·298	8. 13. 6:	30·030	6. 5. 57:	29·791
18. 21. 0	29·599	19. 9. 0	28·958	10. 13. 10:	29·840	9. 18. 29:	29·520
21. 9. 46:	29·755	23. 0. 25:	29·083	12. 6. 25:	30·210	11. 6. 30:	29·678
24. 22. 23	29·805	25. 22. 0	29·442	14. 9. 0	30·269	13. 1. 44	29·756
26. 22. 22:	29·816	28. 2. 31	29·650	21. 23. 17:	30·026	20. 0. 9	29·363
29. 10. 29:	29·823	30. 19. 20:	29·560	25. 9. 50:	30·325	22. 18. 26:	29·867
November 2. 21. 10	29·943	November 4. 2. 49:	29·877	26. 21. 50:	30·294	26. 1. 8	30·083
7. 10. 9:	30·226	9. 20. 18:	29·227	31. 7. 50:	30·047	29. 3. 0	29·310
12. 15. 0:	30·006						

MONTHLY MEANS of RESULTS for METEOROLOGICAL ELEMENTS at the ROYAL OBSERVATORY, GREENWICH, in the Year 1862.

1862, MONTH.	Mean Reading of the Barometer.	TEMPERATURE OF THE AIR. Highest.	Lowest.	Range in the Month.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.	Mean Temperature of Dew Point.	Mean Elastic Force of Vapour.	Mean Weight of Vapour in a Cubic Foot of Air.	Mean additional Weight required to saturate a Cubic Foot of Air.
	in.	°	°	°	°	°	°	°	°	in.	gr.	gr.
January ..	29·705	55·0	20·4	34·6	43·9	34·3	9·6	39·0	34·6	0·200	2·3	0·5
February..	29·905	56·3	24·4	31·9	46·5	36·7	9·8	41·1	36·6	0·217	2·5	0·5
March	29·498	63·6	22·5	41·1	50·0	38·4	11·6	43·1	39·5	0·242	2·8	0·4
April.....	29·847	75·0	26·7	48·3	57·5	41·7	15·8	48·4	43·0	0·277	3·1	0·8
May......	29·726	81·5	37·8	43·7	66·4	47·9	18·5	55·4	50·3	0·365	4·0	0·9
June	29·718	73·5	43·4	30·1	67·1	49·3	17·8	56·3	49·3	0·352	4·0	1·1
July......	29·762	79·0	44·6	34·4	70·8	50·8	20·0	59·1	52·4	0·394	4·5	1·2
August ...	29·785	79·9	44·7	35·2	71·0	51·4	19·6	59·5	53·5	0·410	4·6	1·1
September.	29·859	73·8	39·2	34·6	67·6	50·1	17·5	57·7	52·5	0·396	4·4	0·9
October...	29·726	71·7	28·5	43·2	60·5	45·6	14·9	51·8	48·6	0·343	3·8	0·5
November .	29·793	57·0	24·8	32·2	45·8	34·3	11·5	39·8	37·4	0·224	2·5	0·3
December .	29·865	57·1	33·4	23·7	48·0	38·6	9·4	43·6	40·2	0·249	2·8	0·4
Means	29·766	68·6	32·5	36·1	57·9	43·3	14·6	49·6	44·9	0·306	3·4	0·7

1862, MONTH.	Mean Degree of Humidity. (Sat. = 100.)	Mean Weight of a Cubic Foot of Air.	Mean Amount of Cloud. 0–10	RAIN. Number of Rainy Days.	Amount collected on the Ground. Gauge read daily.	Gauge read Monthly.	WIND. From Osler's Anemometer. Number of Days for Mean Direction of the Wind referred to different Points of Azimuth. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Number of Calm Days and Days on which the Pressure of the Wind was less than ½ lb. on the Sq. Foot.	Mean Daily Pressure in lbs. on Square Foot.	From Whewell's Anemometer. Mean Daily Horizontal Movement of Wind in Miles.	From Robinson's Anemometer. Mean Daily Horizontal Movement of Wind in Miles.
		gr.			in.	in.												
January...	85	552	7·8	17	1·8	1·9	1	3	2	5	3	10	5	2	0	0·50	125	256
February..	84	553	8·5	6	0·5	0·5	3	3	4	6	2	3	5	1	1	0·41	107	229
March	86	544	8·9	21	3·5	3·7	2	7	3	2	1	12	2	1	1	0·41	99	237
April.....	81	545	7·3	13	2·8	2·8	1	7	0	3	0	12	5	2	0	0·32	121	270
May.......	84	534	8·3	16	2·8	2·8	0	4	3	3	1	9	7	3	1	0·09	97	218
June......	77	533	7·8	17	1·9	1·8	3	1	0	1	1	10	9	4	1	0·21	123	268
July......	78	531	7·2	12	1·7	1·6	2	0	0	1	1	13	12	2	0	0·37	118	261
August ...	81	530	6·9	11	3·0	3·0	3	5	1	2	0	10	6	2	2	0·29	69	193
September.	83	534	7·7	12	1·6	1·6	1	8	3	2	2	10	2	1	1	0·20	54	173
October...	89	538	7·1	17	4·1	4·0	2	3	2	2	1	12	7	1	1	1·28	127	288
November .	92	553	7·3	10	1·0	1·1	7	5	2	1	3	5	3	0	4	0·33	69	172
December .	88	550	7·5	17	1·6	1·7	2	0	0	4	2	12	8	3	0	0·94	141	324
Means	84	541	7·7	Sum 169	Sum 26·3	Sum 26·5	Sum 27	Sum 46	Sum 20	Sum 32	Sum 17	Sum 118	Sum 71	Sum 22	Sum 12	..	..	..

READINGS OF THERMOMETERS SUNK IN THE GROUND.

(I.)—Reading of a Thermometer whose bulb is sunk to the depth of 25·6 feet (24 French feet) below the surface of the soil, at Noon on every Day, except Sundays, Good Friday, and Christmas Day.

Day of the Month, 1862.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	51·38	50·80	50·02	49·25	48·75	S	48·92	49·57	50·25	50·96	51·57	51·79
2	51·40	S	S	49·25	48·72	48·58	48·94	49·57	50·29	50·97	S	51·78
3	51·36	50·75	49·95	49·21	48·68	48·60	48·94	S	50·30	51·05	51·60	51·80
4	51·35	50·72	49·93	49·21	S	48·61	48·97	49·62	50·34	51·04	51·62	51·79
5	S	50·71	49·95	49·18	48·70	48·60	49·00	49·65	50·36	S	51·60	51·81
6	51·30	50·65	49·93	S	48·71	48·61	S	49·65	50·39	51·11	51·60	51·82
7	51·31	50·60	49·90	49·18	48·66	48·62	49·03	49·68	S	51·10	51·60	S
8	51·30	50·57	49·90	49·08	48·65	S	49·06	49·68	50·44	51·14	51·65	51·76
9	51·32	S	S	49·09	48·65	48·64	49·07	49·70	50·49	51·17	S	51·76
10	51·23	50·52	49·80	49·04	48·64	48·65	49·09	S	50·47	51·19	51·65	51·78
11	51·25	50·50	49·80	49·00	S	48·66	49·10	49·76	50·50	51·20	51·65	51·75
12	S	50·48	49·78	48·96	48·61	48·65	49·12	49·79	50·54	S	51·68	51·72
13	51·18	50·46	49·75	S	48·60	48·67	S	49·81	50·57	51·23	51·66	51·72
14	51·18	50·44	49·70	48·92	48·60	48·66	49·18	49·82	S	51·27	51·68	S
15	51·16	50·40	49·70	48·90	48·58	S	49·19	49·84	50·63	51·30	51·71	51·70
16	51·10	S	S	48·90	48·58	48·70	49·20	49·86	50·64	51·29	S	51·70
17	51·09	50·35	49·63	48·88	48·60	48·73	49·22	S	50·65	51·30	51·74	51·71
18	51·05	50·32	49·62	Good Friday.	S	48·73	49·25	49·90	50·69	51·30	51·74	51·78
19	S	50·31	49·60	48·86	48·59	48·74	49·27	49·95	50·72	S	51·74	51·66
20	51·00	50·30	49·55	S	48·57	48·75	S	49·97	50·74	51·34	51·75	51·64
21	51·00	50·27	49·51	48·83	48·55	48·76	49·31	50·00	S	51·37	51·75	S
22	51·00	50·25	49·52	48·82	48·55	S	49·35	50·00	50·77	51·40	51·75	51·60
23	51·00	S	S	48·80	48·55	48·79	49·34	50·04	50·79	51·41	S	51·60
24	51·00	50·18	49·46	48·79	48·57	48·81	49·37	S	50·82	51·41	51·75	51·60
25	50·95	50·12	49·46	48·76	S	48·80	49·40	50·10	50·84	51·43	51·76	Christmas Day.
26	S	50·10	49·42	48·80	48·57	48·85	49·44	50·13	50·88	S	51·76	51·52
27	50·90	50·08	49·40	S	48·56	48·85	S	50·15	50·90	51·47	51·78	51·54
28	50·86	50·05	49·37	48·78	48·57	48·90	49·47	50·16	S	51·49	51·80	S
29	50·86		49·35	48·75	48·57	S	49·50	50·19	50·95	51·48	51·78	51·51
30	50·86		S	48·74	48·56	48·89	49·51	50·21	50·97	51·47	S	51·47
31	50·82		49·30		48·57		49·54	S		51·54		51·45
Means.	51·12	50·41	49·67	48·96	48·61	48·71	49·21	49·88	50·61	51·28	51·70	51·68

(II.)—Reading of a Thermometer whose bulb is sunk to the depth of 12·8 feet (12 French feet) below the surface of the soil, at the same times.

Day of the Month, 1862.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	49·73	47·60	46·62	46·20	47·01	S	51·42	53·00	54·60	55·15	54·65	52·02
2	49·70	S	S	46·23	47·03	49·25	51·36	53·05	54·63	55·12	S	51·91
3	49·70	47·48	46·60	46·22	47·05	49·32	51·40	S	54·65	55·23	54·54	51·80
4	49·53	47·40	46·58	46·22	S	49·39	51·48	53·15	54·71	55·17	54·47	51·68
5	S	47·30	46·60	46·22	47·19	49·44	51·52	53·27	54·75	S	54·35	51·60
6	49·35	47·27	46·58	S	47·28	49·50	S	53·30	54·80	55·22	54·25	51·50
7	49·35	47·21	46·58	46·32	47·34	49·60	51·60	53·38	S	55·14	54·19	S
8	49·21	47·12	46·60	46·30	47·35	S	51·68	53·40	54·89	55·17	54·15	51·22
9	49·18	S	S	46·30	47·45	49·75	51·70	53·50	54·95	55·19	S	51·13
10	49·10	47·12	46·45	46·40	47·55	49·83	51·74	S	54·88	55·20	54·10	51·06
11	49·04	47·10	46·47	46·40	S	49·90	51·76	53·65	54·73	55·17	53·87	50·95
12	S	47·10	46·46	46·50	47·68	49·95	51·84	53·75	55·00	S	53·85	50·82

(II.)—Reading of a Thermometer whose bulb is sunk to the depth of 12 French feet—*concluded.*

Day of the Month, 1862.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
13	48·82	47·10	46·38	*S*	47·75	50·07	*S*	53·82	55·04	55·13	53·73	50·80
14	48·78	47·08	46·32	46·51	47·85	50·14	51·96	53·88	*S*	55·15	53·69	*S*
15	48·68	47·06	46·32	46·56	47·90	*S*	52·00	53·93	55·10	55·18	53·64	50·64
16	48·56	*S*	*S*	46·61	48·00	50·34	52·04	54·03	55·07	55·13	*S*	50·57
17	48·50	47·02	46·30	46·70	48·15	50·64	52·09	*S*	55·07	55·09	53·51	50·56
18	48·40	46·93	46·30	Good Friday.	*S*	50·50	52·15	54·05	55·11	55·04	53·38	50·45
19	*S*	46·92	46·28	46·72	48·43	50·57	52·18	54·22	55·15	*S*	53·32	50·40
20	48·26	46·98	46·28	*S*	48·38	50·65	*S*	54·20	55·15	55·05	53·22	50·30
21	48·23	46·90	46·20	46·78	48·43	50·73	52·30	54·25	*S*	55·06	53·10	*S*
22	48·22	46·82	46·21	46·80	48·50	*S*	52·40	54·25	55·12	55·08	53·01	50·16
23	48·20	*S*	*S*	46·78	48·58	50·87	52·40	54·33	55·15	55·04	*S*	50·12
24	48·18	46·70	46·20	46·80	48·65	50·97	52·45	*S*	55·16	54·99	52·80	50·07
25	48·11	46·70	46·21	46·82	*S*	51·00	52·58	54·39	55·17	54·95	52·67	Christmas Day.
26	*S*	46·71	46·21	46·83	48·80	51·10	52·65	54·45	55·19	*S*	52·57	50·00
27	47·96	46·68	46·21	*S*	48·84	51·13	*S*	54·48	55·19	54·90	52·47	49·87
28	47·90	46·67	46·21	46·90	48·90	51·15	52·74	54·48	*S*	54·85	52·40	*S*
29	47·83		46·21	46·92	49·00	*S*	52·81	54·52	55·22	54·78	52·24	49·75
30	47·74		*S*	46·95	49·04	51·25	52·86	54·56	55·20	54·68	*S*	49·67
31	47·70		46·21		49·09		52·93	*S*		54·70		49·59
Means.	48·67	47·04	46·37	46·56	48·05	50·28	52·08	53·90	54·98	55·06	53·53	50·72

(III.)—Reading of a Thermometer whose bulb is sunk to the depth of 6·4 feet (6 French feet) below the surface of the soil, at the same times.

Day of the Month, 1862.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	46·60	44·25	45·30	46·27	49·09	*S*	55·37	58·23	59·12	58·02	54·44	48·54
2	46·63	*S*	*S*	46·40	49·28	53·28	55·31	58·34	59·16	58·00	*S*	48·48
3	46·42	44·50	45·12	46·50	49·47	53·30	55·42	*S*	59·18	58·11	54·12	48·39
4	46·30	44·68	45·00	46·61	*S*	53·58	55·51	58·60	59·20	57·98	54·04	48·30
5	*S*	45·06	44·88	46·85	50·00	53·74	55·57	58·78	59·22	*S*	53·90	48·26
6	46·08	45·25	44·70	*S*	50·16	53·95	*S*	58·85	59·18	57·97	53·80	48·22
7	45·98	45·50	44·63	47·08	50·40	54·13	55·62	58·92	*S*	57·84	53·70	*S*
8	45·88	45·65	44·55	47·12	50·48	*S*	55·74	59·02	59·09	57·84	53·60	48·30
9	45·63	*S*	*S*	47·30	50·73	54·40	55·80	59·02	59·04	57·80	*S*	48·40
10	45·60	45·80	44·52	47·60	51·00	54·60	55·91	*S*	58·87	57·78	53·28	48·52
11	45·63	45·60	44·60	47·60	*S*	54·76	56·00	59·02	58·89	57·67	53·05	48·55
12	*S*	45·50	44·89	47·55	51·33	54·82	56·13	59·04	58·92	*S*	52·92	48·55
13	45·80	45·20	45·01	*S*	51·44	55·00	*S*	59·00	58·89	57·52	52·67	48·55
14	45·80	45·08	45·10	47·57	51·52	55·07	56·29	59·03	*S*	57·52	52·40	*S*
15	45·93	45·00	45·21	47·46	51·60	*S*	56·31	58·90	58·79	57·50	52·09	48·39
16	46·02	*S*	*S*	47·32	51·65	55·20	56·39	58·96	58·70	57·38	*S*	48·29
17	45·90	44·81	45·45	47·17	51·72	55·23	56·51	*S*	58·66	57·33	51·43	48·17
18	45·80	44·60	45·58	Good Friday.	*S*	55·21	56·63	58·83	58·67	57·24	51·16	48·00
19	*S*	44·56	45·60	47·10	51·85	55·21	56·70	58·90	58·69	*S*	50·90	47·90
20	45·52	44·68	45·60	*S*	51·80	55·24	*S*	58·82	58·63	56·94	50·70	47·80
21	45·34	44·78	45·62	47·21	51·82	55·24	56·92	58·79	*S*	56·69	50·50	*S*
22	45·13	44·87	45·50	47·30	51·98	*S*	57·02	58·68	58·50	56·47	50·29	47·75
23	45·02	*S*	*S*	47·45	52·08	55·20	57·06	58·76	58·50	56·19	*S*	47·70
24	44·80	45·02	45·10	47·60	52·20	55·20	57·18	*S*	58·47	55·92	49·90	47·60
25	44·70	45·12	45·17	47·77	*S*	55·13	57·33	58·82	58·39	55·70	49·70	Christmas Day
26	*S*	45·26	45·22	47·96	52·38	55·21	57·42	58·88	58·32	*S*	49·50	47·40

(III.)—Reading of a Thermometer whose bulb is sunk to the depth of 6 French feet—*concluded.*

Day of the Month, 1862.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
27	44·18	45·30	45·38	*S*	52·44	55·20	*S*	58·90	58·25	55·27	49·25	47·35
28	44·27	45·28	45·56	48·32	52·55	55·20	57·53	58·89	*S*	55·04	49·00	*S*
29	44·40		45·82	48·56	52·70	*S*	57·72	58·95	58·14	54·86	48·80	47·29
30	44·35		*S*	48·81	52·80	55·32	57·85	59·00	58·10	54·70	*S*	47·26
31	44·20		46·12		52·94		58·03	*S*		54·60		47·29
Means .	45·48	45·06	45·20	47·38	51·39	54·74	56·49	58·84	58·75	56·88	51·81	48·05

(IV.)—Reading of a Thermometer whose bulb is sunk to the depth of 3·2 feet (3 French feet) below the surface of the soil, at the same times.

Day of the Month, 1862.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	41·40	42·21	42·12	46·10	51·40	*S*	57·50	62·22	61·53	59·02	51·32	43·80
2	41·42	*S*	*S*	46·25	51·98	55·43	57·50	62·40	61·39	58·58	*S*	43·89
3	41·40	43·50	41·65	46·60	52·32	56·88	57·60	*S*	61·25	58·53	51·70	43·85
4	41·46	44·10	41·17	47·10	*S*	57·30	57·55	62·78	61·05	58·59	51·79	44·00
5	*S*	44·48	40·63	47·21	52·23	57·36	57·45	62·77	60·68	*S*	51·60	44·37
6	41·18	44·70	40·18	*S*	52·85	57·50	*S*	62·82	60·40	58·43	51·50	44·93
7	40·97	44·68	40·60	47·50	53·68	57·60	58·10	62·75	*S*	58·26	51·10	*S*
8	40·90	44·10	41·67	47·60	54·10	*S*	58·45	62·30	60·18	58·13	50·68	46·15
9	41·10	*S*	*S*	47·60	54·00	58·22	58·61	61·88	60·20	57·89	*S*	46·40
10	41·68	42·40	43·10	47·09	53·90	58·24	58·80	*S*	60·26	57·83	49·80	46·10
11	42·30	41·81	43·60	47·11	*S*	58·27	58·78	61·28	60·37	57·68	49·45	46·15
12	*S*	41·24	43·60	47·02	53·70	58·25	58·60	61·24	59·90	*S*	48·65	45·87
13	43·07	41·22	44·08	*S*	53·50	58·20	*S*	61·23	59·56	57·68	47·61	45·40
14	43·02	41·21	44·12	45·89	53·30	57·88	58·80	61·30	*S*	57·49	46·80	*S*
15	42·96	41·21	44·20	45·49	53·00	*S*	59·20	61·33	59·94	57·54	46·11	44·59
16	42·70	*S*	*S*	45·28	52·70	57·53	59·46	61·28	59·87	57·63	*S*	44·18
17	42·28	41·28	44·21	45·10	52·70	57·48	59·53	*S*	59·95	57·24	45·90	44·00
18	41·60	41·16	44·20	Good Friday.	*S*	57·40	59·50	60·60	59·83	56·63	45·89	44·28
19	*S*	41·54	44·08	45·90	53·38	57·35	59·60	60·48	59·65	*S*	45·65	44·30
20	40·22	42·21	44·02	*S*	53·82	57·18	*S*	60·36	59·59	54·39	45·57	44·54
21	39·80	42·92	43·73	47·06	54·20	56·97	59·88	60·60	*S*	54·01	45·14	*S*
22	39·50	43·10	42·92	47·46	54·20	*S*	60·19	60·82	59·51	53·52	45·09	44·15
23	39·48	*S*	*S*	47·88	53·92	56·68	60·19	61·14	59·31	53·49	*S*	43·82
24	39·35	43·81	42·33	48·11	54·08	56·85	60·14	*S*	58·91	53·26	44·25	43·70
25	39·88	43·80	43·20	48·60	*S*	56·98	60·10	60·93	58·63	52·60	43·70	Christmas Day
26	*S*	43·41	44·18	49·18	54·55	57·16	60·40	60·96	58·65	*S*	43·35	43·60
27	40·25	42·96	44·90	*S*	54·72	57·27	*S*	61·12	58·62	52·30	43·32	44·00
28	40·18	42·40	45·40	50·40	55·01	57·50	61·42	61·40	*S*	52·24	43·45	*S*
29	40·21		45·85	50·73	55·31	*S*	61·78	61·59	58·89	52·20	43·57	44·39
30	40·70		*S*	51·05	55·60	57·18	61·87	61·56	59·09	51·95	*S*	44·60
31	41·50		45·90		55·92		62·04	*S*		51·45		44·65
Means .	41·13	42·73	43·29	47·41	53·71	57·39	59·37	61·51	59·89	55·87	47·32	44·60

At temperatures below 39°·70 the fluid of this thermometer descends below the scale; the readings on those days, which are slightly below this value, are estimated readings only, and therefore liable to some uncertainty.

(V.)—Reading of a Thermometer whose bulb is sunk to the depth of 1 inch below the surface of the soil, within the case which covers the tops of the deep-sunk Thermometers, at the same times.

Day of the Month, 1862.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	36·5	49·5	40·8	49·0	59·8	S	60·4	67·0	61·6	56·2	51·5	42·8
2	40·0	S	S	51·7	57·6	62·0	61·0	66·5	62·3	59·6	S	41·7
3	38·3	49·0	36·3	52·5	52·0	63·0	59·7	S	60·8	62·6	51·8	44·4
4	38·8	49·6	35·0	49·8	S	61·3	58·9	65·1	60·4	58·1	50·5	44·9
5	S	49·0	37·3	51·0	60·8	61·0	60·9	67·0	59·8	S	50·4	47·3
6	36·3	46·5	47·5	S	64·2	61·8	S	64·5	60·4	59·8	46·0	51·0
7	39·8	41·5	49·0	51·2	62·6	63·1	62·5	64·0	S	56·8	45·9	S
8	43·8	34·7	49·8	47·5	57·5	S	62·8	61·5	61·9	57·9	44·0	45·5
9	45·5	S	S	47·5	55·8	60·8	62·2	61·6	64·2	58·1	S	44·5
10	47·5	38·3	47·0	47·8	56·0	60·7	61·9	S	60·0	58·2	46·3	49·0
11	47·0	36·3	47·5	47·5	S	61·9	58·4	62·2	56·9	58·9	39·5	44·0
12	S	40·8	47·5	43·5	54·8	59·0	61·0	63·6	58·8	S	39·0	40·7
13	42·5	40·0	46·0	S	53·8	59·3	S	64·1	61·9	56·0	37·0	43·5
14	42·7	39·0	45·0	42·5	53·8	58·6	64·9	64·5	S	59·4	37·7	S
15	41·5	40·6	43·6	42·5	51·5	S	63·0	63·2	62·6	62·1	40·9	41·1
16	38·3	S	S	44·3	55·0	58·7	61·7	63·2	61·4	55·8	S	41·6
17	35·0	39·8	45·5	47·2	57·2	59·9	61·4	S	60·2	55·0	42·5	47·0
18	33·6	45·0	44·3	Good Friday.	S	58·2	63·0	59·6	59·3	51·6	41·0	42·9
19	S	46·8	43·2	51·8	60·8	57·5	62·6	62·1	61·7	S	42·0	45·5
20	33·0	48·1	41·8	S	61·2	58·3	S	62·6	61·5	50·5	40·0	42·3
21	34·6	46·3	40·2	53·5	56·0	57·4	63·4	64·9	S	47·0	40·4	S
22	39·0	47·5	40·6	54·0	54·1	S	63·3	62·1	58·8	53·4	40·0	40·3
23	38·8	S	S	52·2	56·5	58·3	61·7	62·9	57·0	51·3	S	41·5
24	44·0	43·5	48·0	53·0	59·2	60·4	61·8	S	58·5	47·3	37·0	42·5
25	43·5	42·1	61·5	58·0	S	59·5	64·5	62·6	60·1	47·0	37·5	Christmas Day
26	S	39·3	50·7	57·5	58·7	61·6	66·8	64·2	60·8	S	40·5	43·0
27	40·0	38·3	50·2	S	58·7	59·8	S	65·0	61·0	50·5	41·5	43·5
28	39·8	39·2	49·3	57·0	59·8	58·0	64·5	62·0	S	51·5	43·0	S
29	45·0		47·5	56·5	62·0	S	66·3	63·6	62·1	48·0	42·5	47·0
30	46·3		S	56·7	61·0	59·2	64·9	62·1	61·3	43·8	S	44·1
31	48·3		49·8		59·2		65·7	S		49·8		42·5
Means.	40·7	42·9	45·6	50·6	57·8	60·0	62·6	63·5	60·6	54·3	42·7	44·0

(VI.)—Reading of a Thermometer within the case covering the deep-sunk Thermometers, whose bulb is placed on a level with their scales, at the same times.

Day of the Month, 1862.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	33·7	51·8	41·5	51·5	72·7	S	63·8	75·8	65·9	58·8	53·7	43·9
2	40·2	S	S	54·3	61·0	70·7	63·0	72·2	65·8	63·5	S	44·6
3	36·2	52·5	36·0	55·0	50·2	65·7	60·0	S	63·0	68·4	54·2	47·2
4	38·7	53·5	36·3	50·2	S	69·4	66·1	71·6	65·9	58·2	53·8	45·8
5	S	52·5	43·8	56·2	72·2	63·1	65·9	71·8	66·4	S	48·4	52·4
6	34·2	47·5	53·6	S	76·5	65·7	S	69·3	65·3	66·6	42·8	54·5
7	42·3	36·8	56·0	53·7	66·9	69·4	65·3	66·8	S	55·9	41·7	S
8	49·6	33·5	59·3	46·8	59·3	S	70·6	63·0	69·0	61·0	45·8	42·5
9	50·6	S	S	46·5	58·6	65·1	64·6	63·2	72·0	62·5	S	45·2
10	49·6	40·2	48·5	48·2	59·2	66·0	64·6	S	56·6	67·0	43·7	51·0
11	49·8	36·0	49·8	43·8	S	67·7	60·4	63·3	61·0	61·6	31·8	46·5
12	S	43·1	50·2	44·8	56·1	56·7	66·3	70·5	67·8	S	41·0	39·5
13	39·0	38·3	48·5	S	55·4	62·5	S	69·0	67·9	56·5	33·0	44·5
14	42·8	38·8	43·8	45·0	54·5	58·4	73·0	64·9	S	62·2	37·2	S
15	39·0	41·8	41·7	44·0	50·0	S	67·5	67·5	71·9	67·8	41·1	41·1

(VI.)—Reading of a Thermometer within the case covering the deep-sunk Thermometers—*concluded.*

Day of the Month, 1862.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
16	37·0	*S*	*S*	51·0	60·6	62·7	65·4	63·5	65·4	59·1	*S*	42·4
17	30·2	41·2	46·0	55·0	66·4	65·8	66·8	*S*	63·8	55·4	45·0	50·9
18	31·9	50·8	46·2	Good Friday.	*S*	60·4	69·8	59·4	64·1	50·3	43·7	43·5
19	*S*	53·0	44·2	56·0	72·7	59·4	64·4	71·5	69·8	*S*	39·9	46·8
20	28·7	55·0	40·2	*S*	69·0	60·3	*S*	69·0	69·0	51·9	40·4	40·7
21	32·8	53·2	38·3	60·5	58·5	59·5	67·9	71·1	*S*	52·6	38·9	*S*
22	46·0	51·2	43·2	58·3	58·5	*S*	71·0	61·9	60·2	57·3	39·9	38·3
23	41·5	*S*	*S*	54·6	59·7	61·4	62·0	70·6	62·4	55·2	*S*	41·5
24	51·2	39·2	57·2	60·0	66·8	66·3	63·7	*S*	64·0	51·9	38·3	44·2
25	44·3	40·6	60·2	68·5	*S*	61·8	72·9	71·2	61·8	50·5	39·0	Christmas Day
26	*S*	35·0	54·2	63·8	68·0	69·9	76·0	73·9	65·5	*S*	40·5	47·5
27	44·6	36·0	58·1	*S*	61·4	61·8	*S*	73·7	65·7	54·0	43·5	45·0
28	43·5	37·5	49·2	68·0	63·3	61·0	69·8	68·5	*S*	49·7	49·5	*S*
29	50·3		46·6	66·5	69·8	*S*	75·0	70·0	65·9	47·2	41·8	47·8
30	50·2		*S*	65·8	62·6	61·5	70·4	66·9	64·6	43·0	*S*	42·8
31	53·8		55·3		60·2		71·1	*S*		51·7		41·2
Means .	41·9	44·1	48·0	54·7	62·6	63·7	67·3	68·5	65·4	57·0	42·7	45·1

WEEKLY MEANS of READINGS of THERMOMETERS.						
	Thermometers sunk in the ground.					Thermometer inclosed in the box which covers the scales of the deep-sunk Thermometers, and placed on a level with their scales.
1862. Period.	Bulb 24 French Feet deep.	Bulb 12 French Feet deep.	Bulb 6 French Feet deep.	Bulb 3 French Feet deep.	Bulb 1 Inch deep.	
d d	°	°	°	°	°	°
January 1 to January 7	51·35	49·56	46·34	41·31	38·3	37·6
8 to 14	51·24	49·02	45·72	42·01	44·8	46·9
15 to 21	51·07	48·44	45·75	41·59	36·0	33·3
22 to 28	50·95	48·09	44·68	39·77	40·8	45·2
29 to February 4	50·80	47·63	44·40	42·04	48·0	52·0
February 5 to 11	50·59	47·19	45·48	43·70	41·1	41·1
12 to 18	50·41	47·05	45·03	41·22	40·9	42·3
19 to 25	50·24	46·84	44·84	42·90	45·7	48·7
26 to March 4	50·02	46·64	45·21	42·28	38·2	37·1
March 5 to 11	49·88	46·55	44·65	41·63	46·4	51·8
12 to 18	49·70	46·35	45·21	44·07	45·3	46·1
19 to 25	49·52	46·23	45·43	43·38	45·9	47·2
26 to April 1	49·35	46·21	45·73	45·39	49·4	52·5
April 2 to 8	49·18	46·25	46·76	47·04	50·6	52·7
9 to 15	48·99	46·44	47·51	46·70	45·2	45·4
16 to 22	48·86	46·72	47·22	46·16	50·2	56·2
23 to 29	48·78	46·84	47·94	49·15	55·7	63·6
30 to May 6	48·72	47·08	49·47	51·97	58·5	66·4
May 7 to 13	48·64	47·52	50·90	53·81	56·8	59·3
14 to 20	48·59	48·12	51·69	53·15	56·6	62·2
21 to 27	48·56	48·63	52·15	54·28	57·2	62·2
28 to June 3	48·58	49·10	52·93	55·69	61·2	65·4
June 4 to 10	48·62	49·59	54·07	57·70	61·5	66·5
11 to 17	48·68	50·17	55·01	57·94	59·6	62·3
18 to 24	48·76	50·72	55·22	57·07	58·4	61·2
25 to July 1	48·87	51·18	55·24	57·27	59·8	63·3
July 2 to 8	48·99	51·51	55·53	57·78	61·0	65·2
9 to 15	49·12	51·83	56·07	58·80	61·9	66·1
16 to 22	49·27	52·19	56·70	59·69	62·6	67·6
23 to 29	49·42	52·61	57·37	60·67	64·3	69·9
30 to August 5	49·58	53·04	58·31	62·35	66·0	72·2
August 6 to 12	49·71	53·50	58·98	62·05	62·9	66·0
13 to 19	49·86	53·99	58·94	61·04	62·8	66·0
20 to 26	50·04	54·31	58·79	60·80	63·2	69·6
27 to September 2	50·21	54·55	59·00	61·43	62·8	68·5
September 3 to 9	50·39	54·78	59·15	60·63	61·3	66·9
10 to 16	50·56	54·97	58·84	59·98	60·3	65·1
17 to 23	50·73	55·13	58·61	59·64	59·8	64·9
24 to 30	50·89	55·19	58·28	58·80	60·6	64·6
October 1 to October 7	51·04	55·17	57·99	58·57	58·9	61·9
8 to 14	51·20	55·17	57·69	57·78	58·1	61·8
15 to 21	51·32	55·09	57·18	56·24	53·7	56·2
22 to 28	51·44	54·97	55·77	52·90	50·2	53·1
29 to November 4	51·55	54·64	54·46	51·74	49·2	50·6
November 5 to 11	51·63	54·15	53·56	50·69	45·4	42·4
12 to 18	51·70	53·63	52·11	46·83	39·7	40·2
19 to 25	51·75	53·02	50·33	44·90	39·5	39·4
26 to December 2	51·78	52·27	48·93	43·56	42·0	44·0
December 3 to 9	51·79	51·49	48·31	44·95	46·3	47·9
10 to 16	51·73	50·81	48·47	45·38	43·3	44·2
17 to 23	51·66	50·33	47·89	44·18	43·3	43·6
24 to 31	51·52	49·83	47·37	44·16	43·8	44·7

ABSTRACT OF THE CHANGES OF THE DIRECTION OF THE WIND, AS DERIVED FROM OSLER'S ANEMOMETER.

By *direct* motion, in the following statements, is meant that the change of the direction of the wind was in the order N., E., S., W., N., &c., by *retrograde* is meant in the order N., W., S., E., N., &c.

1861. Dec. $31^{d}.\ 12^{h}$. The direction of the wind was N.N.E.
1862. Jan. 31. 12. ,, ,, W., which implies a retrograde motion of $112\frac{1}{2}°$.
On Jan. 14. 22 the trace was shifted to the next set of lines upwards; on Jan. $15^{d}.\ 22^{h}$, the trace was shifted to the next set of lines downwards, implying retrograde motion of 360°, and direct motion of 360°.
Therefore the whole excess of retrograde motion in the month of January was $112\frac{1}{2}°$.

1862. Jan. $31^{d}.\ 12^{h}$. The direction of the wind was W.
Feb. 28. 12. ,, ,, E., which implies a direct motion of 180°.
On Feb. 8. 22, the trace was shifted to the next set of lines upwards; on Feb. $17^{d}.\ 22^{h}$, the trace was shifted to the next set of lines downwards, implying retrograde motion of 360°, and direct motion of 360°.
Therefore the whole excess of direct motion in the month of February was 180°.

1862. Feb. $28^{d}.\ 12^{h}$. The direction of the wind was E.
March 31. 12. ,, ,, W., which implies a retrograde motion of 180°.
On March 4. 22, $27^{d}.\ 22^{h}$, the trace was shifted to the next set of lines upwards; on March $16^{d}.\ 22^{h}$, $30^{d}.\ 22^{h}$, the trace was shifted to the next set of lines downwards, implying retrograde motion of 720°, and direct motion of 720°.
Therefore the whole excess of retrograde motion in the month of March was 180°.

1862. March $31^{d}.\ 12^{h}$. The direction of the wind was W.
April 30. 12. ,, ,, S.E., which implies a retrograde motion of 135°.
On April 4. 22, $15^{d}.\ 22^{h}$, $24^{d}.\ 22^{h}$, $25^{d}.\ 22^{h}$, $29^{d}.\ 22^{h}$, the trace was shifted to the next set of lines downwards; on April $14^{d}.\ 22^{h}$, the trace was shifted to the next set of lines upwards, implying direct motion of 1800°, and retrograde motion of 360°.
Therefore the whole excess of direct motion in the month of April was 1305°.

1862. April $30^{d}.\ 12^{h}$. The direction of the wind was S.E.
May 31. 12. ,, ,, E., which implies a retrograde motion of 45°.
On May 4. 1, $18^{d}.\ 22^{h}$, $23^{d}.\ 1^{h}$, the trace was shifted to the next set of lines downwards; on May $6^{d}.\ 22^{h}$, $8^{d}.\ 22^{h}$, the trace was shifted to the next set of lines upwards, implying direct motion of 1080°, and retrograde motion of 720°.
Therefore the whole excess of direct motion in the month of May was 315°.

1862. May $31^{d}.\ 12^{h}$. The direction of the wind was E.
June 30. 12. ,, ,, W.S.W., which implies a direct motion of $157\frac{1}{2}°$.
On June 23. 22, the trace was shifted to the next set of lines downwards; on June $25^{d}.\ 22^{h}$, to the second set of lines downwards; on June $0^{d}.\ 22^{h}$, $26^{d}.\ 22^{h}$, the trace was shifted to the next set of lines upwards, implying direct motion of 1080°, and retrograde motion of 720°.
Therefore the whole excess of direct motion in the month of June was $517\frac{1}{2}°$.

1862. June $30^{d}.\ 12^{h}$. The direction of the wind was W.S.W.
July 31. 12. ,, ,, S.W., which implies a retrograde motion of $22\frac{1}{2}°$.
On July 5. 22, $28^{d}.\ 22^{h}$, the trace was shifted to the next set of lines downwards; on July $23^{d}.\ 22^{h}$, the trace was shifted to the next set of lines upwards, implying direct motion of 720°, and retrograde motion of 360°.
Therefore the whole excess of direct motion in the month of July was $337\frac{1}{2}°$.

1862. July $31^{d}. 12^{h}$. The direction of the wind was S.W.
Aug. 31. 12. ,, ,, N.E., which implies a direct motion of 180°.
On Aug. 18. 22, $20^{d}. 22^{h}$, the trace was shifted to the next set of lines downwards; on Aug. $26^{d}. 22^{h}$, $30^{d}. 22^{h}$, the trace was shifted to the next set of lines upwards, implying direct motion of 720°, and retrograde motion of 720°.
Therefore the whole excess of direct motion in the month of August was 180°.

1862. Aug. $31^{d}. 12^{h}$. The direction of the wind was N.E.
Sept. 30. 12. ,, ,, S.W., which implies a retrograde motion of 180°.
On Sept. 5. 22, $7^{d}. 22^{h}$, $24^{d}. 22^{h}$, $28^{d}. 22^{h}$, the trace was shifted to the next set of lines downwards; on Sept. $14^{d}. 22^{h}$, $20^{d}. 2^{h}$, $26^{d}. 22^{h}$, the trace was shifted to the next set of lines upwards, implying direct motion of 1440°, and retrograde motion of 1080°.
Therefore the whole excess of direct motion in the month of September was 180°.

1862. Sept. $30^{d}. 12^{h}$. The direction of the wind was S.W.
Oct. 31. 12. ,, ,, S.E., which implies a direct motion of 270°.
On Oct. 6. 2, $6^{d}. 3^{h}$, $9^{d}. 2^{h}. 30^{m}$, $9^{d}. 22^{h}$, the trace was shifted to the next set of lines downwards; on Oct. $21^{d}. 2^{h}. 30^{m}$, the trace was shifted to the next set of lines upwards, implying direct motion of 1440°, and retrograde motion of 360°.
Therefore the whole excess of direct motion in the month of October was 1350°.

1862. Oct. $31^{d}. 12^{h}$. The direction of the wind was S.E.
Nov. 30. 12. ,, ,, E.S.E., which implies a retrograde motion of $22\frac{1}{2}$°.
On Nov. 4. 2, $5^{d}. 22^{h}$, $12^{d}. 22^{h}$, the trace was shifted to the next set of lines downwards; on Nov. $4^{d}. 22^{h}$, the trace was shifted to the next set of lines upwards, implying direct motion of 1080°, and retrograde motion of 360°.
Therefore the whole excess of direct motion in the month of November was $697\frac{1}{2}$°.

1862. Nov. $30^{d}. 12^{h}$. The direction of the wind was E.S.E.
Dec. 31. 12. ,, ,, S.W., which implies a retrograde motion of $247\frac{1}{2}$°.
On Dec. 1. 22, the trace was shifted to the next set of lines downwards, implying direct motion motion of 360°.
Therefore the whole excess of direct motion in the month of December was $112\frac{1}{2}$°.

The whole excess of direct motion to the end of the year was $4882\frac{1}{2}$°.

The revolution-counter which is attached to the vertical spindle of the vane, whose readings increase with change of direction of the wind in the order N., E., S., W., &c., or in direct motion, and decrease with change of direction in the order N., W., S., E., &c. or in retrograde motion, gave the following readings:—

	revs.
On 1862, January 1	54·0
,, December 31	67·7

Implying an excess of direct motion, during the year, of 13·7 revolutions, or 4932°.

AMOUNT OF RAIN COLLECTED IN EACH MONTH OF THE YEAR 1862.

1862, MONTH.	Monthly Amount of Rain collected in each Gauge.						
	Osler's Anemometer Gauge.	On the Roof of the Octagon Room.	On the Roof of the Library.	On the Roof of the Photographic Thermometer Shed.	Crosley's.	Cylinder partly sunk in the Ground read Daily.	Cylinder partly sunk in the Ground read Monthly.
	in.	in.	in.	in.	in.	in.	in.
January - -	1·2	1·4	1·4	1·8	1·6	1·8	1·9
February - -	0·3	0·4	0·4	0·4	0·4	0·5	0·5
March - -	2·1	2·4	2·8	3·5	3·2	3·5	3·7
April - -	1·8	2·3	2·4	2·8	2·6	2·8	2·8
May - - -	1·8	2·4	2·5	2·8	2·6	2·8	2·8
June - - -	1·2	1·6	1·4	1·9	1·9	1·9	1·8
July - - -	1·0	1·4	1·3	1·6	1·6	1·7	1·6
August - -	1·9	2·6	2·7	2·9	2·6	3·0	3·0
September - -	1·2	1·4	1·5	1·6	1·4	1·6	1·6
October - -	2·5	3·0	3·0	3·9	3·5	4·1	4·0
November - -	0·6	0·9	0·9	1·0	0·9	1·0	1·1
December - -	0·7	1·1	1·1	1·5	1·4	1·6	1·7
Sums - -	16·3	20·9	21·4	25·7	23·7	26·3	26·5

The heights of the receiving surfaces are as follows:

	Above the Mean Level of the Sea. Ft.	In.		Above the Ground. Ft.	In.
Osler's Anemometer Gauge	205	6	....	50	8
Gauge on the Roof of the Octagon Room	193	2½	....	38	4½
Gauge on the Roof of the Library......................	177	2	....	22	4
Gauge on the Roof of the Photographic Thermometer Shed	164	10	....	10	0
Crosley's Gauge	156	6	....	1	8
The Two Cylinder Gauges partly sunk in Ground.........	155	3	....	0	5

ROYAL OBSERVATORY, GREENWICH.

ABSTRACTS

OF

THE MAGNETIC OBSERVATIONS,

From 1841 to 1857,

MADE ON DAYS OF GREAT MAGNETIC DISTURBANCE.

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From 1841 to 1857,

MADE ON DAYS OF GREAT MAGNETIC DISTURBANCE.

THE period to which these Abstracts apply embraces two series of observations, in which, though the instruments are fundamentally the same, the methods of registration are very different. By using for each series the method properly adapted to it, we may expect to form one complete homogeneous collection. The first step in the following explanation is, therefore, the indication of the method by which the registrations in the different series have been so assimilated that they may be combined in continuous order, and may further receive the same treatment common to both.

The volumes of Greenwich Observations from 1848 to 1857 exhibit the successive maximum and minimum readings for the indications of each of the Magnetometers on the disturbed days (for the earlier portion), and on all days (for the remaining portion). The information given by these readings is so complete, and its form is so convenient, that it was obviously desirable to bring the records of observations from 1841 to 1847 into the same form. On examining the observations on days of great disturbance printed in the successive volumes from 1841 to 1847, it was found that, both in respect of the number of days, and in respect of the number of eye-observations on each day, a large portion ought to be omitted as unnecessary, in order to bring them to the same state as those based on the photographic registers from 1848 to 1857. The selection of the observations to be retained was entirely intrusted to the judgment of Mr. Glaisher; and there is no doubt that it has been effected in a manner on which no important improvement can be made.

The instrumental indications of Western Declination require no farther modification; but those of Horizontal Force and of Vertical Force require to be corrected for the temperature of the magnets. In the printed observations from 1841 to 1847, the correction for temperature is applied: in those from 1848 to 1857, the correction for temperature is not applied. In preparing for these reductions, the correction for temperature has been investigated on the principles explained in the Greenwich Observations 1859 page (clxxxiii). The principle of the method is, to interpolate for each observation a temperature formed by uniform progression between the next preceding and next following observed temperature, and then to apply to that interpolated temperature a quantity which has been found (from discussion of numerous observations) to represent the error of simple interpolation. In special cases, the true temperature will not be obtained thus with perfect accuracy, but the deviation from truth will never be important.

In order to estimate truly the character of disturbance in the magnetic observations, it appeared desirable to follow the usual course of comparing the disturbed observations with the mean of observations at the same solar hour in the same month. For the observations from 1848 to 1857, these means are given in the volume for 1859; they are there formed by use only of the observations taken on days which are free from extraordinary disturbance; and this course appears desirable, not on the principle of thus obtaining a value which in the long run is essentially or importantly different (for it appears, *Phil. Trans.*, 1863, page 28, that the disturbances do not sensibly modify the diurnal inequalities), but because it avoids the interference of troublesome irregularities. In the volumes from 1841 to 1847, the means had been deduced from the assemblage of all days, disturbed as well as undisturbed; it was desirable, therefore, to investigate new means, omitting those disturbed days. This was done by Mr. Glaisher.

It is important to observe that the corrections for temperature of the magnet were applied on strictly the same principle to the monthly means of undisturbed observations and to the individual disturbed observations. There is always a little uncertainty attaching to temperature-corrections; but the effects of this uncertainty nearly disappear in comparisons which are made on these principles.

The whole of the observations from 1841 to 1857, both monthly means and individual disturbed observations, after having undergone these operations, are in the same form, and are fitted for a uniform method of treatment. I proceed to explain the nature of the treatment.

First. The given monthly means apply to intervals of one hour (in the later series), or of two hours (in the earlier series). Between these hourly or two-hourly numbers, by interpolation, monthly numbers were found corresponding to the time of every disturbed observation. The difference between the interpolated monthly numbers and the registered disturbed observation is considered as the true amount of disturbance.

Second. Each day or longer time considered to include one magnetic storm was treated by itself, having no connexion whatever with any other storm.

Third. The great object now to be obtained was, that a series of numbers should be prepared, exhibiting (by a legitimate process, of general character) the great changes of slow period in the general order of registered numbers, and exhibiting also the more rapid irregularities, which when combined with the slowly-changing numbers will form the registered numbers (corrected for temperature, &c.) For this purpose, the mean of adjacent corrected numbers was taken to form a first series of means; the means of adjacent numbers in the first to form a second series of means; and in like manner a third and a fourth series of means. The last series was adopted as representing the slowly-changing numbers, and is therefore called the "Adopted Numbers." The differences between its numbers and the corresponding numbers interpolated among the hourly numbers of the Monthly Mean are considered as the "Wave-inequality;" and the differences between the corrected registered numbers and the Adopted Numbers are the "Irregularities."

Fourth. The continuation of the same sign in the numbers of Wave-inequality was considered as defining the limits of a wave; and the following operations were performed independently for each wave. The mean of all the wave-inequalities in each wave was taken as the Mean-wave-inequality in that wave; and its product by the number of hours in the wave is called the "Fluctuation,"—a word used here in a purely technical sense, but which expresses the general influence of the wave, taking account both of its duration in time and its magnitude.

Fifth. The mean of the Irregularities through the wave is taken, and the number of Irregularities is counted; but no further operation is performed on them.

The following instance will exhibit the principal parts of the operation for the magnetic storm of 1853, March 11, Horizontal Force. The times, the fundamental observations of temperature, and the uncorrected readings of Horizontal Force, are taken from the printed Observations for 1853, pages (xxiii) and (xxiv). The Monthly Means are interpolated among those in the printed Observations 1859, page (ccv), for 1853 March; but they are all diminished by ·0085, because, as is stated in the same volume, page (clxxxii), line 5 from bottom, a correction + ·0085 has been applied in the formation of Monthly Means, which correction was not applied in the volume for 1853.

Göttingen Time.	Corrected Interpolated Temperature.	Correction for Temperature.	Uncorrected original Reading.	Corrected original Reading.	First Sum.	Second Sum.	One-fourth.	Third Sum.	Fourth Sum.	One-fourth or Adopted.	Excess of Corrected Original over Adopted; or Irregularity.		Monthly Mean.	Excess of Adopted over Monthly Mean, or Wave Inequality.	
h m	°										+	−		+	−
0. 5	49·6	·0117	·0891	·1008											
					·2014										
1. 20	51·1	118	888	1006		·4030	·1008								
					2016			·2014							
1. 33	51·5	119	891	1010		4026	1006		·4027	·1007	03		·1020		13
					2010			2013							
2. 20	52·9	120	880	1000		4027	1007		4036	1009		09	1022		13
					2017			2023							

Göttingen Time.	Corrected Interpolated Temperature.	Correction for Temperature.	Uncorrected original Reading.	Corrected original Reading.	First Sum.	Second Sum.	One-fourth.	Third Sum.	Fourth Sum.	One-fourth or Adopted.	Excess of corrected Original over Adopted; or Irregularity. +	−	Monthly Mean.	Excess of Adopted over Monthly Mean, or Wave Inequality. +	−
h m	°										+	−		+	−
4. 30	56·3	·0124	·0893	·1017		·4063	·1016		·4065	·1016	01		·1028		12
					·2046			·2042							
4. 46	56·4	124	905	1029		4106	1026		4095	1024	05		1029		05
					2060			2053							
5. 12	56·7	125	906	1031		4109	1027		4108	1027	04		1029		02
					2049			2055							
5. 30	56·8	125	893	1018		4112	1028		4120	1030		12	1029	01	
					2063			2065							
5. 44	56·8	125	920	1045		4146	1037		4139	1035	10		1029	06	
					2083			2074							
6. 8	57·0	125	913	1038		4150	1037		4143	1036	02		1029	07	
					2067			2069							
6. 15	57·0	125	904	1029		4127	1032		4130	1032		03	1029	03	
					2060			2061							
6. 23	57·0	125	906	1031		4116	1029		4118	1030	01		1029	01	
					2056			2057							
6. 33	57·1	125	900	1025		4112	1028		4111	1028		03	1030		02
					2056			2054							
7. 0	57·0	125	906	1031		4103	1026		4100	1025	06		1030		05
					2047			2046							
7. 15	57·0	125	891	1016		4080	1020		4088	1022		06	1030		08
					2033			2042							
7. 23	57·0	125	892	1017		4089	1022		4092	1023		06	1030		07
					2056			2050							
7. 36	56·9	125	914	1039		4113	1028		4103	1026	13		1031		05
					2057			2053							
7. 54	56·8	125	893	1018		4100	1025		4100	1025		07	1031		06
					2043			2047							
8. 15	56·7	125	900	1025		4089	1022		4094	1023	02		1031		08
					2046			2047							
8. 25	56·7	125	896	1021		4099	1025		4094	1024		03	1031		07
					2053			2047							
8. 45	56·5	124	908	1032		4089	1022		4091	1023	09		1032		09
					2036			2044							
9. 15	56·4	124	880	1004		4090	1022		4100	1025		21	1033		08
					2054			2056							
9. 45	56·3	124	926	1050		4134	1034		4122	1030	20		1034		04
					2080			2066							
9. 56	56·0	124	906	1030		4128	1032		4121	1030			1034		04
					2048			2055							
10. 22	55·7	124	894	1018		4094	1023		4101	1025		07	1033		08
					2046			2046							
10. 30	55·7	124	904	1028		4093	1023		4090	1023	05		1032		09
					2047			2044							
10. 45	55·6	123	896	1019		4085	1021		4093	1023		04	1032		09
					2038			2049							
11. 45	54·9	123	896	1019		4113	1028		4119	1030		11	1032		02
					2075			2070							
11. 48	54·9	123	933	1056		4169	1042		4159	1040	16		1032	08	
					2094			2089							
12. 2	54·7	122	916	1038		4188	1047		4175	1044		06	1032	12	
					2094			2086							

Göttingen Time.	Corrected Interpolated Temperature.	Correction for Temperature.	Uncorrected original Reading.	Corrected original Reading.	First Sum.	Second Sum.	One-fourth.	Third Sum.	Fourth Sum.	One-fourth or Adopted.	Excess of corrected Original over Adopted; or Irregularity. +	Excess of corrected Original over Adopted; or Irregularity. −	Monthly Mean.	Excess of Adopted over Monthly Mean, or Wave Inequality. +	Excess of Adopted over Monthly Mean, or Wave Inequality. −
h m	°										+	−		+	−
12. 6	54·7	·0122	·0934	·1056		·4155	·1039		·4154	·1039	17		·1032	07	
					·2061			·2068							
12. 30	54·3	122	883	1005		4114	1029		4131	1033		28	1031	02	
					2053			2063							
12. 54	54·1	122	926	1048		4136	1034		4138	1034	14		1031	03	
					2083			2075							
13. 8	53·8	121	914	1035		4165	1041		4150	1038		03	1031	07	
					2082			2075							
13. 28	53·6	121	926	1047		4135	1034		4125	1031	16		1031		
					2053			2050							
13. 44	53·4	121	885	1006		4063	1016		4068	1017		11	1032		15
					2010			2018							
13. 57	53·2	121	883	1004		4008	1002		4017	1004			1032		28
					1998			1999							
14. 4	53·2	121	873	994		3988	997		3989	997		03	1032		35
					1990			1990							
14. 16	53·0	120	876	996		3972	993		3982	995	01		1032		37
					1982			1992							
14. 30	52·8	120	866	986		3994	999		4005	1001		15	1032		31
					2012			2013							
15. 16	52·4	120	906	1026		4058	1014		4044	1011	15		1033		22
					2046			2031							
16. 4	52·5	120	900	1020		4069	1017		4055	1014	06		1034		20
					2023			2024							
16. 45	51·3	119	884	1003		4029	1007		4037	1009		06	1035		26
					2006			2013							
17. 14	51·1	118	885	1003		4025	1006		4035	1009		06	1035		26
					2019			2022							
17. 30	50·9	118	898	1016		4063	1016		4060	1015	01		1036		21
					2044			2038							
18. 40	50·2	117	911	1028		4089	1022		4081	1020	08		1036		16
					2045			2043							
18. 57	50·1	117	900	1017		4083	1021		4081	1020		03	1035		15
					2038			2038							
19. 35	49·7	117	904	1021		4066	1017		4070	1018	03		1033		15
					2028			2032							
20. 12	49·5	117	890	1007		4062	1015		4067	1017		10	1031		14
					2034			2035							
21. 0	49·2	116	911	1027		4081	1020		4079	1020	07		1028		08
					2047			2044							
21. 40	49·0	116	904	1020		4096	1024		4092	1023		03	1026		03
					2049			2048							
21. 45	49·0	116	913	1029		4096	1024		4094	1023	06		1026		03
					2047			2046							
21. 55	49·1	116	902	1018		4089	1022		4085	1021		03	1025		04
					2042			2039							
22. 0	49·1	116	908	1024		4066	1017		4066	1016	08		1025		09
					2024			2027							
22. 37	49·3	116	884	1000		4039	1010		4047	1012		12	1022		10
					2015			2020							
23. 0	49·6	117	898	1015		4040	1010		4037	1009	06		1020		11
					2025			2017							
23. 35	49·8	117	893	1010		4029	1007								
					2004										
23. 59	50·2	117	877	994											

The storm, it will be seen, consists of five waves, defined by the horizontal lines in the table above. The means are as follows:

	Mean Irregularity.	Mean Wave-Inequality.
First Wave	± ·0004	− ·0009
Second Wave	± ·0006	+ ·0004
Third Wave	± ·0008	− ·0007
Fourth Wave	± ·0014	+ ·0006
Fifth Wave	± ·0007	− ·0017

The product of the last numbers by the corresponding Duration of Wave will give the Fluctuation which will be found in the tables below; and the Number of Irregularities in the tables below will at once be taken from the table just exhibited.

Month and Day.	DECLINATION MAGNET. Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.	HORIZONTAL Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Aggregate Disturbance by Wave.
1841.	h m h m	h	′				h			′		h	h m h m	h		
Sept. 24	10. 0—14. 54	4·90	−11·0	−0·0032	−0·0157	−0·0022	13·90	−0·0002	2	6·8	0·0020	2·45	10. 2—22. 2	12·00	−0·0038	−0·0456
	14. 54—23. 54	9·00	+ 5·3	+ ·0015	+ ·0135				8	4·0	·0012	1·13				
„ 25	0. 0— 3. 40	3·70	+14·0	+ ·0041	+ ·0152	− ·0200	22·03	− ·0009	14	9·1	·0026	0·26	0. 2— 6. 59	6·95	+ ·0057	+ ·0396
	3. 40— 3. 51	0·18	−14·3	− ·0041	− ·0007				2	41·7	·0121	0·09	6. 59—12. 54	5·92	− ·0076	− ·0450
	3. 51— 3. 57	0·10	+ 6·2	+ ·0018	+ ·0002				3	26·4	·0077	0·03				
	3. 57— 4. 10	0·22	− 3·3	− ·0010	− ·0002				3	0·8	·0002	0·07				
	4. 10— 6. 49	2·65	+ 6·5	+ ·0019	+ ·0050				25	4·8	·0014	0·11				
	6. 49—22. 0	15·18	− 9·0	− ·0026	− ·0395				23	3·2	·0009	0·66				
„ 27	1. 50—10. 0	8·17	−11·2	− ·0033	− ·0270	− ·0270	8·17	− ·0033	6	4·9	·0014	1·36	1. 52— 4. 25	2·55	− ·0002	− ·0005
													4. 25— 4. 48	0·38	+ ·0004	+ ·0002
													4. 48—10. 2	5·23	− ·0018	− ·0094
Oct. 25	0. 0— 2. 12	2·20	+ 0·7	+ ·0002	+ ·0004	− ·0417	22·00	− ·0019	1	5·6	·0016	2·20	0. 2—22. 2	22·00	− ·0022	− ·0484
	2. 12—12. 57	10·75	−10·9	− ·0032	− ·0344				28	4·6	·0013	0·38				
	12. 57—13. 21	0·40	+ 0·7	+ ·0002	+ ·0001				1	6·6	·0019	0·40				
	13. 21—22. 0	8·65	− 3·1	− ·0009	− ·0078				3	3·1	·0009	2·88				
Nov. 18	6. 0—17. 17	11·28	−26·0	− ·0075	− ·0848	− ·0735	17·90	− ·0041	14	6·4	·0019	0·81	6. 2—23. 55	17·88	− ·0007	− ·0125
	17. 17—23. 54	6·62	+ 5·9	+ ·0017	+ ·0113				11	2·1	·0006	0·60				
„ 19	0. 0— 3. 0	3·00	+ 3·6	+ ·0010	+ ·0030	+ ·0016	22·73	+ ·0001	4	1·5	·0004	0·75	0. 2—12. 14	12·20	− ·0012	− ·0146
	3. 0—12. 17	9·28	− 3·4	− ·0010	− ·0093				6	5·2	·0015	1·55	12. 14—13. 26	1·20	+ ·0007	+ ·0008
	12. 17—13. 17	1·00	+ 2·2	+ ·0006	+ ·0006				2	5·4	·0016	0·50	13. 26—24. 2	10·60	− ·0013	− ·0138
	13. 17—14. 52	1·58	− 1·5	− ·0004	− ·0006				2	3·6	·0010	0·79				
	14. 52—22. 46	7·87	+ 3·4	+ ·0010	+ ·0079				5	6·2	·0018	1·57				
Dec. 3	0. 0— 5. 3	5·05	+ 3·6	+ ·0010	+ ·0050	+ ·0088	12·74	+ ·0007	2	7·9	·0023	2·53	0. 2— 6. 12	6·17	− ·0027	− ·0166
	5. 3— 7. 19	2·27	− 4·9	− ·0014	− ·0032				3	9·3	·0027	0·76	6. 12— 7. 0	0·80	+ ·0002	+ ·0001
	7. 19—12. 44	5·42	+ 4·4	+ ·0013	+ ·0070				2	1·3	·0004	2·71	7. 0—12. 45	5·75	− ·0007	− ·0040
„ 14	6. 0— 8. 35	2·58	+ 1·0	+ ·0003	+ ·0008	− ·0296	10·00	− ·0030	2	5·3	·0015	1·29	6. 2—16. 2	10·00	− ·0013	− ·0130
	8. 35—16. 0	7·42	−14·2	− ·0041	− ·0304				6	6·5	·0019	1·24				
1842. Jan. 1	6. 0—12. 41	6·68	−12·4	−0·0036	−0·0240	−0·0240	6·68	−0·0036	6	3·9	0·0011	1·11	6. 2—12. 42	6·67	+0·0058	+0·0387
Feb. 24	10. 0—12. 46	2·77	− 9·0	− ·0026	− ·0072	− ·0090	8·00	− ·0011	2	5·5	·0016	1·39	10. 2—18. 2	8·00	− ·0050	− ·0400
	12. 46—13. 43	0·95	+10·6	+ ·0031	+ ·0029				3	7·8	·0023	0·32				
	13. 43—18. 0	4·28	− 3·7	− ·0011	− ·0047				2	5·6	·0016	2·14				
April 14	16. 0—23. 38	7·63	+ 9·7	+ ·0028	+ ·0214	~~+ ·0214~~	~~7·63~~	~~+ ·0028~~	~~12~~	~~4·4~~	·0013	0·64	16. 2—23. 27	7·42	− ·0057	− ·0423
„ 15	0. 0— 8. 29	8·48	+ 1·4	+ ·0004	+ ·0034	+ ·0087	23·09	+ ·0004	1	11·6	·0034	8·48	0. 2—24. 2	24·00	− ·0059	− ·1416
	8. 29—16. 30	8·02	− 4·7	− ·0014	− ·0112				13	5·5	·0016	0·62				
	16. 30—23. 5	6·59	+ 8·7	+ ·0025	+ ·0165				6	2·9	·0008	1·10				
July 1	16. 0—20. 10	4·17	+ 4·6	+ ·0013	+ ·0054	+ ·0008	7·74	+ ·0001	1	17·9	·0052	4·17	16. 2—23. 45	7·72	− ·0023	− ·0178
	20. 10—22. 2	1·87	− 5·4	− ·0016	− ·0030				3	6·5	·0019	0·62				
	22. 2—22. 6	0·07	+ 0·5	+ ·0001	·0000				1	0·1	·0000	0·07				
	22. 6—23. 44	1·63	− 3·3	− ·0010	− ·0016				4	2·4	·0007	0·41				
„ 2	0. 0—13. 23	13·38	−13·3	− ·0039	− ·0523	− ·0523	13·58	− ·0039	23	5·2	·0015	0·58	0. 2— 1. 7	1·08	− ·0013	− ·0014
													1. 7— 2. 25	1·30	+ ·0015	+ ·0020
													2. 25— 4. 18	1·88	− ·0004	− ·0008
													4. 18— 7. 53	3·58	+ ·0016	+ ·0057
													7. 53—13. 24	5·52	− ·0035	− ·0193
„ 3	14. 0—16. 39	2·65	−18·4	− ·0054	− ·0143	− ·0003	9·68	·0000	10	8·2	·0024	0·26	14. 2—24. 2	10·00	− ·0065	− ·0650
	16. 39—23. 41	7·03	+ 6·9	+ ·0020	+ ·0140				19	3·6	·0010	0·37				
Nov. 10	1. 50—16. 0	14·17	− 8·2	− ·0024	− ·0340	− ·0340	14·17	− ·0024	11	6·2	·0018	1·29	1. 52—16. 2	14·17	− ·0050	− ·0710
„ 21	10. 0—15. 40	5·67	−11·2	− ·0033	− ·0187	− ·0054	12·00	− ·0005	6	2·8	·0008	0·94	10. 2—15. 7	5·08	− ·0019	− ·0097
	15. 40—22. 0	6·33	+ 7·1	+ ·0021	+ ·0133				8	3·6	·0010	0·79	15. 7—17. 37	2·50	+ ·0023	+ ·0058
													17. 37—22. 2	4·42	− ·0021	− ·0093
Dec. 9	4. 0—14. 0	10·00	− 7·6	− ·0022	− ·0220	− ·0220	10·00	− ·0022	19	3·8	·0011	0·53	4. 2—10. 42	6·67	− ·0024	− ·0160
													10. 42—11. 15	0·55	+ ·0002	+ ·0001
													11. 15—14. 2	2·78	− ·0010	− ·0028

FORCE MAGNET.						VERTICAL FORCE MAGNET.											
Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Mean Period of Irregularity.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.
	h				h	h m h m	h					h					h
−0·0456	12·00	−0·0038	6	0·0010	2·00	9. 57—23. 57	14·00	−0·0011	−0·0028	−0·0392	−0·0392	14·00	−0·0028	2	0·0006	0·0015	7·00
− ·0054	12·87	− ·0004	42 31	·0022 ·0009	0·17 0·19	1. 47—13. 3	11·27	+ ·0089	+ ·0229	+ ·2580	+ ·2580	11·27	+ ·0229	61	·0011	·0028	0·18
− ·0097	8·16	− ·0012	1 4 7	·0038 ·0004 ·0005	2·55 0·10 0·75	1. 47— 9. 57	8·17	+ ·0032	+ ·0082	+ ·0670	+ ·0670	8·17	+ ·0082	3	·0003	·0008	2·72
− ·0484	22·00	− ·0022	36	·0010	0·61	1. 47— 8. 57 8. 57—21. 57	7·17 13·00	+ ·0018 − ·0003	+ ·0046 − ·0008	+ ·0330 − ·0104	+ ·0226	20·17	+ ·0011	11 3	·0005 ·0002	·0013 ·0005	0·65 4·33
− ·0125	17·88	− ·0007	28	·0012	0·64	5. 57—11. 9 11. 9—22. 50 22. 50—23. 57	5·20 11·68 1·12	+ ·0007 − ·0014 + ·0001	+ ·0018 − ·0036 + ·0003	+ ·0094 − ·0420 + ·0003	− ·0323	18·00	− ·0018	2 15 1	·0005 ·0005 ·0001	·0013 ·0013 ·0003	2·60 0·78 1·12
− ·0276	24·00	− ·0012	10 4 12	·0009 ·0014 ·0007	1·22 0·30 0·88	0. 16— 8. 9 8. 9—23. 57	7·88 15·80	+ ·0003 − ·0011	+ ·0008 − ·0028	+ ·0063 − ·0442	− ·0379	23·68	− ·0016	6 7	·0005 ·0004	·0013 ·0010	1·31 2·26
− ·0205	12·72	− ·0016	6 3 4	·0014 ·0009 ·0004	1·03 0·27 1·44	1. 50—12. 43	10·88	+ ·0015	+ ·0039	+ ·0424	+ ·0424	10·88	+ ·0039	3	·0002	·0005	3·63
− ·0130	10·00	− ·0013	9	·0016	1·11	5. 57—15. 58	10·02	+ ·0024	+ ·0062	+ ·0621	+ ·0621	10·02	+ ·0062	6	·0005	·0013	1·67
+0·0387	6·67	+0·0058	8	0·0005	0·83	5. 57—12. 4	6·12	+0·0004	+0·0010	+0·0061	+0·0061	6·12	+0·0010	5	0·0001	0·0003	1·22
− ·0400	8·00	− ·0050	9	·0018	0·89	9. 57—12. 49 12. 49—17. 57	2·87 5·13	+ ·0004 − ·0001	+ ·0010 − ·0003	+ ·0029 − ·0015	+ ·0014	8·00	+ ·0002	2 1	·0001 ·0003	·0003 ·0008	1·44 5·13
− ·0423	7·42	− ·0057	11	·0015	0·67	15. 57—23. 57	8·00	− ·0038	− ·0098	− ·0784	− ·0784	8·00	− ·0098	6	·0006	·0015	1·33
− ·1416	24·00	− ·0059	35	·0011	0·67	1. 47—11. 24 11. 24—23. 57	9·62 12·55	+ ·0008 − ·0008	+ ·0021 − ·0021	+ ·0202 − ·0263	− ·0061	22·17	− ·0003	4 11	·0004 ·0003	·0010 ·0008	2·41 1·14
− ·0178	7·72	− ·0023	15	·0013	0·51	15. 57—18. 27 18. 27—18. 42 18. 42—23. 58	2·50 0·25 5·27	+ ·0004 − ·0001 + ·0008	+ ·0010 − ·0003 + ·0021	+ ·0025 − ·0001 + ·0111	+ ·0135	8·02	+ ·0017	1 1 8	·0009 ·0001 ·0004	·0023 ·0003 ·0010	2·50 0·25 0·66
− ·0138	13·36	− ·0010	3 8 4 6 14	·0015 ·0012 ·0008 ·0012 ·0018	0·36 0·16 0·47 0·60 0·39	0. 11—13. 24	13·22	+ ·0018	+ ·0046	+ ·0608	+ ·0608	13·22	+ ·0046	10	·0005	·0013	1·32
− ·0650	10·00	− ·0065	42	·0012	0·24	13. 57—20. 40 20. 40—23. 57	6·72 3·28	− ·0024 + ·0015	− ·0062 + ·0039	− ·0417 + ·0128	− ·0289	10·00	− ·0029	17 3	·0005 ·0003	·0013 ·0008	0·40 1·09
− ·0710	14·17	− ·0050	14	·0010	1·01	1. 47—15. 58	14·18	+ ·0005	+ ·0013	+ ·0185	+ ·0185	14·18	+ ·0013	4	·0002	·0005	3·55
− ·0132	12·00	− ·0011	5 6 4	·0010 ·0020 ·0009	1·02 0·42 1·11	9. 57—21. 57	12·00	− ·0010	− ·0026	− ·0312	− ·0312	12·00	− ·0026	1	·0003	·0008	12·00
− ·0187	10·00	− ·0019	30 2 4	·0005 ·0006 ·0002	0·22 0·28 0·70	3. 58—14. 0	10·03	+ ·0012	+ ·0031	+ ·0311	+ ·0311	10·03	+ ·0031	6	·0002	·0005	1·67

Month and Day.	DECLINATION MAGNET. Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.	HORIZONTAL Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Aggregate Disturbance by Wave.
1843.	h m h m	h	′				h			′		h	h m h m	h		
Jan. 2	4. 0−14. 0	10·00	+ 6·2	+ 0·0018	+ 0·0180	+ 0·0180	10·00	+ 0·0018	5	4·1	0·0012	2·00	4. 2−14. 2	10·00	− 0·0018	− 0·0180
Feb. 6	8. 0−10. 55	2·92	− 3·3	− ·0010	− ·0029	+ ·0002	6·00	·0000	1	5·8	·0017	2·92			Values insufficient	
	10. 55−14. 0	3·08	+ 3·5	+ ·0010	+ ·0031				2	1·2	·0003	1·54				
„ 16	6. 0−10. 0	4·00	− 3·9	− ·0011	− ·0044	− ·0044	4·00	− ·0011	7	0·4	·0001	0·57	6. 2−10. 2	4·00	− ·0012	− ·0048
„ 24	4. 0−11. 21	7·35	− 4·0	− ·0012	− ·0088	− ·0129	11·58	− ·0011	5	2·4	·0007	1·47	4. 2−10. 59	6·95	− ·0021	− ·0146
	11. 21−11. 44	0·38	+ 0·8	+ ·0002	+ ·0001				2	2·3	·0007	0·19	10. 59−11. 52	0·88	+ ·0007	+ ·0006
	11. 44−15. 35	3·85	− 3·8	− ·0011	− ·0042				5	4·7	·0014	0·77	11. 52−15. 38	3·77	− ·0013	− ·0049
May 6	10. 0−14. 24	4·40	− 16·7	− ·0049	− ·0216	− ·0216	4·40	− ·0049	17	4·2	·0012	0·26	10. 2−14. 8	4·10	− ·0055	− ·0226
July 24	10. 0−12. 28	2·47	− 0·4	− ·0001	− ·0002	+ ·0145	13·74	+ ·0011	1	0·7	·0002	2·47	10. 2−13. 29	3·45	+ ·0003	+ ·0010
	12. 28−23. 44	11·27	+ 4·6	+ ·0013	+ ·0147				3	5·1	·0015	3·76	13. 29−23. 44	10·25	− ·0023	− ·0237
„ 25	0. 0− 6. 0	6·00	+ 12·1	+ ·0035	+ ·0210	+ ·0210	6·00	+ ·0035	14	3·7	·0011	0·43	0. 2− 3. 37	3·58	− ·0001	− ·0004
													3. 37− 4. 27	0·83	+ ·0007	+ ·0006
													4. 27− 4. 31	0·07	− ·0001	·0000
													4. 31− 5. 15	0·73	+ ·0011	+ ·0008
													5. 15− 6. 2	0·78	− ·0010	− ·0008
1844.																
March 29	8. 0−18. 17	10·28	− 7·6	− 0·0022	− 0·0227	− 0·0140	15·73	− 0·0009	18	4·0	0·0012	0·57	8. 2−16. 18	8·27	− 0·0022	− 0·0182
	18. 17−23. 44	5·45	+ 5·4	+ ·0016	+ ·0087				3	2·2	·0006	1·82	16. 18−17. 8	0·83	+ ·0002	+ ·0002
													17. 8−23. 44	6·60	− ·0019	− ·0125
„ 30	0. 0− 5. 10	5·17	+ 2·4	+ ·0007	+ ·0036	− ·0097	12·01	− ·0008	5	3·5	·0010	1·03	0. 2− 8. 49	8·78	− ·0009	− ·0079
	5. 10− 8. 8	2·97	− 7·0	− ·0020	− ·0059				5	6·9	·0020	0·59	8. 49− 8. 53	0·07	+ ·0002	·0000
	8. 8− 8. 18	0·17	+ 0·7	+ ·0002	·0000				1	2·2	·0006	0·17	8. 53−12. 2	3·15	− ·0015	− ·0047
	8. 18−12. 0	3·70	− 7·0	− ·0020	− ·0074				7	4·4	·0013	0·53				
Oct. 1	6. 0−12. 0	6·00	− 9·1	− ·0026	− ·0156	− ·0156	6·00	− ·0026	9	2·1	·0006	0·67	6. 2−12. 2	6·00	− ·0033	− ·0198
„ 20													14. 2−22. 2	8·00	− ·0028	− ·0224
Nov. 16	0. 0− 7. 4	7·07	+ 7·5	+ ·0022	+ ·0156	+ ·0112	10·00	+ ·0011	20	3·4	·0010	0·35	0. 2−10. 2	10·00	− ·0028	− ·0280
	7. 4−10. 0	2·93	− 5·2	− ·0015	− ·0044				8	4·0	·0012	0·37				
„ 22	6. 0−14. 0	8·00	− 10·6	− ·0031	− ·0248	− ·0248	8·00	− ·0031	22	3·7	·0011	0·36	6. 2−10. 31	4·48	− ·0041	− ·0184
													10. 31−11. 38	1·12	+ ·0011	+ ·0012
													11. 38−14. 2	2·40	− ·0010	− ·0024
1845.																
Jan. 9	10. 0−20. 0	10·00	− 9·9	− 0·0029	− 0·0290	− 0·0290	10·00	− 0·0029	15	3·8	0·0011	0·67	10. 2−20. 2	10·00	− 0·0044	− 0·0440
Feb. 24	1. 50−17. 6	15·27	− 4·4	− ·0013	− ·0199	− ·0198	15·72	− ·0013	15	3·6	·0010	1·02	1. 52− 8. 26	6·57	− ·0004	− ·0026
	17. 6−17. 33	0·45	+ 1·1	+ ·0003	+ ·0001				1	1·8	·0005	0·45	8. 26− 8. 56	0·50	+ ·0009	+ ·0004
													8. 56−18. 2	9·10	− ·0017	− ·0155
March 26	4. 0−18. 0	14·00	− 5·0	− ·0015	− ·0210	− ·0210	14·00	− ·0015	12	3·6	·0010	1·17	4. 2− 7. 31	3·48	− ·0008	− ·0028
													7. 31− 8. 12	0·68	+ ·0010	+ ·0007
													8. 12−18. 2	9·83	− ·0007	− ·0069
Aug. 29	8. 0−11. 29	3·48	− 3·8	− ·0011	− ·0038	− ·0037	6·15	− ·0006	9	1·1	·0003	0·39	8. 2−14. 7	6·08	− ·0004	− ·0024
	11. 30−13. 0	1·50	+ 1·8	+ ·0005	+ ·0008				7	1·2	·0003	0·21				
	13. 0−14. 10	1·17	− 2·2	− ·0006	− ·0007				3	1·3	·0004	0·39				
Dec. 3	1. 50− 4. 29	2·65	+ 4·2	+ ·0012	+ ·0032	− ·0022	14·13	− ·0002	3	2·1	·0006	0·88	1. 52−16. 2	14·17	− ·0047	− ·0667
	4. 30− 4. 46	0·27	− 2·7	− ·0008	− ·0002				3	6·0	·0017	0·09				
	4. 47− 8. 10	3·38	+ 11·2	+ ·0033	+ ·0112				23	5·6	·0016	0·15				
	8. 10−16. 0	7·83	− 7·2	− ·0021	− ·0164				28	3·1	·0009	0·28				

FORCE MAGNET.						VERTICAL FORCE MAGNET.												
Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Mean Period of Irregularity.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.
	h				h	h m h m	h					h					h
−0·0180	10·00	−0·0018	6	0·0009	1·67	3. 57—13. 58	10·02	−0·0010	−0·0026	−0·0261	−0·0261	10·02	−0·0026	2	0·0001	0·0003	5·01
for Reduction.						Values insufficient for Reduction.											
− ·0048	4·00	− ·0012	6	·0003	0·67	Values insufficient for Reduction.											
− ·0189	11·60	− ·0016	6 7 24	·0006 ·0009 ·0003	1·16 0·12 0·16	3. 58—11. 44 11. 44—15. 37	7·77 3·88	+ ·0003 − ·0003	+ ·0008 − ·0008	+ ·0062 − ·0031	+ ·0031	11·65	+ ·0003	2 4	·0002 ·0002	·0005 ·0005	3·88 0·97
− ·0226	4·10	− ·0055	22	·0009	0·19	9. 58—12. 36 12. 36—14. 8	2·63 1·53	− ·0013 + ·0006	− ·0033 + ·0015	− ·0087 + ·0023	− ·0064	4·16	− ·0016	7 2	·0005 ·0004	·0013 ·0010	0·38 0·77
− ·0227	13·70	− ·0017	2 4	·0003 ·0013	1·73 2·56	9. 58—23. 58	14·00	+ ·0004	+ ·0010	+ ·0140	+ ·0140	14·00	+ ·0010	5	·0001	·0003	2·80
+ ·0002	5·99	·0000	1 4 1 5 2	·0019 ·0012 ·0001 ·0014 ·0002	3·58 0·21 0·07 0·15 0·39	0. 11— 5. 45	5·57	+ ·0023	+ ·0059	+ ·0329	+ ·0329	5·57	+ ·0059	5	·0001	·0003	1·11
−0·0305	15·70	−0·0019	20 1 3	0·0006 ·0002 ·0013	0·41 0·83 2·20	7. 58—23. 58	16·00	−0·0011	−0·0028	−0·0448	−0·0448	16·00	−0·0028	9	0·0002	0·0005	1·78
− ·0126	12·00	− ·0011	23 2 4	·0013 ·0002 ·0007	0·38 0·03 0·79	0. 21— 7. 11 7. 11—11. 58	6·83 4·78	+ ·0005 − ·0006	+ ·0013 − ·0015	+ ·0089 − ·0072	+ ·0017	11·61	+ ·0002	2 5	·0003 ·0002	·0008 ·0005	3·41 0·96
− ·0198	6·00	− ·0033	9	·0008	0·67	5. 58—11. 57	5·98	+ ·0001	+ ·0003	+ ·0018	+ ·0018	5·98	+ ·0003	1	·0002	·0005	5·98
− ·0224	8·00	− ·0028	11	·0010	0·73	13. 58—21. 58	8·00	− ·0044	− ·0113	− ·0904	− ·0904	8·00	− ·0113	3	·0006	·0015	2·67
− ·0280	10·00	− ·0028	19	·0010	0·53	0. 16— 9. 58	9·70	+ ·0016	+ ·0041	+ ·0398	+ ·0398	9·70	+ ·0041	9	·0002	·0005	1·08
− ·0196	8·00	− ·0025	25 4 2	·0008 ·0016 ·0015	0·18 0·28 1·20	5. 58— 8. 28 8. 28—13. 58	2·50 5·50	+ ·0003 − ·0005	+ ·0008 − ·0013	+ ·0020 − ·0072	− ·0052	8·00	− ·0007	2 7	·0003 ·0003	·0008 ·0008	1·25 0·79
−0·0440	10·00	−0·0044	9	0·0012	1·11	9. 58—19. 58	10·00	+0·0003	+0·0008	+0·0080	+0·0080	10·00	+0·0008	4	0·0003	0·0008	2·50
− ·0177	16·17	− ·0011	3 7 16	·0004 ·0004 ·0005	2·19 0·07 0·57	1. 47—17. 58	16·18	− ·0005	− ·0013	− ·0211	− ·0211	16·18	− ·0013	13	·0002	·0005	1·24
− ·0090	13·99	− ·0006	7 4 5	·0004 ·0015 ·0007	0·50 0·17 1·97	3. 58—17. 58	14·00	− ·0002	− ·0005	− ·0070	− ·0070	14·00	− ·0005	4	·0003	·0008	3·50
− ·0024	6·08	− ·0004	11	·0008	0·55	7. 58—14. 8	6·17	− ·0004	− ·0010	− ·0062	− ·0062	6·17	− ·0010	5	·0001	·0003	1·23
− ·0667	14·17	− ·0047	61	·0012	0·23	1. 48—15. 58	14·17	+ ·0012	+ ·0031	+ ·0439	+ ·0439	14·17	+ ·0031	27	·0003	·0008	0·52

Month and Day.	DECLINATION MAGNET. Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.	HORIZONTAL Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Aggregate Disturbance by Wave.
1846.	h m h m	h	′				h			′		h	h m h m	h		
May 12	4. 0— 6. 14	2·23	+ 2·0	+0·0006	+0·0013				2	1·3	0·0004	1·12	4. 2— 6. 48	2·77	+0·0010	+0·0028
	6. 14—12. 2	5·80	− 2·3	− ·0007	− ·0041	−0·0009	10·00	−0·0001	9	4·6	·0013	0·64	6. 48—14. 2	7·23	− ·0010	− ·0072
	12. 2—14. 0	1·97	+ 3·5	+ ·0010	+ ·0019				2	5·9	·0017	0·99				
July 11													0. 2— 2. 33	2·52	+ ·0005	+ ·0013
													2. 33—10. 2	7·48	− ·0014	− ·0105
Aug. 6	12. 0—15. 25	3·42	+10·2	+ ·0030	+ ·0102				4	3·4	·0010	0·86	12. 2—16. 51	4·82	+ ·0010	+ ·0048
	15. 25—20. 23	4·97	− 3·9	− ·0011	− ·0055	+ ·0099	11·86	+ ·0008	11	2·0	·0006	0·45	16. 51—23. 55	7·07	− ·0012	− ·0085
	20. 23—23. 51	3·47	+ 5·1	+ ·0015	+ ·0052				17	1·3	·0004	0·20				
„ 7	0. 0—22. 0	22·00	+ 4·5	+ ·0013	+ ·0286	+ ·0286	22·00	+ ·0013	64	1·1	·0003	0·34	0. 2— 2. 27	2·42	− ·0012	− ·0029
													2. 27— 3. 33	1·10	+ ·0002	+ ·0002
													3. 33— 3. 57	0·40	− ·0001	·0000
													3. 57—14. 2	10·08	+ ·0003	+ ·0030
													14. 2—19. 2	5·00	− ·0004	− ·0020
													19. 2—20. 59	1·95	+ ·0003	+ ·0006
													21. 0—22. 2	1·03	− ·0002	− ·0002
„ 24	8. 0—14. 25	6·42	− 3·9	− ·0011	− ·0070				3	3·9	·0011	2·14	10. 2—22. 2	12·00	− ·0003	− ·0036
	14. 25—15. 39	1·23	+ 0·5	+ ·0001	+ ·0001	− ·0107	14·00	− ·0008	2	2·4	·0007	0·62				
	15. 39—22. 0	6·35	− 2·0	− ·0006	− ·0038				4	2·3	·0007	1·59				
„ 25	0. 0—16. 0	16·00	− 2·1	− ·0006	− ·0096	− ·0096	16·00	− ·0006	5	2·3	·0007	3·20	0. 2— 5. 7	5·08	+ ·0007	+ ·0036
													5. 7—10. 2	4·92	− ·0002	− ·0010
													10. 2—16. 2	6·00	+ ·0004	+ ·0024
„ 28	8. 0—13. 45	5·75	− 4·4	− ·0013	− ·0075				11	2·3	·0007	0·52	8. 2—10. 34	2·53	− ·0003	− ·0008
	13. 45—16. 1	2·27	+ 4·8	+ ·0014	+ ·0032	− ·0058	8·77	− ·0007	7	2·7	·0008	0·32	10. 34—10. 38	0·07	+ ·0002	·0000
	16. 1—16. 46	0·75	− 6·9	− ·0020	− ·0015				10	0·7	·0002	0·88	10. 38—16. 46	6·13	− ·0011	− ·0067
Sept. 4	8. 0—13. 29	5·48	− 3·4	− ·0010	− ·0055	+ ·0091	15·85	+ ·0006	4	4·9	·0014	1·37	8. 2—11. 24	3·37	+ ·0006	+ ·0020
	13. 29—23. 51	10·37	+ 4·8	+ ·0014	+ ·0146				22	1·9	·0006	0·49	11. 24—23. 49	12·42	− ·0011	− ·0136
„ 5	0. 0— 3. 57	3·95	+ 6·8	+ ·0020	+ ·0079				20	1·4	·0004	0·20	0. 2— 2. 1	1·98	− ·0014	− ·0028
	3. 57— 6. 52	2·92	− 2·0	− ·0006	− ·0018	+ ·0056	12·97	+ ·0004	2	9·3	·0027	1·46	2. 1— 6. 52	4·85	+ ·0017	+ ·0082
	6. 52— 9. 28	2·60	+ 3·0	+ ·0009	+ ·0023				4	3·7	·0011	0·65	6. 52—12. 58	6·10	− ·0019	− ·0116
	9. 28—12. 58	3·50	− 2·8	− ·0008	− ·0028				6	4·4	·0013	0·58				
„ 10	10. 0—17. 0	7·00	− 4·6	− ·0013	− ·0091	+ ·0005	13·87	·0000	3	2·3	·0007	2·33	10. 2—15. 31	5·48	+ ·0005	+ ·0027
	17. 0—23. 52	6·87	+ 4·8	+ ·0014	+ ·0096				3	3·3	·0010	2·29	15. 31—20. 4	4·55	− ·0002	− ·0009
													20. 4—23. 50	3·77	+ ·0003	+ ·0011
„ 11	0. 0— 3. 53	3·88	+ 5·6	+ ·0016	+ ·0062				7	2·1	·0006	0·55	0. 2— 5. 14	5·20	− ·0008	− ·0042
	3. 53— 8. 47	4·90	−13·2	− ·0038	− ·0186				8	6·9	·0020	0·61	5. 14— 6. 36	1·37	+ ·0014	+ ·0019
	8. 47—18. 18	9·52	+ 1·8	+ ·0005	+ ·0048	− ·0030	23·80	− ·0001	7	3·9	·0011	1·36	6. 36— 8. 37	2·02	− ·0005	− ·0010
	18. 18—18. 39	0·35	− 0·2	− ·0001	·0000				1	0·5	·0001	0·35	8. 37—11. 28	2·85	+ ·0007	+ ·0020
	18. 39—23. 48	5·15	+ 3·1	+ ·0009	+ ·0046				5	1·8	·0005	1·03	11. 28—23. 48	12·33	− ·0011	− ·0135
„ 21	4. 0—18. 38	14·63	− 9·0	− ·0026	− ·0380	− ·0286	19·86	− ·0014	20	2·3	·0007	0·73	4. 2— 8. 8	4·10	− ·0003	− ·0012
	18. 38—23. 52	5·23	+ 6·2	+ ·0018	+ ·0094				3	3·6	·0010	1·74	8. 8— 8. 52	0·73	+ ·0012	+ ·0009
													8. 52—23. 52	15·00	− ·0012	− ·0180
„ 22	0. 0— 3. 26	3·43	+ 5·5	+ ·0016	+ ·0055				25	2·2	·0006	0·14	0. 2— 1. 2	1·00	− ·0032	− ·0032
	3. 26— 4. 3	0·63	− 0·7	− ·0002	− ·0001				2	3·8	·0011	0·31	1. 2— 5. 2	4·00	+ ·0015	+ ·0060
	4. 3— 5. 35	1·53	+ 3·9	+ ·0011	+ ·0017	− ·0158	13·99	− ·0011	10	5·0	·0015	0·15	5. 2—14. 2	9·00	− ·0037	− ·0333
	5. 35— 5. 54	0·32	− 0·5	− ·0001	·0000				2	2·5	·0007	0·16				
	5. 54— 7. 18	1·40	+ 6·3	+ ·0018	+ ·0025				5	10·6	·0031	0·28				
	7. 19—14. 0	6·68	−13·2	− ·0038	− ·0254				24	3·9	·0011	0·28				
Oct. 2	4. 0—10. 0	6·00	− 8·8	− ·0026	− ·0156	− ·0156	6·00	− ·0026	8	3·8	·0011	0·75	4. 2—10. 2	6·00	− ·0017	− ·0102
„ 7	6. 0—16. 48	10·80	− 5·9	− ·0017	− ·0184	− ·0073	17·73	− ·0004	12	5·5	·0016	0·90	6. 2—15. 51	9·82	− ·0024	− ·0236
	16. 48—23. 44	6·93	+ 5·4	+ ·0016	+ ·0111				13	4·0	·0012	0·53	15. 51—16. 42	0·85	+ ·0008	+ ·0007
													16. 42—23. 44	7·03	− ·0040	− ·0280
„ 8	0. 0— 3. 14	3·23	+ 9·4	+ ·0027	+ ·0087				12	1·6	·0005	0·27	0. 13— 3. 7	2·90	− ·0016	− ·0046
	3. 14— 3. 47	0·55	− 1·6	− ·0005	− ·0003				3	5·3	·0015	0·18	3. 7— 3. 38	0·52	+ ·0008	+ ·0004
	3. 47— 4. 53	1·10	+ 3·5	+ ·0010	+ ·0011	+ ·0059	12·00	+ ·0005	5	2·2	·0006	0·22	3. 38—12. 2	8·40	− ·0022	− ·0185
	4. 53— 8. 2	3·15	− 6·6	− ·0019	− ·0060				7	3·6	·0010	0·45				
	8. 2—12. 0	3·97	+ 2·1	+ ·0006	+ ·0024				2	1·0	·0003	1·99				
Nov. 26	1. 50— 7. 4	5·23	+ 5·6	+ ·0016	+ ·0084	− ·0069	16·16	− ·0004	11	3·2	·0009	0·48	1. 52—10. 17	8·42	− ·0022	− ·0185
	7. 4—18. 0	10·93	− 4·9	− ·0014	− ·0153				17	3·1	·0009	0·64	10. 17—10. 34	0·28	+ ·0002	+ ·0001
													10. 34—16. 31	5·95	− ·0016	− ·0095
Dec. 23	4. 0—14. 0	10·00	− 5·5	− ·0016	− ·0160	− ·0160	10·00	− ·0016	12	4·7	·0014	0·83	4. 2—14. 2	10·00	+ ·0017	+ ·0170

FORCE MAGNET.						VERTICAL FORCE MAGNET.											
Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Mean Period of Irregularity.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.
	h				h	h m h m	h					h					h
−0·0044	10·00	−0·0004	3	0·0011	0·92	3. 58— 7. 54	3·93	+0·0004	+0·0010	+0·0039	−0·0040	10·00	−0·0004	1	0·0003	0·0008	3·93
			12	·0008	0·60	7. 54—13. 58	6·07	− ·0005	− ·0013	− ·0079				3	·0005	·0013	2·02
− ·0092	10·00	− ·0009	2	·0037	1·26	0. 2— 3. 25	3·38	− ·0005	− ·0013	− ·0044	− ·0044	3·38	− ·0013	7	·0003	·0008	0·48
			12	·0009	0·62												
− ·0037	11·89	− ·0003	6	·0007	0·80	11. 58—17. 20	5·37	− ·0006	− ·0015	− ·0081	− ·0015	11·95	− ·0001	2	·0003	·0008	2·69
			29	·0005	0·24	17. 20—23. 55	6·58	+ ·0004	+ ·0010	+ ·0066				5	·0002	·0005	1·32
− ·0013	21·98	− ·0001	21	·0006	0·12	0. 5— 4. 52	4·78	+ ·0003	+ ·0008	+ ·0038	+ ·0051	21·88	+ ·0002	7	·0001	·0003	0·68
			5	·0005	0·22	4. 52—12. 10	7·30	− ·0002	− ·0005	− ·0036				1	·0011	·0028	7·30
			2	·0001	0·20	12. 10—21. 58	9·80	+ ·0002	+ ·0005	+ ·0049				7	·0002	·0005	1·40
			4	·0010	2·52												
			4	·0008	1·25												
			13	·0004	0·15												
			6	·0005	0·17												
− ·0036	12·00	− ·0003	9	·0006	1·33	7. 58—23. 58	16·00	− ·0004	− ·0010	− ·0160	− ·0160	16·00	− ·0010	5	·0001	·0003	3·20
+ ·0050	16·00	+ ·0003	1	·0008	5·08	1. 48—15. 58	14·17	− ·0002	− ·0005	− ·0071	− ·0071	14·17	− ·0005	2	·0003	·0008	7·09
			1	·0013	4·92												
			3	·0013	2·00												
− ·0075	8·73	− ·0009	6	·0008	0·42	7. 58—16. 46	8·80	− ·0005	− ·0013	− ·0114	− ·0114	8·80	− ·0013	3	·0003	·0008	2·93
			1	·0013	0·07												
			17	·0007	0·36												
− ·0116	15·79	− ·0007	2	·0006	1·69	7. 58—23. 58	16·00	+ ·0005	+ ·0013	+ ·0208	+ ·0208	16·00	+ ·0013	5	·0002	·0005	3·20
			27	·0005	0·46												
− ·0062	12·93	− ·0005	12	·0007	0·16	0. 38— 9. 58	9·33	+ ·0012	+ ·0031	+ ·0289	+ ·0274	12·33	+ ·0022	6	·0005	·0013	1·56
			16	·0007	0·30	9. 58—12. 58	3·00	− ·0002	− ·0005	− ·0015				1	·0006	·0015	3·00
			8	·0011	0·76												
+ ·0029	13·80	+ ·0002	1	·0023	5·48	9. 58—23. 58	14·00	+ ·0004	+ ·0010	+ ·0140	+ ·0140	14·00	+ ·0010	3	·0003	·0008	4·67
			1	·0015	4·55												
			4	·0005	0·94												
− ·0148	23·77	− ·0006	11	·0015	0·47	0. 7—13. 45	13·63	+ ·0006	+ ·0015	+ ·0204	+ ·0292	23·68	+ ·0012	7	·0005	·0013	1·95
			4	·0015	0·34	13. 45—16. 4	2·32	− ·0002	− ·0005	− ·0012				1	·0000	·0000	2·32
			4	·0008	0·51	16. 4—23. 48	7·73	+ ·0005	+ ·0013	+ ·0100				4	·0003	·0008	1·93
			2	·0020	1·43												
			10	·0008	1·23												
− ·0183	19·83	− ·0009	3	·0005	1·37	3. 58—23. 58	20·00	− ·0002	− ·0005	− ·0100	− ·0100	20·00	− ·0005	7	·0002	·0005	2·86
			4	·0007	0·18												
			11	·0011	1·36												
− ·0305	14·00	− ·0022	3	·0014	0·33	0. 4— 8. 8	8·06	+ ·0021	+ ·0054	+ ·0435	+ ·0225	13·89	+ ·0016	20	·0003	·0008	0·40
			27	·0010	0·15	8. 8—13. 58	5·83	− ·0014	− ·0036	− ·0210				8	·0003	·0008	0·73
			29	·0013	0·31												
− ·0102	6·00	− ·0017	11	·0009	0·55	3. 58— 9. 58	6·00	+ ·0004	+ ·0010	+ ·0060	+ ·0060	6·00	+ ·0010	3	·0002	·0005	2·00
− ·0509	17·70	− ·0029	10	·0016	0·98	5. 58—23. 58	18·00	− ·0008	− ·0021	− ·0378	− ·0378	18·00	− ·0021	3	·0006	·0015	6·00
			2	·0013	0·42												
			16	·0007	0·44												
− ·0227	11·82	− ·0019	7	·0012	0·41	0. 13—11. 58	11·75	+ ·0030	+ ·0077	+ ·0905	+ ·0905	11·75	+ ·0077	5	·0002	·0005	2·35
			6	·0009	0·09												
			16	·0007	0·53												
− ·0279	14·65	− ·0019	23	·0007	0·37	1. 48— 9. 50	8·03	+ ·0005	+ ·0013	+ ·0104	− ·0002	16·16	·0000	4	·0006	·0015	2·01
			2	·0007	0·14	9. 50—17. 58	8·13	− ·0005	− ·0013	− ·0106				3	·0003	·0008	2·71
			4	·0013	1·49												
+ ·0170	10·00	+ ·0017	9	·0015	1·11	3. 58—10. 10	6·20	+ ·0006	+ ·0015	+ ·0093	+ ·0074	10·00	+ ·0007	6	·0002	·0005	1·03
						10. 10—13. 58	3·80	− ·0002	− ·0005	− ·0019				1	·0003	·0008	3·80

DECLINATION MAGNET.

Month and Day.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.
1847.	h m h m	h	′				h			′		h
Feb. 24	0. 0—1.52	1·87	+ 5·2	+0·0015	+0·0028	−0·0167	10·00	−0·0017	9	0·7	0·0002	0·21
	1.52—10. 0	8·13	− 8·1	− ·0024	− ·0195				11	3·5	·0010	0·74
Mar. 1	4. 0—7.31	3·52	+ 8·7	+ ·0025	+ ·0088	+ ·0082	8·00	+ ·0010	25	1·6	·0005	0·14
	7.31—7.50	0·32	− 3·5	− ·0010	− ·0003				2	11·4	·0033	0·16
	7.50—9.31	1·68	+ 6·0	+ ·0017	+ ·0029				10	4·8	·0014	0·17
	9.31—12. 0	2·48	− 4·3	− ·0013	− ·0032				5	6·1	·0018	0·49
" 19	0. 0—4.48	4·80	+ 4·6	+ ·0013	+ ·0062	− ·0121	19·98	− ·0006	8	4·1	·0012	0·60
	4.49—5.41	0·87	− 1·6	− ·0005	− ·0004				4	3·6	·0010	0·22
	5.41—6.16	0·58	+ 2·0	+ ·0006	+ ·0003				3	3·4	·0010	0·19
	6.16—9.17	3·02	−18·8	− ·0055	− ·0166				6	15·6	·0045	0·50
	9.17—10. 6	0·82	+ 2·5	+ ·0007	+ ·0006				7	6·3	·0018	0·12
	10. 7—15. 2	4·92	− 3·6	− ·0010	− ·0049				7	2·5	·0007	0·70
	15. 2—16.29	1·45	+ 5·1	+ ·0015	+ ·0022				3	7·7	·0022	0·48
	16.29—16.51	0·37	−10·5	− ·0031	− ·0011				3	8·2	·0024	0·12
	16.51—20. 0	3·15	+ 1·8	+ ·0005	+ ·0016				8	3·3	·0010	0·39
April 3	4. 0—12. 0	8·00	−10·2	− ·0030	− ·0240	− ·0240	8·00	− ·0030	15	4·9	·0014	0·53
" 7	6. 0—15.39	9·65	− 4·8	− ·0014	− ·0135	− ·0046	16·00	− ·0003	11	3·3	·0010	0·88
	15.39—22. 0	6·35	+ 4·9	+ ·0014	+ ·0089				8	5·2	·0015	0·79
" 21	4. 0—6.36	2·60	+ 2·1	+ ·0006	+ ·0016	+ ·0004	5·98	+ ·0001	1	1·3	·0004	2·60
	6.37—8. 3	1·43	− 1·7	− ·0005	− ·0012				8	5·8	·0017	0·18
	8. 3—10. 0	1·95	+ 0·1	·0000	·0000				3	0·5	·0001	0·65
May 7	14. 0—22. 0	8·00	+14·8	+ ·0043	+ ·0344	+ ·0344	8·00	+ ·0043	6	5·0	·0015	1·33
June 24	3.57—8. 0	4·05	+ 9·3	+ ·0027	+ ·0109	+ ·0109	4·05	+ ·0027	3	5·3	·0015	1·35
July 9												
Sept. 24	0. 0—2.23	2·38	−17·0	− ·0049	− ·0117	+ ·0082	17·98	+ ·0005	37	3·9	·0011	0·06
	2.23—2.24	0·02	+ 0·2	+ ·0001	·0000				1	1·0	·0003	0·02
	2.25—3.37	1·20	− 6·7	− ·0019	− ·0023				16	5·5	·0016	0·07
	3.37—6. 2	2·42	+27·8	+ ·0081	+ ·0196				35	9·0	·0026	0·07
	6. 2—8. 7	2·08	− 6·7	− ·0019	− ·0040				19	5·0	·0015	0·11
	8. 7—9.19	1·20	+ 4·1	+ ·0012	+ ·0014				6	1·4	·0004	0·20
	9.19—10.15	0·93	−20·0	− ·0058	− ·0054				12	9·9	·0029	0·08
	10.15—11. 0	0·75	+ 2·8	+ ·0008	+ ·0006				6	11·8	·0034	0·12
	11. 0—11.18	0·30	− 0·3	− ·0001	·0000				3	4·0	·0012	0·10
	11.18—18. 0	6·70	+ 5·3	+ ·0015	+ ·0100				13	5·0	·0015	0·52
" 26	14. 0—22.17	8·28	− 6·7	− ·0019	− ·0157	− ·0159	9·81	− ·0016	7	3·6	·0010	1·18
	22.17—23.22	1·08	+ 0·8	+ ·0002	+ ·0002				2	3·9	·0011	0·54
	23.22—23.49	0·45	− 3·6	− ·0010	− ·0004				3	3·7	·0011	0·15
" 27	0. 0—5.37	5·62	+ 1·1	+ ·0003	+ ·0017	+ ·0008	10·00	+ ·0001	9	3·5	·0010	0·62
	5.37—8.19	2·70	− 3·1	− ·0009	− ·0024				4	6·0	·0017	0·68
	8.19—10. 0	1·68	+ 3·2	+ ·0009	+ ·0015				3	0·7	·0002	0·56
Oct. 22	18. 0—21.41	3·68	− 0·4	− ·0001	− ·0004	+ ·0033	5·78	+ ·0006	1	2·3	·0007	3·68
	21.42—22. 4	0·37	+ 6·3	+ ·0018	+ ·0007				11	2·1	·0006	0·03
	22. 5—22.11	0·10	− 3·2	− ·0009	− ·0001				2	7·4	·0022	0·05
	22.11—23.49	1·63	+ 6·6	+ ·0019	+ ·0031				15	2·6	·0008	0·11
" 23	0. 0—0.25	0·42	− 1·1	− ·0003	− ·0001	+ ·0091	11·94	+ ·0008	1	1·3	·0004	0·42
	0.26—0.35	0·15	+ 0·3	+ ·0001	·0000				2	3·0	·0009	0·07
	0.35—1.32	0·95	− 3·8	− ·0011	− ·0010				7	2·7	·0008	0·13
	1.32—1.47	0·25	+ 2·1	+ ·0006	+ ·0002				2	1·6	·0005	0·13
	1.47—2.22	0·58	− 4·7	− ·0014	− ·0008				5	5·9	·0017	0·12
	2.23—5.26	3·05	+12·8	+ ·0037	+ ·0113				39	4·3	·0013	0·08
	5.27—6.20	0·88	− 3·5	− ·0010	− ·0009				7	3·2	·0009	0·13
	6.20—7. 3	0·72	+ 8·2	+ ·0024	+ ·0017				7	6·1	·0018	0·10
	7. 3—8.52	1·82	− 8·2	− ·0024	− ·0044				11	5·0	·0015	0·16
	8.53—12. 0	3·12	+ 3·6	+ ·0010	+ ·0031				5	8·6	·0025	0·62
				Observations stopped for 10 hours.								
	22. 0—23.57	1·95	− 4·4	− ·0013	− ·0025	− ·0025	1·95	− ·0013	3	1·8	·0005	0·65

HORIZONTAL

Month and Day.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Aggregate Disturbance by Wave.
1847.	h m h m	h		
Feb. 24	0. 2—10. 2	10·00	−0·0011	−0·0110
Mar. 1	4. 2—7.11	3·15	+ ·0019	+ ·0060
	7.11—12. 2	4·85	− ·0022	− ·0107
" 19	0. 2—5.13	5·18	+ ·0011	+ ·0057
	5.13—20. 2	14·82	− ·0061	− ·0903
April 3	4. 2—9.42	5·67	− ·0011	− ·0062
	9.42—10. 8	0·43	+ ·0006	+ ·0003
	10. 8—12. 2	1·90	− ·0001	− ·0002
" 7	6. 2—9.44	3·70	+ ·0003	+ ·0011
	9.44—22. 2	12·30	− ·0041	− ·0504
" 21	4. 2—9.30	5·47	− ·0022	− ·0120
May 7	14. 2—17.46	3·73	+ ·0011	+ ·0041
	17.46—22. 2	4·27	− ·0017	− ·0073
June 24			Values insufficient	
July 9	12. 2—16. 2	4·00	− ·0088	− ·0352
Sept. 24	0. 2—1.23	1·35	− ·0026	− ·0035
	1.24—3.16	1·87	+ ·0132	+ ·0247
	3.16—3.48	0·53	− ·0048	− ·0025
	3.48—6.39	2·85	+ ·0307	+ ·0875
	6.39—18. 2	11·38	− ·0064	− ·0730
" 26	14. 2—23.49	9·78	− ·0041	− ·0401
" 27	0. 2—10. 2	10·00	− ·0030	− ·0300
Oct. 22	18. 2—23.31	5·48	− ·0074	− ·0406
	23.31—23.49	0·30	+ ·0011	+ ·0003
" 23	0. 2—2.49	2·78	− ·0034	− ·0095
	2.50—7.26	4·60	+ ·0047	+ ·0216
	7.26—12. 2	4·60	− ·0055	− ·0253
			Observations	
	22. 3—23.57	1·90	− ·0016	− ·0030

FORCE MAGNET.						VERTICAL FORCE MAGNET.											
Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Mean Period of Irregularity.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.
	h				h	h m h m	h					h					h
−0·0110	10·00	−0·0011	15	0·0007	0·67	0. 5— 9. 58	9·88	−0·0001	−0·0003	−0·0030	−0·0030	9·88	−0·0003	4	0·0002	0·0005	2·47
− ·0047	8·00	− ·0006	23 20	·0006 ·0012	0·14 0·24	3. 58—11. 58	8·00	+ ·0030	+ ·0077	+ ·0616	+ ·0616	8·00	+ ·0078	16	·0003	·0008	0·50
− ·0846	20·00	− ·0042	4 32	·0009 ·0015	1·30 0·48	1. 48— 9. 10 9. 10—19. 58	7·37 10·80	+ ·0013 − ·0037	+ ·0033 − ·0095	+ ·0243 − ·1026	− ·0783	18·17	− ·0043	9 15	·0004 ·0005	·0010 ·0013	0·82 0·72
− ·0061	8·00	− ·0008	11 2 5	·0005 ·0023 ·0027	0·52 0·22 0·38	3. 58—11. 58	8·00	+ ·0013	+ ·0033	+ ·0264	+ ·0264	8·00	+ ·0033	3	·0005	·0013	2·67
− ·0493	16·00	− ·0031	4 18	·0018 ·0013	0·93 0·68	5. 58— 9. 26 9. 26—21. 58	3·47 12·53	+ ·0002 − ·0006	+ ·0005 − ·0015	+ ·0017 − ·0188	− ·0171	16·00	− ·0011	2 2	·0002 ·0007	·0005 ·0018	1·74 6·27
− ·0120	5·47	− ·0022	8	·0012	0·68	3. 58— 9. 58	6·00	+ ·0010	+ ·0026	+ ·0156	+ ·0156	6·00	+ ·0026	2	·0003	·0008	3·00
− ·0032	8·00	− ·0004	1 3	·0001 ·0015	3·73 1·42	13. 58—23. 58	10·00	− ·0004	− ·0010	− ·0100	− ·0100	10·00	− ·0010	2	·0002	·0005	5·00
for Reduction.						Values insufficient for Reduction.											
− ·0352	4·00	− ·0088	8	·0017	0·50	11. 58—15. 58	4·00	− ·0045	− ·0116	− ·0464	− ·0464	4·00	− ·0116	5	·0006	·0015	0·80
+ ·0332	17·98	+ ·0018	9 40 4 23 52	·0007 ·0028 ·0020 ·0047 ·0018	0·15 0·05 0·13 0·12 0·22	0. 59— 9. 43 9. 43—17. 58	8·73 8·25	+ ·0038 − ·0020	+ ·0098 − ·0051	+ ·0856 − ·0421	+ ·0435	16·98	+ ·0026	88 31	·0007 ·0008	·0018 ·0021	0·10 0·27
− ·0401	9·78	− ·0041	15	·0009	0·65	13. 58—22. 16 22. 16—23. 58	8·30 1·70	− ·0014 + ·0009	− ·0036 + ·0023	− ·0299 + ·0039	− ·0260	10·00	− ·0026	6 3	·0004 ·0003	·0010 ·0008	1·38 0·57
− ·0300	10·00	− ·0030	12	·0010	0·83	0. 14— 9. 58	9·73	+ ·0024	+ ·0062	+ ·0603	+ ·0603	9·73	+ ·0062	10	·0008	·0021	0·97
− ·0403	5·78	− ·0070	29 1	·0014 ·0012	0·19 0·30	17. 58—23. 58	6·00	− ·0007	− ·0018	− ·0108	− ·0108	6·00	− ·0018	24	·0003	·0008	0·25
− ·0132	11·98	− ·0011	12 43 18	·0025 ·0018 ·0015	0·23 0·11 0·26	0. 22—10. 2 10. 2—11. 58	9·67 1·93	+ ·0043 − ·0017	+ ·0111 − ·0044	+ ·1073 − ·0085	+ ·0988	11·60	+ ·0085	55 3	·0005 ·0015	·0013 ·0039	0·18 0·64
stopped for 10 hours.						Observations stopped for 10 hours.											
− ·0030	1·90	− ·0016	1	·0021	1·90	21. 58—23. 58	2·00	+ ·0003	+ ·0008	+ ·0016	+ ·0016	2·00	+ ·0008	2	·0002	·0005	1·00

MONTH AND DAY.	DECLINATION MAGNET. Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.	HORIZONTAL Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Aggregate Disturbance by Wave.
	h m h m	h	′				h			′		h	h m h m	h		
1847. Oct. 24	0. 14— 1. 24	1·17	+ 1·2	+0·0003	+0·0003				2	1·9	0·0006	0·59	0. 14— 1. 21	1·12	−0·0001	−0·0001
	1. 24— 9. 8	7·73	−11·3	− ·0033	− ·0255				44	6·6	·0019	0·17	1. 21— 1. 27	0·10	+ ·0004	·0000
	9. 8— 9. 40	0·53	+ 1·7	+ ·0005	+ ·0003				2	6·4	·0019	0·26	1. 27— 2. 11	0·73	− ·0014	− ·0010
	9. 40—10. 20	0·67	− 2·6	− ·0008	− ·0005	+0·0137	23·31	+0·0006	3	4·0	·0012	0·22	2. 11— 8. 1	5·83	+ ·0040	+ ·0233
	10. 20—11. 43	1·38	+20·0	+ ·0058	+ ·0080				11	11·2	·0033	0·12	8. 1—23. 33	15·53	− ·0149	− ·2310
	11. 43—13. 40	1·95	−16·6	− ·0048	− ·0094				11	8·8	·0026	0·18				
	13. 40—23. 33	9·88	+14·1	+ ·0041	+ ·0405				40	4·0	·0012	0·25				
„ 25	0. 0— 2. 0	2·00	− 0·8	− ·0002	− ·0004				1	4·4	·0013	2·00	0. 3—10. 2	9·98	− ·0015	− ·0150
	2. 0— 3. 4	1·07	+ 1·1	+ ·0003	+ ·0003				3	3·8	·0011	0·36				
	3. 4— 4. 9	1·08	− 1·3	− ·0004	− ·0004	− ·0093	10·00	− ·0009	3	7·2	·0021	0·36				
	4. 9— 4. 44	0·58	+ 1·3	+ ·0004	+ ·0002				2	3·8	·0011	0·29				
	4. 44—10. 0	5·27	− 6·0	− ·0017	− ·0090				11	2·9	·0008	0·48				
Nov. 22	4. 0— 7. 36	3·60	+ 6·7	+ ·0019	+ ·0068				8	2·8	·0008	0·45	4. 2— 9. 37	5·58	+ ·0024	+ ·0134
	7. 36— 7. 53	0·28	− 2·5	− ·0007	− ·0002				3	4·9	·0014	0·09	9. 37—18. 3	8·43	− ·0052	− ·0438
	7. 53— 9. 44	1·85	+ 7·3	+ ·0021	+ ·0038				10	3·2	·0009	0·18				
	9. 45—11. 44	1·98	− 2·9	− ·0008	− ·0016	+ ·0120	13·98	+ ·0009	8	3·5	·0010	0·25				
	11. 44—16. 30	4·77	+ 4·7	+ ·0014	+ ·0067				3	11·2	·0033	1·59				
	16. 30—18. 0	1·50	− 7·9	− ·0023	− ·0035				2	8·7	·0025	0·75				
Dec. 17	1. 57— 5. 48	3·85	+10·9	+ ·0032	+ ·0123				15	5·2	·0015	0·26	1. 58— 6. 52	4·90	+ ·0029	+ ·0142
	5. 48— 5. 58	0·17	− 0·6	− ·0002	·0000				2	1·8	·0005	0·09	6. 52—23. 58	17·10	− ·0024	− ·0410
	5. 58— 6. 55	0·95	+ 2·2	+ ·0006	+ ·0006				14	3·2	·0009	0·07				
	6. 56— 7. 2	0·10	− 3·2	− ·0009	− ·0001				3	14·8	·0043	0·03				
	7. 2— 7. 23	0·35	+ 3·6	+ ·0010	+ ·0003				6	9·8	·0029	0·06				
	7. 23— 7. 51	0·47	− 2·4	− ·0007	− ·0003	+ ·0157	21·98	+ ·0007	6	3·0	·0009	0·08				
	7. 51— 9. 15	1·40	+ 6·2	+ ·0018	+ ·0025				9	4·9	·0014	0·16				
	9. 15—11. 7	1·87	− 2·9	− ·0008	− ·0015				8	9·1	·0026	0·23				
	11. 7—14. 10	3·05	+ 6·3	+ ·0018	+ ·0055				5	7·9	·0023	0·61				
	14. 10—15. 59	1·82	− 5·3	− ·0015	− ·0027				10	5·3	·0015	0·18				
	16. 0—18. 27	2·45	+ 3·4	+ ·0010	+ ·0024				4	3·2	·0009	0·61				
	18. 27—23. 57	5·50	− 1·9	− ·0006	− ·0033				4	2·6	·0008	1·38				
„ 18	0. 0— 2. 4	2·07	+ 2·3	+ ·0007	+ ·0014				8	2·7	·0008	0·26	0. 0—12. 3	12·05	− ·0016	− ·0193
	2. 4— 3. 5	1·02	− 1·5	− ·0004	− ·0004	− ·0120	12·02	− ·0010	7	3·1	·0009	0·14				
	3. 5— 3. 58	0·88	+ 2·8	+ ·0008	+ ·0007				10	2·1	·0006	0·09				
	3. 59—12. 2	8·05	− 5·7	− ·0017	− ·0137				4	9·4	·0027	2·01				
„ 19	13. 57—21. 11	7·23	+14·6	+ ·0042	+ ·0304	+ ·0175	9·98	+ ·0017	44	4·9	·0014	0·16	13. 58—23. 58	10·00	− ·0091	− ·0910
	21. 12—23. 57	2·75	−16·0	− ·0047	− ·0129				22	4·8	·0014	0·13				
„ 20	0. 0— 1. 35	1·58	−14·5	− ·0042	− ·0066				8	5·5	·0016	0·20	0. 0— 0. 24	0·40	+ ·0015	+ ·0006
	1. 35— 4. 25	2·83	+13·2	+ ·0038	+ ·0108				30	11·3	·0033	0·09	0. 24— 1. 59	1·58	− ·0005	− ·0008
	4. 25— 5. 32	1·12	−17·1	− ·0050	− ·0056				13	10·1	·0029	0·09	1. 59— 5. 1	3·03	+ ·0110	+ ·0333
	5. 32— 6. 36	1·07	+ 5·9	+ ·0017	+ ·0018				9	4·5	·0013	0·12	5. 1— 5. 29	0·47	− ·0056	− ·0026
	6. 36—10. 15	3·65	−10·1	− ·0029	− ·0106	− ·0132	18·01	− ·0007	23	11·1	·0032	0·16	5. 29— 5. 59	0·50	+ ·0018	+ ·0009
	10. 15—10. 38	0·38	+ 0·5	+ ·0001	·0000				1	5·8	·0017	0·38	5. 59—18. 3	12·07	− ·0074	− ·0895
	10. 38—11. 57	1·33	− 3·3	− ·0010	− ·0013				4	8·8	·0026	0·33				
	11. 58—12. 8	0·17	+ 0·4	+ ·0001	·0000				2	3·3	·0010	0·09				
	12. 8—15. 58	3·83	− 3·9	− ·0011	− ·0042				4	4·1	·0012	0·96				
	15. 59—18. 2	2·05	+ 4·0	+ ·0012	+ ·0025				3	1·5	·0004	0·68				
1848. Jan. 16	0. 42— 4. 34	3·87	+ 5·8	+0·0017	+0·0066	−0·0047	14·17	−0·0003	5	9·3	0·0027	0·77	3. 47—14. 7	10·33	−0·0033	−0·0340
	4. 34—14. 52	10·30	− 3·8	− ·0011	− ·0113				16	9·4	·0027	0·64				
„ 28	9. 40—20. 0	10·33	− 8·7	− ·0025	− ·0258	− ·0210	14·03	− ·0015	13	8·4	·0024	0·79	4. 45—12. 18	7·55	+ ·0039	+ ·0294
	20. 0—23. 42	3·70	+ 4·6	+ ·0013	+ ·0048				5	3·0	·0009	0·74	12. 18—17. 0	4·70	− ·0014	− ·0066
													17. 0—19. 25	2·42	+ ·0001	+ ·0002
													19. 25—23. 51	4·43	− ·0003	− ·0013
Feb. 20	1. 10— 4. 45	3·58	+ 2·5	+ ·0007	+ ·0025				2	5·6	·0016	1·79	9. 50—18. 53	9·05	− ·0037	− ·0335
	4. 45— 8. 16	3·52	− 3·0	− ·0009	− ·0032				6	5·5	·0016	0·59				
	8. 16— 9. 1	0·75	+ 0·5	+ ·0001	+ ·0001				1	5·3	·0015	0·75				
	9. 1—18. 16	9·25	− 9·3	− ·0027	− ·0250	− ·0192	22·53	− ·0009	17	5·1	·0015	0·54				
	18. 16—22. 46	4·50	+ 5·0	+ ·0015	+ ·0068				8	6·7	·0019	0·56				
	22. 46—23. 42	0·93	− 1·5	− ·0004	− ·0004				1	7·7	·0022	0·93				
„ 21	0. 30— 8. 4	7·57	+ 5·0	+ ·0015	+ ·0114				15	10·4	·0030	0·50	0. 20—17. 51	17·52	− ·0047	− ·0823
	8. 4—11. 35	3·52	− 4·2	− ·0012	− ·0042	+ ·0047	16·91	+ ·0003	8	14·3	·0042	0·44	17. 51—21. 56	4·08	+ ·0027	+ ·0110
	11. 35—14. 54	3·32	+ 4·3	+ ·0013	+ ·0043				5	8·9	·0026	0·66	21. 56—23. 8	1·20	− ·0024	− ·0029
	14. 54—17. 24	2·50	− 9·2	− ·0027	− ·0068				7	13·1	·0038	0·36				

FORCE MAGNET.						VERTICAL FORCE MAGNET.											
Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Mean Period of Irregularity.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.
	h				h	h m h m	h					h					h
			1	0·0023	1·12	0. 14— 8. 48	8·57	+0·0033	+0·0085	+0·0728				26	0·0007	0·0018	0·33
			2	·0032	0·05	8. 48—10. 10	1·37	− ·0005	− ·0013	− ·0018				5	·0009	·0023	0·27
−0·2088	23·31	−0·0090	5	·0015	0·15	10. 10—10. 24	0·23	+ ·0002	+ ·0005	+ ·0001				2	·0005	·0013	0·11
			29	·0014	0·20	10. 24—14. 36	4·20	− ·0025	− ·0064	− ·0269	+0·0538	23·73	+0·0023	27	·0011	·0028	0·16
			91	·0028	0·17	14. 36—19. 50	5·23	+ ·0005	+ ·0013	+ ·0068				13	·0006	·0015	0·40
						19. 50—21. 4	1·23	− ·0005	− ·0013	− ·0016				11	·0003	·0008	0·11
						21. 4—23. 58	2·90	+ ·0006	+ ·0015	+ ·0044				10	·0003	·0008	0·29
− ·0150	9·98	− ·0015	17	·0011	0·59	0. 29— 9. 58	9·48	+ ·0027	+ ·0069	+ ·0654	+ ·0654	9·48	+ ·0069	7	·0007	·0018	1·35
			20	·0008	0·28	3. 58—11. 12	7·23	+ ·0017	+ ·0044	+ ·0318				10	·0009	·0023	0·72
− ·0304	14·01	− ·0022	26	·0011	0·32	11. 12—19. 9	7·95	− ·0036	− ·0093	− ·0739	− ·0421	15·18	− ·0028	5	·0012	·0031	1·59
			12	·0014	0·41	1. 58—15. 58	14·00	+ ·0035	+ ·0090	+ ·1260	+ ·1260	14·00	+ ·0090	33	·0006	·0015	0·42
− ·0268	22·00	− ·0012	27	·0015	0·63												
− ·0193	12·05	− ·0016	21	·0011	0·57	Values insufficient for Reduction.											
− ·0910	10·00	− ·0091	44	·0022	0·23	Values insufficient for Reduction.											
			1	·0027	0·40												
			6	·0034	0·26												
			15	·0039	0·20												
− ·0581	18·05	− ·0032	4	·0024	0·12	Values insufficient for Reduction.											
			3	·0060	0·17												
			35	·0031	0·34												
−0·0340	10·33	−0·0033	21	0·0018	0·49												
			5	·0017	1·51												
+ ·0217	19·10	+ ·0011	7	·0031	0·67												
			4	·0019	0·61												
			3	·0016	1·48												
− ·0335	9·05	− ·0037	16	·0021	0·57												
			27	·0034	0·65												
− ·0742	22·80	− ·0033	19	·0043	0·22												
			3	·0034	0·40												

Month and Day.	DECLINATION MAGNET. Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.	HORIZONTAL Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Aggregate Disturbance by Wave.
	h m h m	h	′				h			′		h	h m h m	h		
1848. Feb. 22	8. 48—11. 44	2·93	− 5·2	−0·0015	−0·0044	−0·0043	4·01	−0·0010	3	9·1	0·0026	0·98	8. 52—12. 53	4·02	−0·0031	−0·0125
	11. 44—12. 49	1·08	+ 0·4	+ ·0001	+ ·0001				1	6·6	·0019	1·08				
„ 23	3. 42—16. 5	12·38	− 4·7	− ·0014	− ·0174	− ·0113	17·96	− ·0006	8	4·4	·0013	1·55	2. 42— 5. 33	2·85	− ·0004	− ·0011
	16. 5—21. 40	5·58	+ 3·7	+ ·0011	+ ·0061				8	7·7	·0022	0·70	5. 33— 6. 20	0·78	+ ·0002	+ ·0002
													6. 20—11. 15	4·92	− ·0003	− ·0015
„ 24	3. 7—10. 46	7·65	+ 5·4	+ ·0016	+ ·0122	+ ·0335	20·75	+ ·0016	13	6·7	·0019	0·59	0. 18— 2. 6	1·80	− ·0020	− ·0036
	10. 46—12. 44	1·97	− 3·5	− ·0010	− ·0020				4	1·6	·0005	0·66	2. 6— 3. 58	1·87	+ ·0006	+ ·0011
	12. 44—23. 52	11·13	+ 7·2	+ ·0021	+ ·0233				7	8·0	·0023	1·59	3. 58—23. 5	19·12	− ·0025	− ·0478
Mar. 17	3. 45— 7. 5	3·33	+ 7·9	+ ·0023	+ ·0077	+ ·0077	3·33	+ ·0023	4	3·1	·0009	0·83	3. 36— 5. 10	1·57	+ ·0008	+ ·0013
													5. 10— 8. 48	3·63	− ·0022	− ·0080
„ 20	2. 5— 5. 13	3·13	+ 4·2	+ ·0012	+ ·0038	− ·0126	14·22	− ·0009	5	5·2	·0015	0·63	4. 51—16. 18	11·45	− ·0027	− ·0309
	5. 13— 8. 4	2·85	− 3·5	− ·0010	− ·0029				4	11·6	·0034	0·71				
	8. 4— 8. 38	0·57	+ 1·7	+ ·0005	+ ·0003				3	9·5	·0028	0·19				
	8. 38—16. 18	7·67	− 6·1	− ·0018	− ·0138				16	5·5	·0016	0·48				
April 7	3. 12— 8. 10	4·97	+ 4·3	+ ·0013	+ ·0065	+ ·0045	11·42	+ ·0004	8	8·1	·0024	0·62	7. 12— 7. 40	0·47	+ ·0011	+ ·0005
	8. 10—12. 11	4·02	− 2·6	− ·0008	− ·0032				12	5·3	·0015	0·33	7. 40—11. 15	3·58	− ·0022	− ·0079
	12. 11—14. 37	2·43	+ 1·6	+ ·0005	+ ·0012				1	5·3	·0015	2·43				
May 18	6. 17— 8. 32	2·25	+ 4·1	+ ·0012	+ ·0027	− ·0016	9·06	− ·0002	7	4·7	·0014	0·32	6. 14—12. 56	6·70	+ ·0017	+ ·0114
	8. 32— 9. 9	0·62	− 0·1	·0000	·0000				1	0·5	·0001	0·62	12. 56—14. 48	1·87	− ·0005	− ·0009
	9. 9—12. 31	3·37	+ 1·3	+ ·0004	+ ·0013				7	2·2	·0006	0·48				
	12. 31—15. 20	2·82	− 7·0	− ·0020	− ·0056				5	6·3	·0018	0·56				
July 11	0. 27— 3. 58	3·52	− 0·2	− ·0001	− ·0004	− ·0054	16·43	− ·0003	2	2·4	·0007	1·76	1. 30— 8. 21	6·85	+ ·0020	+ ·0137
	3. 58— 8. 20	4·37	+ 4·4	+ ·0013	+ ·0057				5	7·1	·0021	0·87	8. 21—20. 54	12·55	− ·0044	− ·0552
	8. 20—10. 18	1·97	− 4·6	− ·0013	− ·0026				5	5·7	·0017	0·39				
	10. 18—11. 19	1·02	+ 1·9	+ ·0006	+ ·0006				3	6·4	·0019	0·34				
	11. 19—16. 16	4·95	− 6·2	− ·0018	− ·0089				13	6·4	·0019	0·38				
	16. 16—16. 52	0·60	+ 1·2	+ ·0003	+ ·0002				5	3·1	·0009	0·12				
Oct. 18	1. 52— 8. 26	6·57	+ 6·8	+ ·0020	+ ·0131	+ ·0024	11·51	+ ·0002	9	7·1	·0021	0·73	1. 42— 3. 52	2·17	− ·0012	− ·0026
	8. 26— 9. 13	0·78	− 0·1	·0000	·0000				1	6·9	·0020	0·78	3. 52— 7. 35	3·72	+ ·0007	+ ·0026
	9. 13—10. 27	1·23	+ 6·8	+ ·0020	+ ·0025				3	15·3	·0045	0·41	7. 35—12. 15	4·67	− ·0058	− ·0271
	10. 27—13. 22	2·93	−15·6	− ·0045	− ·0132				8	14·4	·0042	0·37				
„ 23	2. 54— 5. 1	2·12	+10·1	+ ·0029	+ ·0061	− ·0060	10·61	− ·0006	4	6·0	·0017	0·53	3. 42— 6. 15	2·55	+ ·0026	+ ·0066
	5. 1— 5. 55	0·90	− 3·0	− ·0009	− ·0008				3	13·7	·0040	0·30	6. 15—12. 31	6·27	− ·0024	− ·0150
	5. 55— 7. 5	1·17	+ 2·8	+ ·0008	+ ·0009				5	4·6	·0013	0·23	12. 31—13. 33	1·03	+ ·0017	+ ·0018
	7. 5—13. 30	6·42	− 6·5	− ·0019	− ·0122				11	8·1	·0024	0·58				
„ 25	1. 46— 7. 4	5·30	+ 2·5	+ ·0007	+ ·0037	− ·0034	17·46	− ·0002	13	4·6	·0013	0·41	1. 40— 4. 14	2·57	+ ·0019	+ ·0049
	7. 4—16. 42	9·63	− 3·3	− ·0010	− ·0096				5	6·1	·0018	1·93	4. 14—11. 13	6·98	− ·0008	− ·0056
	16. 42—19. 14	2·53	+ 3·3	+ ·0010	+ ·0025				2	3·4	·0010	1·27	11. 13—15. 25	4·20	+ ·0010	+ ·0042
													15. 25—20. 12	4·78	− ·0002	− ·0010
„ 29	1. 25—12. 32	11·12	+ 1·3	+ ·0004	+ ·0044	− ·0041	16·12	− ·0002	8	2·9	·0008	1·39	13. 40—18. 5	4·42	·0000	·0000
	12. 32—17. 32	5·00	− 5·9	− ·0017	− ·0085				3	13·3	·0039	1·67				
Nov. 17	1. 0— 8. 1	7·02	+12·4	+ ·0036	+ ·0253	− ·0003	20·00	·0000	13	5·8	·0017	0·54	1. 20— 2. 37	1·28	− ·0006	− ·0008
	8. 1— 9. 38	1·62	− 3·0	− ·0009	− ·0015				4	8·7	·0025	0·40	2. 37— 3. 43	1·10	+ ·0003	+ ·0003
	9. 38— 9. 57	0·32	+ 8·1	+ ·0024	+ ·0007				3	14·6	·0042	0·11	3. 43—20. 40	16·95	− ·0115	− ·1950
	9. 57—13. 33	3·60	−28·2	− ·0082	− ·0295				4	20·9	·0061	0·90				
	13. 33—14. 6	0·55	+ 9·0	+ ·0026	+ ·0014				1	8·7	·0025	0·55				
	14. 7—16. 53	2·77	− 4·2	− ·0012	− ·0033				10	15·7	·0046	0·28				
	16. 53—21. 0	4·12	+ 5·4	+ ·0016	+ ·0066				3	6·0	·0017	1·37				
„ 18	0. 15—10. 30	10·25	− 8·1	− ·0024	− ·0246	− ·0266	14·15	− ·0019	12	5·9	·0017	0·85	1. 36— 8. 30	6·90	− ·0025	− ·0172
	10. 30—11. 52	1·37	+ 1·3	+ ·0004	+ ·0005				3	3·5	·0010	0·46	8. 30— 9. 42	1·20	+ ·0029	+ ·0035
	11. 52—14. 24	2·53	− 3·4	− ·0010	− ·0025				2	6·2	·0018	1·27	9. 42—11. 54	2·20	− ·0029	− ·0064
Dec. 17	3. 7— 8. 12	5·08	+ 5·7	+ ·0017	+ ·0086	+ ·0011	9·51	+ ·0001	9	5·0	·0015	0·56	6. 38—12. 10	5·53	− ·0035	− ·0194
	8. 12—12. 38	4·43	− 5·8	− ·0017	− ·0075				10	9·0	·0026	0·44				
1849. Oct. 30	1. 0— 8. 42	7·70	+ 1·1	+0·0003	+0·0023	−0·0129	22·92	−0·0006	1	4·6	0·0013	7·70	1. 0—12. 25	11·42	+0·0003	+0·0034
	8. 42—18. 6	9·40	− 6·3	− ·0018	− ·0169				17	4·0	·0012	0·55	12. 25—23. 50	11·42	− ·0017	− ·0194
	18. 6—23. 55	5·82	+ 1·0	+ ·0003	+ ·0017				1	7·5	·0022	5·82				
Nov. 27	0. 50— 8. 27	7·62	+ 1·6	+ ·0005	+ ·0038	+ ·0291	23·08	+ ·0013	2	2·3	·0007	3·81	1. 30— 8. 41	7·18	− ·0003	− ·0022
	8. 27— 8. 56	0·48	− 1·8	− ·0005	− ·0002				1	7·8	·0023	0·48	8. 41—14. 25	5·73	+ ·0002	+ ·0011
	8. 56—23. 55	14·98	+ 5·9	+ ·0017	+ ·0255				8	5·3	·0015	1·87	14. 25—23. 55	9·50	− ·0026	− ·0247

FORCE MAGNET.						VERTICAL FORCE MAGNET.											
Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Mean Period of Irregularity.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.
	h				h	h m h m	h					h					h
−0·0125	4·02	−0·0031	5	0·0017	0·80												
− ·0024	8·55	− ·0003	1	·0003	2·85												
			3	·0024	0·26												
			8	·0022	0·61												
− ·0503	22·79	− ·0022	1	·0010	1·80												
			3	·0022	0·62												
			17	·0020	1·12												
− ·0067	5·20	− ·0013	1	·0001	1·57												
			6	·0023	0·61												
− ·0309	11·45	− ·0027	20	·0024	0·57												
− ·0074	4·05	− ·0018	1	·0032	0·47												
			8	·0026	0·45												
+ ·0105	8·57	+ ·0012	10	·0020	0·67												
			2	·0029	0·94												
− ·0415	19·40	− ·0021	10	·0028	0·69												
			15	·0022	0·84												
− ·0271	10·56	− ·0026	3	·0011	0·72	6. 5—13. 13	7·13	−0·0053	−0·0136	−0·0970	−0·0970	7·13	−0·0136	14	0·0015	0·0039	0·51
			5	·0029	0·74												
			10	·0049	0·47												
− ·0066	9·85	− ·0007	6	·0023	0·43												
			12	·0020	0·52												
			1	·0012	1·03												
+ ·0025	18·53	+ ·0001	7	·0012	0·37	Values insufficient for Reduction.											
			9	·0016	0·78												
			5	·0009	0·84												
			1	·0025	4·78												
·0000	4·42	·0000	1	·0018	4·42												
− ·1955	19·33	− ·0101	2	·0025	0·64	1.47— 9. 2	7·25	+ ·0023	+ ·0059	+ ·0428				3	·0037	·0095	2·42
			3	·0019	0·37	9. 2—10. 2	1·00	− ·0006	− ·0015	− ·0015				6	·0027	·0069	0·17
			72	·0032	0·24	10. 2—10. 33	0·52	+ ·0020	+ ·0051	+ ·0027				3	·0053	·0136	0·17
						10. 33—11. 12	0·65	− ·0013	− ·0033	− ·0021	+ ·0601	18·94	+ ·0032	2	·0025	·0064	0·33
						11. 12—13. 31	2·32	+ ·0019	+ ·0049	+ ·0114				8	·0013	·0033	0·29
						13. 31—15. 13	1·70	− ·0011	− ·0028	− ·0048				7	·0026	·0067	0·24
						15. 13—20. 43	5·50	+ ·0008	+ ·0021	+ ·0116				12	·0013	·0033	0·46
− ·0201	10·30	− ·0020	10	·0015	0·69	8. 45—13. 0	4·25	+ ·0019	+ ·0049	+ ·0208	+ ·0208	4·25	+ ·0050	1	·0003	·0008	4·25
			3	·0033	0·40												
			4	·0013	0·55												
− ·0194	5·53	− ·0035	12	·0018	0·46	1. 40—12. 0	10·33	− ·0028	− ·0072	− ·0744	− ·0744	10·33	− ·0072	14	·0005	·0013	0·74
−0·0160	22·84	−0·0007	4	0·0029	2·86	1. 0—23. 55	22·92	−0·0059	−0·0152	−0·3484	−0·3484	22·92	−0·0152	4	0·0004	0·0010	5·73
			4	·0019	2·86												
− ·0258	22·41	− ·0012	3	·0011	2·39	Values insufficient for Reduction.											
			2	·0014	2·87												
			2	·0053	4·75												

Month and Day.	DECLINATION MAGNET.												HORIZONTAL			
	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Aggregate Disturbance by Wave.
1850.	h m h m	h	′				h			′		h	h m h m	h		
Feb. 22	0. 0— 8.34	8·57	− 1·5	−0·0004	−0·0034				7	2·4	0·0007	1·22	0. 0— 6.25	6·42	+0·0012	+0·0077
	8.34— 9.32	0·97	+ 0·4	+ ·0001	+ ·0001	−0·0076	23·67	−0·0003	2	5·9	·0017	0·49	6.25—10.30	4·08	− ·0003	− ·0012
	9.32—17. 1	7·48	− 4·0	− ·0012	− ·0090				15	2·7	·0008	0·50	10.30—11.37	1·12	+ ·0001	+ ·0001
	17. 1—23.40	6·65	+ 2·4	+ ·0007	+ ·0047				3	2·0	·0006	2·22	11.37—23.28	11·85	− ·0013	− ·0154
„ 23	0.10— 7.24	7·23	+ 4·7	+ ·0014	+ ·0101				15	6·0	·0017	0·48	0. 0— 1.20	1·33	+ ·0002	+ ·0003
	7.24— 8. 8	0·73	− 3·2	− ·0009	− ·0007				4	3·9	·0011	0·18	1.20—23.20	22·00	− ·0015	− ·0330
	8. 8— 8.44	0·60	+ 4·8	+ ·0014	+ ·0008	+ ·0034	23·57	+ ·0001	4	4·3	·0012	0·15				
	8.44—10.16	1·53	− 1·0	− ·0003	− ·0005				6	5·8	·0017	0·26				
	10.16—10.51	0·58	+ 0·7	+ ·0002	+ ·0001				2	3·4	·0010	0·29				
	10.51—23.45	12·90	− 1·8	− ·0005	− ·0064				4	2·3	·0007	3·23				
Mar. 31	0. 5— 6.45	6·67	+ 2·5	+ ·0007	+ ·0047				8	1·7	·0005	0·83	0. 3—23.30	23·45	− ·0016	− ·0375
	6.45—16.32	9·78	− 5·1	− ·0015	− ·0147	− ·0104	23·88	− ·0004	18	3·6	·0010	0·54				
	16.32—18. 2	1·50	+ 1·8	+ ·0005	+ ·0008				2	2·8	·0008	0·75				
	18. 2—23.58	5·93	− 0·7	− ·0002	− ·0012				1	1·5	·0004	5·93				
May 7													0. 0— 6. 2	6·03	− ·0003	− ·0018
													6. 2—14.12	8·17	+ ·0014	+ ·0114
													14.12—23.55	9·72	− ·0012	− ·0117
June 13	0. 0— 9. 7	9·12	+ 0·6	+ ·0002	+ ·0018	− ·0249	23·97	− ·0010	1	1·7	·0005	9·12	0. 0— 9.51	9·85	+ ·0024	+ ·0236
	9. 7—23.58	14·85	− 6·3	− ·0018	− ·0267				12	5·0	·0015	1·24	9.51—23.23	13·53	− ·0022	− ·0298
Oct. 1	0.43—23.57	23·23	+ 7·2	+ ·0021	+ ·0487	+ ·0487	23·23	+ ·0021	34	3·9	·0011	0·68	1. 0—23.40	22·67	− ·0023	− ·0522
„ 2	0.30— 6. 4	5·57	+ 0·7	+ ·0002	+ ·0011				5	3·9	·0011	1·11	0.20—23.55	23·58	− ·0021	− ·0495
	6. 4— 8. 1	1·95	− 1·6	− ·0005	− ·0010	+ ·0401	23·47	+ ·0017	4	6·2	·0018	0·49				
	8. 1—23.58	15·95	+ 8·7	+ ·0025	+ ·0400				16	5·6	·0016	1·00				
1851.																
Jan. 16	0.20— 2.28	2·13	− 1·8	−0·0005	−0·0011				2	5·1	0·0015	1·06	0.30—12.24	11·90	+0·0027	+0·0321
	2.28— 9.40	7·20	+ 4·4	+ ·0013	+ ·0094	−0·0244	23·58	−0·0010	19	3·0	·0009	0·38	12.24—23.55	11·52	− ·0017	− ·0196
	9.40—23.55	14·25	− 7·9	− ·0023	− ·0327				22	5·4	·0016	0·65				
„ 19	0. 0—10.31	10·52	− 0·9	− ·0003	− ·0032				8	1·7	·0005	1·32	0. 0—22. 5	22·08	+ ·0018	+ ·0398
	10.31—11.54	1·38	+ 1·6	+ ·0005	+ ·0007	+ ·0175	23·97	+ ·0007	3	5·1	·0015	0·46	22. 5—23.59	1·90	− ·0037	− ·0070
	11.54—15.15	3·35	− 2·9	− ·0008	− ·0027				7	2·2	·0006	0·48				
	15.15—23.58	8·72	+ 8·8	+ ·0026	+ ·0227				19	3·9	·0011	0·46				
Feb. 18	0.50— 9. 9	8·32	+ 3·0	+ ·0009	+ ·0075				6	1·2	·0003	1·39	0.50—12.55	12·08	+ ·0009	+ ·0109
	9. 9—12.47	3·63	− 0·8	− ·0002	− ·0007				3	1·7	·0005	1·21	12.55—23.55	11·00	− ·0036	− ·0396
	12.47—14.10	1·38	+ 3·1	+ ·0009	+ ·0012	+ ·0082	23·13	+ ·0004	4	3·7	·0011	0·35				
	14.10—16.42	2·53	−10·6	− ·0031	− ·0078				4	11·9	·0035	0·63				
	16.42—23.58	7·27	+ 3·8	+ ·0011	+ ·0080				5	5·3	·0015	1·45				
Sept. 3	1. 0— 2.12	1·20	+ 0·1	·0000	·0000				1	0·4	·0001	1·20	0.30—10.35	10·08	− ·0004	− ·0040
	2.12— 3.56	1·73	− 1·2	− ·0003	− ·0005				1	4·6	·0013	1·73	10.35—17.25	6·83	+ ·0007	+ ·0048
	3.56— 5.51	1·92	+ 0·9	+ ·0003	+ ·0006	+ ·0451	18·55	+ ·0024	1	4·5	·0013	1·92	17.25—23.54	6·48	− ·0067	− ·0434
	5.51— 7.52	2·02	− 1·0	− ·0003	− ·0006				2	2·4	·0007	1·01				
	7.52—19.33	11·68	+13·3	+ ·0039	+ ·0456				14	6·6	·0019	0·83				
„ 4	0.32— 6.41	6·15	+ 8·6	+ ·0025	+ ·0154				9	8·4	·0024	0·68	0. 3— 3.29	3·43	− ·0032	− ·0110
	6.41— 7.30	0·82	− 4·7	− ·0014	− ·0011				3	6·1	·0018	0·27	3.29— 4.22	0·88	+ ·0004	+ ·0003
	7.30— 7.37	0·12	+ 1·0	+ ·0003	·0000				1	4·1	·0012	0·12	4.22— 4.46	0·40	− ·0002	− ·0001
	7.37— 8.34	0·95	− 2·4	− ·0007	− ·0007	+ ·0168	23·39	+ ·0006	4	9·1	·0026	0·24	4.46— 7.42	2·93	+ ·0035	+ ·0103
	8.34— 9.11	0·62	+ 1·5	+ ·0004	+ ·0002				2	3·9	·0011	0·31	7.42—23.55	16·22	− ·0014	− ·0227
	9.11—11.31	2·33	− 0·9	− ·0003	− ·0007				6	2·9	·0008	0·39				
	11.31—23.55	12·40	+ 1·0	+ ·0003	+ ·0037				4	4·1	·0012	3·10				
„ 6	0. 0—20.23	20·38	− 9·0	− ·0026	− ·0530	− ·0465	23·98	− ·0019	14	5·8	·0017	1·46	0. 0— 6. 0	6·00	− ·0007	− ·0042
	20.23—23.59	3·60	+ 6·2	+ ·0018	+ ·0065				4	7·1	·0021	0·90	6. 0—16. 0	10·00	+ ·0007	+ ·0070
													16. 0—23.50	7·83	− ·0034	− ·0266
„ 7	0. 2— 4.33	4·52	+ 6·1	+ ·0018	+ ·0081				35	6·3	·0018	0·13	0. 7— 0.56	0·82	− ·0056	− ·0046
	4.33— 7. 4	2·52	− 6·7	− ·0019	− ·0048				16	8·2	·0024	0·16	0.56— 3.30	2·57	+ ·0051	+ ·0131
	7. 4— 7. 9	0·08	+ 5·4	+ ·0016	+ ·0001				2	3·4	·0010	0·04	3.30— 3.54	0·40	− ·0011	− ·0004
	7. 9— 9. 5	1·93	−14·4	− ·0042	− ·0081	− ·0052	22·96	− ·0002	8	11·5	·0033	0·24	3.54— 6.50	2·93	+ ·0044	+ ·0129
	9. 5—10.31	1·43	+ 4·8	+ ·0014	+ ·0020				8	6·7	·0019	0·18	6.50— 7.15	0·42	− ·0017	− ·0007
	10.31—17.16	6·75	− 6·6	− ·0019	− ·0128				17	2·9	·0008	0·40	7.15— 7.38	0·38	+ ·0016	+ ·0006
	17.16—23. 0	5·73	+ 6·2	+ ·0018	+ ·0103				3	4·7	·0014	1·91	7.38—23.59	16·35	− ·0048	− ·0785

FORCE MAGNET.						VERTICAL FORCE MAGNET.											
Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Mean Period of Irregularity.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.
	h				h	h m h m	h					h					h
−0·0088	23·47	−0·0004	4 6 3 13	0·0024 ·0012 ·0009 ·0013	1·61 0·68 0·37 0·91	0. 10—23. 30	23·33	+0·0034	+0·0087	+0·2030	+0·2030	23·33	+0·0087	5	0·0009	0·0023	4·67
− ·0327	23·33	− ·0014	4 24	·0027 ·0021	0·33 0·92	0. 0— 4. 5 4. 5—23. 30	4·08 19·42	+ ·0001 − ·0006	+ ·0003 − ·0015	+ ·0012 − ·0291	− ·0279	23·50	− ·0012	1 2	·0001 ·0024	·0003 ·0062	4·08 9·71
− ·0375	23·45	− ·0016	17	·0015	1·38	0. 0—23. 15	23·25	·0000	·0000	·0000	·0000	23·25	·0000	1	·0028	·0072	23·25
− ·0021	23·92	− ·0001	1 8 4	·0012 ·0001 ·0018	6·03 1·02 2·43	Values insufficient for Reduction.											
− ·0062	23·38	− ·0003	5 9	·0016 ·0014	1·97 1·50	0. 0—23. 40	23·67	− ·0064	− ·0164	− ·3882	− ·3882	23·67	− ·0164	4	·0007	·0018	5·92
− ·0522	22·67	− ·0023	30	·0013	0·76	1. 0—23. 0	22·00	− ·0021	− ·0054	− ·1188	− ·1188	22·00	− ·0054	8	·0006	·0015	2·75
− ·0495	23·58	− ·0021	25	·0016	0·94	0. 30— 7. 37 7. 37—23. 5	7·12 15·47	+ ·0003 − ·0004	+ ·0008 − ·0010	+ ·0057 − ·0155	− ·0098	22·59	− ·0004	5 2	·0007 ·0001	·0018 ·0003	1·42 7·73
+0·0125	23·42	+0·0005	21 15	0·0013 ·0011	0·57 0·77	0. 35—23. 30	22·92	−0·0017	−0·0044	−0·1009	−0·1009	22·92	−0·0044	4	0·0009	0·0023	5·73
+ ·0328	23·98	+ ·0014	27 8	·0001 ·0016	0·82 0·24	0. 0—23. 10	23·17	− ·0023	− ·0059	− ·1367	− ·1367	23·17	− ·0059	6	·0005	·0013	3·86
− ·0287	23·08	− ·0012	12 27	·0007 ·0012	1·01 0·41	0. 30—23. 55	23·42	+ ·0023	+ ·0059	+ ·1382	+ ·1382	23·42	+ ·0059	20	·0003	·0008	1·17
− ·0426	23·39	− ·0018	8 4 16	·0003 ·0010 ·0009	1·26 1·71 0·40	0. 39—18. 0 18. 0—19. 58 19. 58—23. 55	17·35 1·97 3·95	+ ·0021 − ·0011 + ·0012	+ ·0054 − ·0028 + ·0031	+ ·0937 − ·0055 + ·0122	+ ·1004	23·27	+ ·0043	16 14 10	·0003 ·0004 ·0004	·0008 ·0010 ·0010	1·08 0·14 0·40
− ·0232	23·86	− ·0009	13 6 2 17 25	·0016 ·0010 ·0006 ·0016 ·0012	0·26 0·15 0·20 0·17 0·65	0. 57—23. 55	22·97	+ ·0030	+ ·0077	+ ·1769	+ ·1769	22·97	+ ·0077	42	·0004	·0010	0·55
− ·0238	23·83	− ·0010	5 13 22	·0005 ·0011 ·0018	1·20 0·77 0·36	0. 30— 8. 30 8. 30—13. 54 13. 54—23. 55	8·00 5·40 10·02	− ·0012 + ·0005 − ·0013	− ·0031 + ·0013 − ·0033	− ·0248 + ·0070 − ·0330	− ·0508	23·42	− ·0022	3 4 40	·0001 ·0008 ·0003	·0003 ·0021 ·0008	2·67 1·35 0·25
− ·0576	23·87	− ·0024	11 15 3 28 3 3 43	·0011 ·0016 ·0029 ·0020 ·0006 ·0060 ·0016	0·07 0·17 0·13 0·10 0·14 0·13 0·38	0. 5— 7. 26 7. 26—16. 30 16. 30—23. 55	7·35 9·07 7·42	+ ·0030 − ·0049 + ·0005	+ ·0077 − ·0126 + ·0013	+ ·0566 − ·1143 + ·0096	− ·0481	23·84	− ·0020	52 31 3	·0006 ·0006 ·0004	·0015 ·0015 ·0010	0·14 0·29 2·47

Month and Day.	DECLINATION MAGNET.												HORIZONTAL			
	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Aggregate Disturbance by Wave.
1851.	h m h m	h	′				h			′		h	h m h m	h		
Sept. 29	1. 12— 7. 40	6·47	−11·6	−0·0034	−0·0218	−0·0550	22·72	−0·0024	9	5·7	0·0017	0·72	0. 3— 3. 32	3·48	−0·0005	−0·0017
	7. 40— 8. 58	1·30	+ 3·2	+ ·0009	+ ·0012				3	3·1	·0009	0·43	3. 32—11. 18	7·77	+ ·0032	+ ·0249
	8. 58—17. 9	8·18	−17·5	− ·0051	− ·0417				40	8·8	·0026	0·20	11. 18—23. 55	12·62	− ·0056	− ·0706
	17. 9—20. 27	3·30	+ 4·7	+ ·0014	+ ·0046				5	7·7	·0022	0·66				
	20. 27—20. 30	0·05	− 1·3	− ·0004	·0000				1	13·5	·0039	0·05				
	20. 30—23. 55	3·42	+ 2·8	+ ·0008	+ ·0027				5	5·1	·0015	0·68				
Oct. 2	0. 15— 7. 27	7·20	+ 5·1	+ ·0015	+ ·0108	+ ·0037	23·72	+ ·0002	13	2·5	·0007	0·55	0. c— 3. 33	3·55	− ·0006	− ·0021
	7. 27— 8. 45	1·30	− 3·4	− ·0010	− ·0013				4	3·8	·0011	0·32	3. 33— 3. 57	0·40	+ ·0002	+ ·0001
	8. 45— 9. 34	0·82	+ 4·5	+ ·0013	+ ·0011				4	11·8	·0034	0·20	3. 57— 8. 17	4·33	− ·0012	− ·0052
	9. 34—13. 49	4·25	−11·5	− ·0033	− ·0140				8	8·0	·0023	0·53	8. 17— 8. 49	0·53	+ ·0002	+ ·0001
	13. 49—23. 58	10·15	+ 2·5	+ ·0007	+ ·0071				4	2·0	·0006	2·54	8. 49—23. 58	15·15	− ·0037	− ·0561
„ 28	0. 32—14. 1	13·48	− 8·0	− ·0023	− ·0310	+ ·0152	23·10	+ ·0007	12	4·5	·0013	1·12	0. 30—10. 16	9·77	+ ·0009	+ ·0088
	14. 1—23. 38	9·62	+16·4	+ ·0048	+ ·0462				12	8·3	·0024	0·80	10. 16—14. 48	4·53	− ·0009	− ·0041
													14. 48—16. 45	1·95	+ ·0022	+ ·0043
													16. 45—23. 10	6·42	− ·0052	− ·0334
Dec. 6	0. 12— 7. 57	7·75	+ 3·6	+ ·0010	+ ·0078	− ·0307	23·30	− ·0013	4	2·2	·0006	1·94	0. 30—23. 55	23·42	− ·0054	− ·1264
	7. 57—14. 55	6·97	−15·7	− ·0046	− ·0321				31	6·6	·0019	0·22				
	14. 55—15. 19	0·40	+ 1·2	+ ·0003	+ ·0001				1	16·5	·0048	0·40				
	15. 19—23. 30	8·18	− 2·6	− ·0008	− ·0065				4	2·5	·0007	2·04				
„ 28	0. 3— 3. 44	3·68	+ 2·9	+ ·0008	+ ·0029	+ ·0083	23·15	+ ·0004	8	2·0	·0006	0·46	0. 2— 8. 24	8·37	− ·0022	− ·0184
	3. 44— 6. 0	2·27	− 4·6	− ·0013	− ·0030				6	4·5	·0013	0·38	8. 24—12. 35	4·18	+ ·0003	+ ·0013
	6. 0— 6. 15	0·25	+ 0·7	+ ·0002	+ ·0001				1	6·1	·0018	0·25	12. 35—23. 58	11·38	− ·0004	− ·0046
	6. 15— 8. 15	2·00	− 9·0	− ·0026	− ·0052				7	6·6	·0019	0·29				
	8. 15—23. 12	14·95	+ 3·1	+ ·0009	+ ·0135				14	2·6	·0008	1·07				
„ 29	3. 30— 6. 44	3·23	− 4·0	− ·0012	− ·0039	− ·0360	18·49	− ·0020	7	1·9	·0006	0·46	1. 30—23. 55	22·42	− ·0028	− ·0627
	6. 44— 8. 8	1·40	+ 5·1	+ ·0015	+ ·0021				6	3·1	·0009	0·23				
	8. 8—19. 52	11·73	−10·3	− ·0030	− ·0351				32	3·7	·0011	0·37				
	19. 52—22. 0	2·13	+ 1·3	+ ·0004	+ ·0009				2	3·5	·0010	1·06				
1852.																
Jan. 4	0. 0— 8. 37	8·62	+ 6·2	+0·0018	+0·0155	+0·0245	23·84	+0·0010	14	2·6	0·0008	0·62	0. 0—22. 0	22·00	+0·0044	+0·0968
	8. 37—12. 37	4·00	− 4·9	− ·0014	− ·0056				8	7·2	·0021	0·50				
	12. 37—23. 50	11·22	+ 4·3	+ ·0013	+ ·0146				16	1·5	·0004	0·70				
„ 19	1. 17—11. 19	10·03	+ 1·6	+ ·0005	+ ·0050	+ ·0073	22·60	+ ·0003	2	1·1	·0003	5·02	0. 50— 4. 8	3·30	− ·0008	− ·0026
	11. 19—13. 38	2·32	− 5·6	− ·0016	− ·0037				6	3·6	·0010	0·38	4. 8—10. 38	6·50	+ ·0009	+ ·0059
	13. 38—14. 48	1·17	+ 2·8	+ ·0008	+ ·0009				5	2·2	·0006	0·23	10. 38—18. 43	8·08	− ·0024	− ·0194
	14. 48—17. 44	2·93	− 2·2	− ·0006	− ·0018				8	4·5	·0013	0·37	18. 43—19. 23	0·67	+ ·0006	+ ·0004
	17. 45—21. 3	3·30	+ 6·8	+ ·0020	+ ·0066				7	6·6	·0019	0·47	19. 23—23. 59	4·60	− ·0039	− ·0179
	21. 3—21. 18	0·25	− 0·4	− ·0001	·0000				2	1·7	·0005	0·13				
	21. 18—23. 54	2·60	+ 0·5	+ ·0001	+ ·0003				1	2·7	·0008	2·60				
Feb. 14	1. 30—15. 0	13·50	+ 1·6	+ ·0005	+ ·0068	− ·0073	22·27	− ·0003	3	0·6	·0002	4·50	0. 30—21. 46	21·27	+ ·0036	+ ·0766
	15. 0—21. 35	6·58	− 1·4	− ·0004	− ·0026				5	1·1	·0003	1·32	21. 46—22. 52	1·10	− ·0024	− ·0026
	21. 35—22. 0	0·42	+ 3·2	+ ·0009	+ ·0004				4	8·8	·0026	0·10	22. 52—23. 40	0·80	+ ·0039	+ ·0031
	22. 0—23. 46	1·77	−23·0	− ·0067	− ·0119				8	5·7	·0017	0·22				
„ 15	0. 0— 0. 46	0·77	+ 1·7	+ ·0005	+ ·0004	+ ·0006	23·73	·0000	2	2·3	·0007	0·39	0. 15— 3. 48	3·55	− ·0054	− ·0192
	0. 46— 6. 13	5·45	−11·5	− ·0033	− ·0180				23	4·8	·0014	0·24	3. 48—16. 1	12·22	+ ·0023	+ ·0281
	6. 13— 8. 27	2·23	+ 2·7	+ ·0008	+ ·0018				6	3·3	·0010	0·37	16. 1—23. 59	7·97	− ·0030	− ·0239
	8. 27—11. 4	2·62	− 2·1	− ·0006	− ·0016				8	3·3	·0010	0·33				
	11. 4—21. 25	10·35	+ 5·7	+ ·0017	+ ·0176				47	3·1	·0009	0·22				
	21. 25—22. 36	1·18	− 1·9	− ·0006	− ·0007				9	2·0	·0006	0·13				
	22. 36—23. 44	1·13	+ 3·4	+ ·0010	+ ·0011				6	2·6	·0008	0·19				
„ 17	0. 40— 2. 14	1·57	+ 3·4	+ ·0010	+ ·0016	− ·0021	23·31	− ·0001	1	2·3	·0007	1·57	0. 29—14. 45	14·27	− ·0017	− ·0243
	2. 14—10. 32	8·30	− 3·9	− ·0011	− ·0091				22	2·2	·0006	0·38	14. 45—15. 29	0·73	+ ·0006	+ ·0004
	10. 32—18. 49	8·28	+ 4·1	+ ·0012	+ ·0099				20	3·8	·0011	0·41	15. 29—23. 36	8·12	− ·0027	− ·0219
	18. 49—19. 33	0·73	− 7·9	− ·0023	− ·0017				14	5·6	·0016	0·05	23. 36—23. 59	0·38	+ ·0024	+ ·0009
	19. 33—20. 20	0·78	+ 7·3	+ ·0021	+ ·0016				6	11·1	·0032	0·13				
	20. 20—23. 59	3·65	− 4·2	− ·0012	− ·0044				27	8·3	·0024	0·13				
„ 18	0. 5— 0. 31	0·43	+ 0·6	+ ·0002	+ ·0001	+ ·0031	23·89	+ ·0001	1	7·6	·0022	0·43	0. 0— 0. 4	0·07	+ ·0008	+ ·0001
	0. 31— 0. 53	0·37	− 1·2	− ·0003	− ·0001				2	5·7	·0017	0·18	0. 4— 1. 37	1·55	− ·0023	− ·0036
	0. 53— 4. 51	3·97	+ 3·0	+ ·0009	+ ·0036				20	4·9	·0014	0·20	1. 37— 5. 35	3·97	+ ·0057	+ ·0226
	4. 51— 5. 24	0·55	− 2·4	− ·0007	− ·0004				4	5·6	·0016	0·14	5. 35—23. 40	18·08	− ·0043	− ·0778
	5. 24— 6. 0	0·60	+ 0·7	+ ·0002	+ ·0001				3	2·9	·0008	0·20				
	6. 0—16. 45	10·75	− 3·9	− ·0011	− ·0118				33	4·7	·0014	0·33				
	16. 45—23. 58	7·22	+ 5·4	+ ·0016	+ ·0116				10	2·7	·0008	0·72				

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	h				h	h m h m	h					h					h
−0·0474	23·87	−0·0020	4 42 76	0·0003 ·0007 ·0019	0·87 0·18 0·17	1. 30—19. 45 19. 45—23. 55	18·25 4·17	−0·0082 + ·0001	−0·0211 + ·0003	−0·3851 + ·0013	−0·3838	22·42	−0·0171	64 3	0·0007 ·0000	0·0018 ·0000	0·29 1·39
− ·0632	23·96	− ·0026	9 2 15 2 15	·0007 ·0011 ·0008 ·0036 ·0021	0·39 0·20 0·29 0·27 1·01	0. 13— 7. 11 7. 11— 8. 14 8. 14—23. 51	6·97 1·05 15·62	− ·0018 + ·0001 − ·0026	− ·0046 + ·0003 − ·0067	− ·0321 + ·0003 − ·1046	− ·1364	23·64	− ·0058	10 1 18	·0002 ·0001 ·0008	·0005 ·0003 ·0021	0·70 1·05 0·87
− ·0244	22·67	− ·0011	13 9 7 17	·0007 ·0009 ·0015 ·0013	0·75 0·50 0·28 0·38	1. 0—23. 55	22·92	− ·0031	− ·0080	− ·1834	− ·1834	22·92	− ·0080	20	·0004	·0010	1·15
− ·1264	23·42	− ·0054	51	·0012	0·46	0. 12—22. 50	22·63	+ ·0014	+ ·0036	+ ·0815	+ ·0815	22·63	+ ·0036	30	·0005	·0013	0·75
− ·0217	23·93	− ·0009	22 9 6	·0008 ·0010 ·0007	0·38 0·46 1·90	0. 20—23. 30	23·17	− ·0016	− ·0041	− ·0950	− ·0950	23·17	− ·0041	15	·0004	·0010	1·54
− ·0627	22·42	− ·0028	52	·0009	0·43	2. 32—10. 57 10. 57—12. 8 12. 8—23. 55	8·42 1·18 11·78	+ ·0008 − ·0007 + ·0001	+ ·0021 − ·0018 + ·0003	+ ·0177 − ·0021 + ·0035	+ ·0191	21·38	+ ·0009	8 3 1	·0002 ·0001 ·0016	·0005 ·0003 ·0041	1·05 0·39 11·78
+0·0968	22·00	+0·0044	22	0·0009	1·00	0. 15— 6. 26 6. 26—17. 9 17. 9—23. 44	6·18 10·72 6·58	−0·0012 + ·0007 − ·0008	−0·0031 + ·0018 − ·0021	−0·0192 + ·0193 − ·0138	−0·0137	23·48	−0·0006	4 12 2	0·0001 ·0002 ·0002	0·0003 ·0005 ·0005	1·55 0·89 3·29
− ·0336	23·15	− ·0014	2 13 32 2 10	·0003 ·0003 ·0011 ·0026 ·0008	1·65 0·50 0·25 0·34 0·46	0. 20—22. 40	22·33	− ·0021	− ·0054	− ·1206	− ·1206	22·33	− ·0054	31	·0002	·0005	0·72
+ ·0771	23·17	+ ·0033	9 6 4	·0009 ·0059 ·0031	2·36 0·18 0·20	1. 28— 8. 33 8. 33—22. 5 22. 5—22. 58 22. 58—23. 32	7·08 13·53 0·88 0·57	− ·0022 + ·0005 − ·0001 + ·0001	− ·0057 + ·0013 − ·0003 + ·0003	− ·0404 + ·0176 − ·0003 + ·0002	− ·0229	22·06	− ·0010	3 8 5 1	·0010 ·0004 ·0003 ·0003	·0026 ·0010 ·0008 ·0008	2·36 1·69 0·18 0·57
− ·0150	23·74	− ·0006	14 33 15	·0017 ·0014 ·0012	0·25 0·37 0·53	0. 0— 2. 24 2. 24— 6. 51 6. 51—23. 25	2·40 4·45 16·57	− ·0005 + ·0005 − ·0042	− ·0013 + ·0013 − ·0108	− ·0031 + ·0058 − ·1790	− ·1763	23·42	− ·0075	5 4 44	·0002 ·0003 ·0003	·0005 ·0008 ·0008	0·48 1·11 0·38
− ·0449	23·50	− ·0019	20 3 58 11	·0008 ·0009 ·0020 ·0053	0·71 0·24 0·14 0·03	1. 0—20. 20 20. 20—20. 36 20. 36—23. 59	19·33 0·27 3·38	+ ·0043 − ·0006 + ·0043	+ ·0111 − ·0015 + ·0111	+ ·2146 − ·0004 + ·0375	+ ·2517	22·98	+ ·0109	39 3 82	·0004 ·0006 ·0004	·0010 ·0015 ·0010	0·50 0·09 0·04
− ·0587	23·67	− ·0025	1 12 20 33	·0037 ·0022 ·0028 ·0013	0·07 0·13 0·20 0·55	0. 4—23. 58	23·90	+ ·0072	+ ·0185	+ ·4422	+ ·4422	23·90	+ ·0185	54	·0004	·0010	0·44

DECLINATION MAGNET.

Month and Day.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.
1852.	h m h m	h	′				h			′		h
Feb. 19	2. 38— 4. 35	1·95	+ 2·4	+0·0007	+0·0014				5	2·9	0·0008	0·39
	4. 35—15. 43	11·13	−18·1	− ·0053	− ·0590	−0·0261	20·95	−0·0012	55	7·9	·0023	0·20
	15. 43—23. 35	7·87	+13·9	+ ·0040	+ ·0315				13	8·4	·0024	0·61
„ 20	0. 51— 1. 31	0·67	+ 0·8	+ ·0002	+ ·0001				1	3·2	·0009	0·67
	1. 31— 7. 59	6·47	− 5·3	− ·0015	− ·0097				14	3·7	·0011	0·46
	7. 59— 8. 25	0·43	+ 1·2	+ ·0003	+ ·0001				2	10·0	·0029	0·22
	8. 25—12. 0	3·58	− 2·8	− ·0008	− ·0029	− ·0078	22·94	− ·0003	14	3·2	·0009	0·25
	12. 0—13. 53	1·88	+ 0·6	+ ·0002	+ ·0004				3	4·2	·0012	0·63
	13. 53—15. 49	1·93	− 1·2	− ·0003	− ·0006				3	2·5	·0007	0·64
	15. 49—23. 48	7·98	+ 2·0	+ ·0006	+ ·0048				8	2·2	·0006	1·00
„ 21	0. 27— 4. 9	3·70	+ 5·4	+ ·0016	+ ·0059				12	3·3	·0010	0·31
	4. 9—15. 15	11·10	− 8·5	− ·0025	− ·0278	− ·0186	23·02	− ·0008	35	5·9	·0017	0·32
	15. 15—23. 28	8·22	+ 1·5	+ ·0004	+ ·0033				3	3·0	·0009	2·74
April 20	0. 5— 6. 6	6·02	+10·7	+ ·0031	+ ·0187				6	3·3	·0010	1·00
	6. 6— 8. 36	2·50	−12·0	− ·0035	− ·0088				6	4·7	·0014	0·42
	8. 36—12. 27	3·85	+ 2·2	+ ·0006	+ ·0023				4	2·3	·0007	0·96
	12. 27—17. 27	5·00	− 5·5	− ·0016	− ·0080	+ ·0226	23·91	+ ·0009	16	5·4	·0016	0·31
	17. 27—17. 40	0·22	+ 1·3	+ ·0004	+ ·0001				1	14·0	·0041	0·22
	17. 40—18. 8	0·47	− 2·9	− ·0008	− ·0004				3	5·1	·0015	0·16
	18. 8—23. 59	5·85	+11·1	+ ·0032	+ ·0187				16	4·0	·0012	0·36
May 19	6. 12—18. 3	11·85	−13·1	− ·0038	− ·0450				18	2·9	·0008	0·66
	18. 3—19. 12	1·15	+ 0·3	+ ·0001	+ ·0001	− ·0485	15·97	− ·0030	2	2·6	·0008	0·58
	19. 12—22. 10	2·97	− 4·2	− ·0012	− ·0036				5	2·7	·0008	0·59
„ 20	12. 0—18. 47	6·78	− 3·4	− ·0010	− ·0068	− ·0068	6·78	− ·0010	3	3·5	·0010	2·26
June 11	1. 28— 6. 38	5·17	+ 2·9	+ ·0008	+ ·0041				3	2·7	·0008	1·72
	6. 38—14. 24	7·77	−11·9	− ·0035	− ·0272	− ·0030	22·52	− ·0001	17	6·9	·0020	0·46
	14. 24—23. 59	9·58	+ 7·3	+ ·0021	+ ·0201				11	6·4	·0019	0·87
„ 16	0. 40— 3. 18	2·63	− 1·3	− ·0004	− ·0011				3	3·3	·0010	0·88
	3. 18— 6. 15	2·95	+ 3·6	+ ·0010	+ ·0030	− ·0126	23·31	− ·0005	7	2·5	·0007	0·42
	6. 15—17. 45	11·50	− 6·1	− ·0018	− ·0207				24	3·5	·0010	0·48
	17. 45—23. 59	6·23	+ 3·4	+ ·0010	+ ·0062				7	2·3	·0007	0·89
July 10	1. 26— 7. 17	5·85	+ 3·7	+ ·0011	+ ·0064	− ·0362	21·05	− ·0017	13	3·5	·0010	0·45
	7. 18—22. 30	15·20	− 9·7	− ·0028	− ·0426				16	4·7	·0014	0·95
Nov. 11	0. 0— 8. 33	8·55	+ 3·4	+ ·0010	+ ·0086				11	5·5	·0016	0·78
	8. 33—13. 59	5·43	−10·5	− ·0031	− ·0168	+ ·0057	23·88	+ ·0002	11	5·8	·0017	0·49
	13. 59—23. 53	9·90	+ 4·9	+ ·0014	+ ·0139				15	2·8	·0008	0·66
„ 13	0. 18— 4. 32	4·23	+ 2·1	+ ·0006	+ ·0025				7	3·1	·0009	0·60
	4. 32—15. 0	10·47	− 4·6	− ·0013	− ·0136	+ ·0114	23·68	+ ·0005	21	4·5	·0013	0·50
	15. 0—23. 59	8·98	+ 8·7	+ ·0025	+ ·0225				15	3·9	·0011	0·60
1853.												
Jan. 10	1. 15— 2. 13	0·97	+ 0·5	+0·0001	+0·0001				1	1·9	0·0006	0·97
	2. 13—10. 21	8·13	− 6·1	− ·0018	− ·0146	−0·0063	22·73	−0·0003	11	4·4	·0013	0·74
	10. 21—23. 59	13·63	+ 1·9	+ ·0006	+ ·0082				7	2·4	·0007	1·95
March 7	0. 10— 4. 5	3·92	− 3·0	− ·0009	− ·0035				2	1·1	·0003	1·96
	4. 5— 6. 25	2·33	+ 2·1	+ ·0006	+ ·0014				11	0·8	·0002	0·21
	6. 25—12. 20	5·92	− 7·1	− ·0021	− ·0124				23	2·9	·0008	0·25
	12. 20—14. 5	1·75	+ 2·5	+ ·0007	+ ·0012	− ·0171	23·82	− ·0007	4	3·1	·0009	0·44
	14. 5—19. 27	5·37	− 3·8	− ·0011	− ·0059				14	2·8	·0008	0·39
	19. 27—22. 27	3·00	+ 2·3	+ ·0007	+ ·0021				6	1·3	·0004	0·50
	22. 27—23. 29	1·03	− 0·8	− ·0002	− ·0002				3	0·5	·0001	0·34
	23. 29—23. 59	0·50	+ 1·5	+ ·0004	+ ·0002				3	1·7	·0005	0·17
„ 8	1. 0— 2. 9	1·15	− 0·5	− ·0001	− ·0001				2	0·9	·0003	0·58
	2. 9— 6. 25	4·27	+ 3·7	+ ·0011	+ ·0047				16	1·8	·0005	0·27
	6. 25—11. 43	5·30	− 9·5	− ·0028	− ·0148	− ·0073	22·98	− ·0003	19	3·7	·0011	0·28
	11. 43—15. 10	3·45	+ 4·4	+ ·0013	+ ·0045				8	8·2	·0024	0·43
	15. 10—19. 24	4·23	− 2·8	− ·0008	− ·0034				12	1·7	·0005	0·35
	19. 24—23. 59	4·58	+ 1·3	+ ·0004	+ ·0018				15	1·8	·0005	0·31

HORIZONTAL

Month and Day.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Aggregate Disturbance by Wave.
1852.	h m h m	h		
Feb. 19	0. 28—11. 3	10·58	−0·0049	−0·0518
	11. 3—15. 36	4·55	+ ·0059	+ ·0268
	15. 36—16. 24	0·80	− ·0006	− ·0005
	16. 24—17. 32	1·13	+ ·0006	+ ·0007
	17. 32—23. 58	6·43	− ·0038	− ·0244
„ 20	0. 7— 1. 9	1·03	− ·0011	− ·0011
	1. 9— 5. 2	3·88	+ ·0009	+ ·0035
	5. 2—23. 52	18·83	− ·0021	− ·0395
„ 21	0. 12— 3. 14	3·03	− ·0011	− ·0033
	3. 14— 5. 16	2·03	+ ·0014	+ ·0028
	5. 16—23. 59	18·72	− ·0032	− ·0599
April 20	0. 2— 2. 44	2·70	− ·0016	− ·0043
	2. 44— 3. 10	0·43	+ ·0006	+ ·0003
	3. 10—23. 59	20·82	− ·0036	− ·0750
May 19	0. 31—11. 30	10·98	+ ·0009	+ ·0099
	11. 30—13. 28	1·97	− ·0001	− ·0002
	13. 28—19. 14	5·77	+ ·0012	+ ·0069
	19. 14—23. 59	4·75	− ·0025	− ·0119
„ 20	0. 22— 3. 21	2·98	− ·0009	− ·0027
	3. 21— 8. 29	5·13	+ ·0007	+ ·0036
	8. 29—23. 47	15·30	− ·0005	− ·0077
June 11	0. 30— 9. 12	8·70	+ ·0017	+ ·0148
	9. 12—23. 59	14·78	− ·0031	− ·0458
„ 16	0. 30— 8. 34	8·07	+ ·0019	+ ·0153
	8. 34— 8. 51	0·28	− ·0001	·0000
	8. 51—16. 18	7·45	+ ·0008	+ ·0060
	16. 18—21. 46	5·47	− ·0009	− ·0049
	21. 46—23. 59	2·22	+ ·0006	+ ·0013
July 10	1. 55—11. 52	9·95	+ ·0019	+ ·0189
	11. 52—23. 10	11·30	− ·0013	− ·0147
Nov. 11	0. 46— 6. 16	5·50	+ ·0012	+ ·0066
	6. 16—23. 59	17·72	− ·0017	− ·0301
„ 13	0. 44—13. 3	12·32	− ·0019	− ·0234
	13. 3—13. 14	0·18	+ ·0001	·0000
	13. 14—23. 59	10·75	− ·0011	− ·0118
1853.				
Jan. 10	1. 22— 8. 6	6·73	−0·0008	−0·0054
	8. 6— 8. 58	0·87	+ ·0005	+ ·0004
	8. 58—23. 59	15·02	− ·0010	− ·0150
March 7	0. 5— 3. 13	3·13	+ ·0003	+ ·0009
	3. 13— 5. 32	2·32	− ·0007	− ·0016
	5. 32— 7. 19	1·78	+ ·0015	+ ·0027
	7. 19—16. 10	8·85	− ·0013	− ·0115
	16. 10—17. 2	0·87	+ ·0003	+ ·0003
	17. 2—23. 59	6·95	− ·0019	− ·0132
„ 8	0. 5— 2. 55	2·83	− ·0011	− ·0031
	2. 55—13. 27	10·53	+ ·0006	+ ·0063
	13. 27—18. 49	5·37	− ·0016	− ·0086
	18. 49—20. 23	1·57	+ ·0014	+ ·0022
	20. 23—23. 59	3·60	− ·0011	− ·0040

FORCE MAGNET.						VERTICAL FORCE MAGNET.											
Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Mean Period of Irregularity.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.
	h				h	h m h m	h					h					h
			8	0·0028	1·32	1. 0—23. 58	22·97	−0·0044	−0·0113	−0·2596	−0·2596	22·97	−0·0113	100	0·0007	0·0018	0·23
			7	·0052	0·65												
−0·0492	23·49	−0·0021	3	·0017	0·27												
			8	·0014	0·14												
			45	·0014	0·14												
			4	·0008	0·26	0. 46—23. 52	23·10	− ·0027	− ·0069	− ·1594	− ·1594	23·10	− ·0069	17	·0004	·0010	1·36
− ·0371	23·74	− ·0016	16	·0013	0·24												
			40	·0010	0·47												
			8	·0009	0·38	0. 45—23. 17	22·53	− ·0030	− ·0077	− ·1735	− ·1735	22·53	− ·0077	23	·0004	·0010	0·98
− ·0604	23·78	− ·0025	12	·0013	0·17												
			50	·0011	0·37												
			8	·0009	0·34	1. 22—23. 52	22·50	− ·0026	− ·0067	− ·1508	− ·1508	22·50	− ·0067	41	·0004	·0010	0·55
− ·0790	23·95	− ·0033	4	·0016	0·11												
			40	·0015	0·52												
			16	·0008	0·69	2. 0—23. 15	21·25	+ ·0011	+ ·0028	+ ·0595	+ ·0595	21·25	+ ·0028	12	·0004	·0010	1·75
			4	·0005	0·49												
+ ·0047	23·47	+ ·0002	8	·0012	0·72												
			8	·0010	0·59												
			6	·0007	0·50	1. 30—15. 15	13·75	+ ·0017	+ ·0044	+ ·0605	+ ·0605	13·75	+ ·0044	14	·0002	·0005	0·98
− ·0068	23·41	− ·0003	14	·0016	0·37												
			17	·0011	0·90												
			15	·0011	0·58	1. 30—23. 51	22·33	− ·0076	− ·0195	− ·4354	− ·4354	22·33	− ·0195	32	·0004	·0010	0·70
− ·0310	23·48	− ·0013	22	·0019	0·67												
			17	·0014	0·47												
			2	·0006	0·14												
+ ·0177	23·49	+ ·0008	15	·0010	0·50					No Register.							
			4	·0016	1·37												
			1	·0006	2·22												
			16	·0019	0·62	0. 55— 3. 16	2·35	− ·0004	− ·0010	− ·0024				1	·0000	·0000	2·35
+ ·0042	21·25	+ ·0002	9	·0013	1·26	3. 16—13. 14	9·97	+ ·0007	+ ·0018	+ ·0179	− ·0302	22·25	− ·0014	10	·0003	·0008	1·00
						13. 14—23. 10	9·93	− ·0018	− ·0046	− ·0457				4	·0004	·0010	2·48
− ·0235	23·22	− ·0010	3	·0010	1·83	1. 0—23. 57	22·95	+ ·0055	+ ·0141	+ ·3236	+ ·3236	22·95	+ ·0141	20	·0004	·0010	1·15
			35	·0012	0·51												
			12	·0010	1·03	2. 1—23. 17	21·27	− ·0030	− ·0077	− ·1638	− ·1638	21·27	− ·0077	12	·0003	·0008	1·77
− ·0352	23·25	− ·0015	2	·0013	0·09												
			11	·0014	0·98												
			5	0·0013	1·35												
−0·0200	22·62	−0·0009	3	·0010	0·29					No Photographic Register.							
			8	·0006	1·88												
			3	·0004	1·04	0. 12—23. 59	23·78	+0·0055	+0·0141	+0·3353	+0·3353	23·78	+0·0141	11	0·0007	0·0018	2·16
			6	·0006	0·39												
			8	·0011	0·22												
− ·0224	23·90	− ·0009	22	·0008	0·40												
			2	·0008	0·44												
			22	·0004	0·32												
			4	·0011	0·71	1. 27—23. 54	22·45	+ ·0092	+ ·0236	+ ·5298	+ ·5298	22·45	+ ·0236	11	·0005	·0013	2·04
			23	·0008	0·46												
− ·0072	23·90	− ·0003	14	·0005	0·38												
			7	·0011	0·22												
			9	·0005	0·40												

Month and Day.	DECLINATION MAGNET.												HORIZONTAL			
	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Aggregate Disturbance by Wave.
1853.	h m h m	h	′				h			′		h	h m h m	h		
March 11													0. 5— 5. 21	5·27	−0·0009	−0·0047
													5. 21— 6. 28	1·12	+ ·0004	+ ·0004
													6. 28—11. 46	5·30	− ·0007	− ·0037
													11. 46—13. 18	1·53	+ ·0006	+ ·0009
													13. 18—23. 59	10·68	− ·0017	− ·0182
May 2	1. 46— 7. 31	5·75	+ 2·2	+0·0006	+0·0035	−0·0101	22·00	−0·0005	7	0·9	0·0003	0·82	0. 30—23. 59	23·48	− ·0028	− ·0657
	7. 31—17. 30	9·98	− 7·8	− ·0023	− ·0230				31	2·0	·0006	0·32				
	17. 30—23. 46	6·27	+ 5·0	+ ·0015	+ ·0094				21	2·7	·0008	0·30				
" 3	0. 6— 3. 43	3·62	+ 4·4	+ ·0013	+ ·0047	− ·0074	23·72	− ·0003	10	1·6	·0005	0·36	0. 4— 6. 16	6·20	− ·0022	− ·0136
	3. 43— 9. 20	5·61	− 4·6	− ·0013	− ·0073				18	2·5	·0007	0·31	6. 16— 6. 26	0·17	+ ·0002	·0000
	9. 20—10. 6	0·77	+ 1·3	+ ·0004	+ ·0003				2	6·0	·0017	0·39	6. 26—23. 45	17·32	− ·0024	− ·0416
	10. 6—14. 6	4·00	− 3·8	− ·0011	− ·0044				11	1·6	·0005	0·36				
	14. 6—17. 37	3·52	+ 1·7	+ ·0005	+ ·0018				8	2·2	·0006	0·44				
	17. 37—23. 49	6·20	− 1·5	− ·0004	− ·0025				14	1·8	·0005	0·44				
" 24	0. 13— 7. 4	6·85	+ 3·7	+ ·0011	+ ·0075	+ ·0092	23·33	+ ·0004	12	1·5	·0004	0·57	0. 8—14. 35	14·45	+ ·0040	+ ·0578
	7. 4—10. 33	3·48	− 5·7	− ·0017	− ·0059				13	1·6	·0005	0·27	14. 35—14. 45	0·17	− ·0013	− ·0002
	10. 33—14. 8	3·58	+ 1·4	+ ·0004	+ ·0014				10	3·9	·0011	0·36	14. 45—15. 46	1·02	+ ·0010	+ ·0010
	14. 8—15. 14	1·10	− 9·5	− ·0028	− ·0031				3	7·6	·0022	0·37	15. 46—22. 23	6·62	− ·0044	− ·0291
	15. 14—18. 54	3·67	+ 6·5	+ ·0019	+ ·0070				15	5·2	·0015	0·24	22. 23—23. 45	1·37	+ ·0004	+ ·0005
	18. 54—19. 41	0·78	− 1·7	− ·0005	− ·0004				4	2·6	·0008	0·20				
	19. 41—23. 33	3·87	+ 2·3	+ ·0007	+ ·0027				20	1·7	·0005	0·19				
June 22	0. 8— 7. 37	7·48	+ 2·1	+ ·0006	+ ·0045	− ·0157	23·78	− ·0007	9	1·7	·0005	0·83	0. 15— 2. 41	2·43	− ·0003	− ·0007
	7. 37—21. 16	13·65	− 5·2	− ·0015	− ·0205				40	2·7	·0008	0·34	2. 41—11. 30	8·82	+ ·0013	+ ·0115
	21. 16—23. 55	2·65	+ 0·3	+ ·0001	+ ·0003				1	0·8	·0002	2·65	11. 30—23. 55	12·42	− ·0011	− ·0137
July 12	0. 12—10. 2	9·83	+ 4·5	+ ·0013	+ ·0128	− ·0019	23·79	− ·0001	34	2·6	·0008	0·29	0. 0— 1. 50	1·83	− ·0006	− ·0011
	10. 2—11. 21	1·32	− 7·2	− ·0021	− ·0027				7	7·2	·0021	0·19	1. 50—10. 46	8·93	+ ·0031	+ ·0278
	11. 21—11. 40	0·32	+10·0	+ ·0029	+ ·0009				2	21·6	·0063	0·16	10. 46—23. 59	13·22	− ·0027	− ·0357
	11. 40—16. 10	4·50	− 6·1	− ·0018	− ·0081				32	3·1	·0009	0·14				
	16. 10—16. 43	0·55	+ 1·0	+ ·0003	+ ·0002				4	3·2	·0009	0·14				
	16. 43—19. 45	3·03	− 4·2	− ·0012	− ·0036				22	2·3	·0007	0·14				
	19. 45—20. 10	0·42	+ 1·0	+ ·0003	+ ·0001				9	1·4	·0004	0·05				
	20. 10—23. 59	3·82	− 1·5	− ·0004	− ·0015				13	1·4	·0004	0·29				
Aug. 21	Declination and Horizontal Force Photographic Traces too faint for use.															
Sept. 1	0. 27— 8. 46	8·32	+ 1·2	+ ·0003	+ ·0025	+ ·0220	23·54	+ ·0009	2	1·3	·0004	4·16	1. 5—14. 53	13·80	+ ·0028	+ ·0386
	8. 46—10. 22	1·60	− 0·8	− ·0002	− ·0003				3	1·0	·0003	0·53	14. 53—16. 33	1·67	− ·0018	− ·0030
	10. 22—13. 37	3·25	+ 2·0	+ ·0006	+ ·0020				7	1·3	·0004	0·46	16. 33—17. 42	1·15	+ ·0015	+ ·0017
	13. 37—14. 32	0·92	− 0·8	− ·0002	− ·0002				2	1·3	·0004	0·46	17. 42—23. 50	6·13	− ·0066	− ·0405
	14. 32—15. 50	1·30	+ 8·0	+ ·0023	+ ·0030				4	7·1	·0021	0·33				
	15. 50—17. 34	1·73	− 3·3	− ·0010	− ·0017				11	1·4	·0004	0·16				
	17. 34—23. 59	6·42	+ 8·8	+ ·0026	+ ·0167				13	2·1	·0006	0·49				
" 2	0. 18— 5. 22	5·07	+ 5·8	+ ·0017	+ ·0086	+ ·0037	23·62	+ ·0002	12	1·7	·0005	0·42	0. 0— 3. 18	3·30	− ·0014	− ·0046
	5. 22— 9. 21	3·98	− 1·1	− ·0003	− ·0012				9	3·4	·0010	0·44	3. 18— 5. 54	2·60	+ ·0020	+ ·0052
	9. 21— 9. 55	0·57	+ 0·4	+ ·0001	+ ·0001				3	1·9	·0006	0·19	5. 54—16. 4	10·17	− ·0024	− ·0245
	9. 55—14. 52	4·95	− 8·3	− ·0024	− ·0119				21	3·6	·0010	0·23	16. 4—17. 20	1·27	+ ·0007	+ ·0009
	14. 52—23. 55	9·05	+ 3·1	+ ·0009	+ ·0081				25	3·8	·0011	0·36	17. 20—23. 53	6·55	− ·0059	− ·0386
Oct. 1													0. 0—23. 59	23·98	− ·0013	− ·0312
" 2													0. 0—23. 59	23·98	− ·0014	− ·0336
" 25	0. 28— 4. 9	3·68	+ 1·5	+ ·0004	+ ·0015	− ·0119	23·51	− ·0005	3	1·8	·0005	1·23	0. 0—10. 10	10·17	− ·0011	− ·0112
	4. 9—11. 17	7·13	− 5·4	− ·0016	− ·0114				13	4·1	·0012	0·55	10. 10—16. 57	6·78	+ ·0005	+ ·0034
	11. 17—13. 8	1·85	+ 0·4	+ ·0001	+ ·0002				3	13·1	·0038	0·62	16. 57—23. 59	7·03	− ·0002	− ·0014
	13. 8—23. 59	10·85	− 0·8	− ·0002	− ·0022				3	0·8	·0002	3·62				
Nov. 9	0. 30— 4. 44	4·23	+ 3·9	+ ·0011	+ ·0047	+ ·0037	23·48	+ ·0002	6	1·8	·0005	0·71	0. 15—23. 59	23·73	− ·0020	− ·0474
	4. 44— 7. 4	2·33	− 1·1	− ·0003	− ·0007				4	4·3	·0013	0·58				
	7. 4— 9. 16	2·20	+ 1·4	+ ·0004	+ ·0009				2	2·5	·0007	1·10				
	9. 16—15. 4	5·80	−13·3	− ·0039	− ·0226				15	3·1	·0009	0·39				
	15. 4—23. 59	8·92	+ 8·4	+ ·0024	+ ·0214				22	2·7	·0008	0·41				
Dec. 6	0. 31— 5. 58	5·45	+11·3	+ ·0033	+ ·0180	+ ·0134	23·47	+ ·0006	21	2·4	·0007	0·26	0. 0—23. 59	23·98	− ·0045	− ·1079
	5. 58—11. 4	5·10	− 6·5	− ·0019	− ·0097				21	3·4	·0010	0·24				
	11. 4—16. 40	5·60	+ 3·7	+ ·0011	+ ·0062				12	3·4	·0010	0·47				
	16. 40—23. 4	6·40	− 0·8	− ·0002	− ·0013				4	1·0	·0003	1·60				
	23. 4—23. 59	0·92	+ 0·6	+ ·0002	+ ·0002				2	1·4	·0004	0·46				

FORCE MAGNET.						VERTICAL FORÇE MAGNET.												
Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Mean Period of Irregularity.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.
	h				h	h m h m	h					h					h
−0·0253	23·90	−0·0011	5 5 16 6 22	0·0004 ·0006 ·0008 ·0014 ·0007	1·05 0·22 0·33 0·26 0·49	0. 46—23. 59	23·22	+0·0059	+0·0152	+0·3529	+0·3529	23·22	+0·0152	11	0·0006	0·0015	2·11
− ·0657	23·48	− ·0028	80	·0007	0·29	1. 5—23. 59	22·90	+ ·0061	+ ·0157	+ ·3595	+ ·3595	22·90	+ ·0157	15	·0004	·0010	1·53
− ·0552	23·69	− ·0023	22 1 38	·0012 ·0010 ·0007	0·28 0·17 0·46	1. 0—23. 59	22·98	+ ·0058	+ ·0149	+ ·3424	+ ·3424	22·98	+ ·0149	21	·0003	·0008	1·09
+ ·0300	23·63	+ ·0013	57 1 4 30 5	·0011 ·0004 ·0034 ·0014 ·0004	0·25 0·17 0·25 0·22 0·27	0. 15—16. 11 16. 11—16. 32 16. 32—23. 59	15·93 0·35 7·45	+ ·0047 − ·0002 + ·0018	+ ·0121 − ·0005 + ·0046	+ ·1928 − ·0002 + ·0343	+ ·2269	23·73	+ ·0096	24 1 12	·0006 ·0013 ·0006	·0015 ·0033 ·0015	0·66 0·35 0·62
− ·0029	23·67	− ·0001	2 23 26	·0001 ·0012 ·0006	1·22 0·38 0·48	0. 45—23. 59	23·23	− ·0025	− ·0064	− ·1487	− ·1487	23·23	− ·0064	17	·0004	·0010	1·37
− ·0090	23·98	− ·0004	4 55 70	·0005 ·0012 ·0008	0·46 0·16 0·19	0. 35— 5. 36 5. 36—10. 40 10. 40—12. 39 12. 39—23. 59	5·02 5·07 1·98 11·33	− ·0012 + ·0018 − ·0036 + ·0007	− ·0031 + ·0046 − ·0093 + ·0018	− ·0156 + ·0233 − ·0184 + ·0204	+ ·0097	23·40	+ ·0004	4 9 7 14	·0006 ·0006 ·0009 ·0004	·0015 ·0015 ·0023 ·0010	1·26 0·56 0·28 0·81
						0. 15—23. 59	23·73	− ·0010	− ·0026	− ·0617	− ·0617	23·73	− ·0026	8	·0006	·0015	2·97
− ·0032	22·75	− ·0001	18 7 6 15	·0007 ·0015 ·0003 ·0012	0·77 0·24 0·19 0·41	0. 30—10. 22 10. 22—23. 59	9·87 13·62	+ ·0002 − ·0017	+ ·0005 − ·0044	+ ·0049 − ·0599	− ·0550	23·49	− ·0023	3 10	·0002 ·0007	·0005 ·0018	3·29 1·36
− ·0616	23·89	− ·0026	7 17 36 4 26	·0013 ·0023 ·0008 ·0014 ·0003	0·47 0·15 0·28 0·32 0·25	0. 15—14. 48 14. 48—23. 59	14·55 9·18	+ ·0014 − ·0008	+ ·0036 − ·0021	+ ·0524 − ·0193	+ ·0331	23·73	+ ·0014	27 9	·0004 ·0004	·0010 ·0010	0·54 1·02
− ·0312	23·98	− ·0013	12	·0003	2·00	Values insufficient for Reduction.											
− ·0336	23·98	− ·0014	9	·0004	2·66	Values insufficient for Reduction.											
− ·0092	23·98	− ·0004	16 9 2	·0007 ·0003 ·0006	0·64 0·75 3·52	0. 0—23. 59	23·98	+ ·0050	+ ·0129	+ ·3093	+ ·3093	23·98	+ ·0129	10	·0004	·0010	2·40
− ·0474	23·73	− ·0020	49	·0008	0·49	0. 30— 6. 45 6. 45—23. 59	6·25 17·23	+ ·0006 − ·0015	+ ·0015 − ·0039	+ ·0094 − ·0672	− ·0578	23·48	− ·0025	4 15	·0002 ·0002	·0005 ·0005	1·56 1·15
− ·1079	23·98	− ·0045	41	·0011	0·58	0. 40— 8. 59 8. 59—23. 59	8·32 15·00	+ ·0019 − ·0006	+ ·0049 − ·0015	+ ·0408 − ·0225	+ ·0183	23·32	+ ·0008	18 8	·0005 ·0005	·0013 ·0013	0·46 1·88

Month and Day.	Declination Magnet. Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.	Horizontal. Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Aggregate Disturbance by Wave.
	h m h m	h	′				h			′		h	h m h m	h		
1853. Dec. 21	0. 13— 4. 48	4·58	+ 2·5	+0·0007	+0·0032				8	1·0	0·0003	0·57	0. 10— 5. 19	5·15	−0·0007	−0·0036
	4. 48— 5. 37	0·82	− 1·7	− ·0005	− ·0004				2	4·4	·0013	0·41	5. 19— 7. 10	1·85	+ ·0007	+ ·0013
	5. 37— 7. 43	2·10	+ 2·7	+ ·0008	+ ·0017	+0·0044	23·37	+0·0002	4	2·1	·0006	0·52	7. 10—23. 10	16·00	− ·0003	− ·0048
	7. 43—11. 20	3·62	− 6·0	− ·0017	− ·0062				8	6·0	·0017	0·45				
	11. 20—23. 35	12·25	+ 1·6	+ ·0005	+ ·0061				13	1·5	·0004	0·94				
1854. Jan. 8	0. 10— 5. 16	5·10	+ 3·4	+0·0010	+0·0051				8	1·3	0·0004	0·64	0. 35— 7. 39	7·07	−0·0009	−0·0064
	5. 16—11. 22	6·10	− 6·3	− ·0018	− ·0110	+0·0029	23·82	+0·0001	14	2·9	·0008	0·44	7. 39—23. 59	16·33	+ ·0019	+ ·0310
	11. 22—23. 59	12·62	+ 2·3	+ ·0007	+ ·0088				11	1·9	·0006	1·15				
„ 20	0. 8— 3. 22	3·23	+ 1·9	+ ·0006	+ ·0019				10	1·3	·0004	0·32	0. 30— 6. 10	5·67	− ·0006	− ·0034
	3. 22— 5. 11	1·82	− 1·9	− ·0006	− ·0011				3	2·5	·0007	0·61	6. 10— 6. 57	0·78	+ ·0008	+ ·0006
	5. 11— 5. 40	0·48	+ 1·1	+ ·0003	+ ·0001				2	1·7	·0005	0·24	6. 57—23. 59	17·03	− ·0004	− ·0068
	5. 40—10. 9	4·48	−10·0	− ·0029	− ·0130				12	3·6	·0010	0·37				
	10. 9—14. 40	4·52	+ 3·5	+ ·0010	+ ·0045	− ·0043	23·85	− ·0002	12	1·7	·0005	0·38				
	14. 40—16. 4	1·40	− 0·7	− ·0002	− ·0003				3	1·1	·0003	0·47				
	16. 4—22. 4	6·00	+ 2·1	+ ·0006	+ ·0036				6	0·8	·0002	1·00				
	22. 4—23. 59	1·92	0·0	·0000	·0000				1	0·8	·0002	1·92				
Feb. 16	0. 10— 4. 13	4·05	− 1·0	− ·0003	− ·0012				7	1·5	·0004	0·58	0. 0— 6. 20	6·33	− ·0017	− ·0108
	4. 13— 5. 44	1·52	+ 0·7	+ ·0002	+ ·0003				3	1·8	·0005	0·51	6. 20— 7. 11	0·85	+ ·0013	+ ·0011
	5. 44— 8. 22	2·63	− 6·4	− ·0019	− ·0050	− ·0209	23·82	− ·0009	13	3·6	·0010	0·20	7. 11—14. 15	7·07	− ·0017	− ·0120
	8. 22— 8. 46	0·40	+ 2·0	+ ·0006	+ ·0002				3	7·7	·0022	0·13	14. 15—15. 46	1·52	+ ·0008	+ ·0012
	8. 46—23. 59	15·22	− 3·5	− ·0010	− ·0152				30	2·4	·0007	0·51	15. 46—23. 59	8·22	− ·0016	− ·0132
„ 24	0. 5— 3. 3	2·97	− 1·0	− ·0003	− ·0009				1	0·8	·0002	2·97	0. 40— 6. 4	5·40	+ ·0023	+ ·0124
	3. 3— 6. 19	3·27	+ 4·7	+ ·0014	+ ·0046				7	2·0	·0006	0·47	6. 4—19. 28	13·40	− ·0007	− ·0094
	6. 19— 7. 9	0·83	− 4·1	− ·0012	− ·0010				3	5·6	·0016	0·28	19. 28—20. 28	1·00	+ ·0001	+ ·0001
	7. 9— 9. 0	1·85	+ 7·3	+ ·0021	+ ·0039	− ·0145	23·91	− ·0006	6	6·2	·0018	0·31	20. 28—23. 59	3·52	− ·0003	− ·0011
	9. 0—21. 58	12·97	− 5·8	− ·0017	− ·0221				31	2·7	·0008	0·42				
	21. 58—23. 59	2·02	+ 1·7	+ ·0005	+ ·0010				5	1·0	·0003	0·40				
„ 25	0. 8— 5. 54	5·77	+ 2·2	+ ·0006	+ ·0035				13	1·9	·0006	0·44	0. 8— 1. 11	1·05	− ·0012	− ·0013
	5. 54— 9. 50	3·93	− 3·9	− ·0011	− ·0043	+ ·0049	23·85	+ ·0002	16	3·8	·0011	0·25	1. 11— 2. 50	1·65	+ ·0008	+ ·0013
	9. 50—23. 59	14·15	+ 1·3	+ ·0004	+ ·0057				27	1·7	·0005	0·52	2. 50— 6. 16	3·43	− ·0009	− ·0031
													6. 16—16. 8	9·87	+ ·0014	+ ·0138
													16. 8—20. 47	4·65	− ·0003	− ·0014
													20. 47—23. 59	3·20	+ ·0008	+ ·0026
March 6	0. 7— 8. 54	8·78	− 5·9	− ·0017	− ·0149				11	3·0	·0009	0·80	0. 0—11. 1	11·02	− ·0007	− ·0077
	8. 54—12. 27	3·55	+ 2·5	+ ·0007	+ ·0025	− ·0084	23·86	− ·0004	9	1·9	·0006	0·39	11. 1—12. 54	1·88	+ ·0005	+ ·0009
	12. 27—14. 39	2·20	− 1·1	− ·0003	− ·0007				5	0·9	·0003	0·44	12. 54—13. 31	0·62	− ·0001	− ·0001
	14. 39—23. 59	9·33	+ 1·6	+ ·0005	+ ·0047				8	0·8	·0002	1·17	13. 31—22. 51	9·33	+ ·0005	+ ·0047
													22. 51—23. 59	1·13	− ·0010	− ·0011
„ 15	0. 18— 7. 48	7·50	+ 2·3	+ ·0007	+ ·0052				7	0·8	·0002	1·07	0. 0— 8. 5	8·08	+ ·0009	+ ·0073
	7. 48— 9. 5	1·28	− 2·9	− ·0008	− ·0010				4	3·1	·0009	0·32	8. 5—23. 59	15·90	− ·0021	− ·0334
	9. 5— 9. 29	0·40	+ 1·8	+ ·0005	+ ·0002				2	4·1	·0012	0·20				
	9. 29—15. 31	6·03	− 9·7	− ·0028	− ·0169				23	4·3	·0013	0·26				
	15. 31—15. 57	0·43	+ 0·7	+ ·0002	+ ·0001	− ·0099	23·67	− ·0004	3	1·6	·0005	0·14				
	15. 57—16. 15	0·30	− 0·6	− ·0002	− ·0001				2	1·5	·0004	0·15				
	16. 15—17. 23	1·13	+ 0·5	+ ·0001	+ ·0001				6	1·2	·0003	0·19				
	17. 23—18. 33	1·17	− 0·8	− ·0002	− ·0002				3	1·5	·0004	0·39				
	18. 33—23. 59	5·43	+ 1·7	+ ·0005	+ ·0027				9	1·6	·0005	0·60				
„ 16	0. 19— 6. 22	6·05	+ 2·4	+ ·0007	+ ·0042				15	1·6	·0005	0·40	0. 0—23. 59	23·98	− ·0017	− ·0408
	6. 22—10. 0	3·63	− 6·3	− ·0018	− ·0065				12	6·7	·0019	0·30				
	10. 0—10. 28	0·47	+ 5·9	+ ·0017	+ ·0008				4	5·8	·0017	0·12				
	10. 28—13. 14	2·77	− 7·5	− ·0022	− ·0061	− ·0034	23·49	− ·0001	12	2·5	·0007	0·23				
	13. 14—14. 31	1·28	+ 6·1	+ ·0018	+ ·0023				4	3·6	·0010	0·32				
	14. 31—16. 38	2·12	− 6·1	− ·0018	− ·0038				4	2·2	·0006	0·53				
	16. 38—23. 48	7·17	+ 2·6	+ ·0008	+ ·0057				7	1·3	·0004	1·02				
„ 28	0. 12— 4. 3	3·85	+ 6·2	+ ·0018	+ ·0069				12	1·8	·0005	0·32	0. 0—23. 59	23 98	− ·0053	− ·1271
	4. 3—15. 0	10·95	− 5·2	− ·0015	− ·0164	− ·0114	23·78	− ·0005	43	3·9	·0011	0·25				
	15. 0—17. 0	2·00	+ 2·9	+ ·0008	+ ·0016				4	1·8	·0005	0·50				
	17. 0—23. 59	6·98	− 1·8	− ·0005	− ·0035				3	1·6	·0005	2·33				
April 10	0. 7— 5. 21	5·23	− 0·6	− ·0002	− ·0010				2	0·7	·0002	2·62	0. 5—13. 19	13·23	+ ·0021	+ ·0278
	5. 21—13. 26	8·08	+ 3·8	+ ·0011	+ ·0089				6	5·0	·0015	1·35	13. 19—15. 25	2·10	− ·0015	− ·0032
	13. 26—18. 2	4·60	−16·6	− ·0048	− ·0221	− ·0076	23·86	− ·0003	19	3·9	·0011	0·24	15. 25—16. 3	0·63	+ ·0006	+ ·0004
	18. 2—18. 40	0·63	+ 6·9	+ ·0020	+ ·0013				3	7·8	·0023	0·21	16. 3—23. 59	7·93	− ·0047	− ·0373
	18. 40—20. 55	2·25	− 5·5	− ·0016	− ·0036				7	3·4	·0010	0·32				
	20. 55—23. 59	3·07	+10·1	+ ·0029	+ ·0089				12	2·3	·0007	0·26				

FORCE MAGNET.						VERTICAL FORCE MAGNET.											
Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Mean Period of Irregularity.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.
	h				h	h m h m	h					h					h
−0·0071	23·00	−0·0003	10 4 14	0·0009 ·0004 ·0008	0·52 0·46 1·14	0. 30—23. 45	23·25	−0·0030	−0·0077	−0·1790	−0·1790	23·25	−0·0077	8	0·0003	0·0008	2·91
+0·0246	23·40	+0·0011	11 13	0·0010 ·0009	0·64 1·26	0. 18—23. 59	23·68	−0·0018	−0·0046	−0·1089	−0·1089	23·68	−0·0046	13	0·0003	0·0008	1·82
− ·0096	23·48	− ·0004	10 4 21	·0007 ·0006 ·0005	0·57 0·20 0·81	0. 0— 6. 57 Time-piece stopped for 3 hours. 9. 53—23. 59	6·95 14·10	− ·0006 − ·0015	− ·0015 − ·0039	− ·0104 − ·0550	− ·0104 − ·0550	6·95 14·10	− ·0015 − ·0039	4 4	·0002 ·0006	·0005 ·0015	1·74 3·53
− ·0337	23·99	− ·0014	15 5 22 3 22	·0006 ·0010 ·0008 ·0033 ·0006	0·42 0·17 0·32 0·51 0·37	0. 12—23. 59	23·78	− ·0019	− ·0049	− ·1165	− ·1165	23·78	− ·0049	26	·0003	·0008	0·91
+ ·0020	23·32	+ ·0001	12 43 5 7	·0007 ·0008 ·0003 ·0005	0·45 0·31 0·20 0·50	0. 15— 6. 47 6. 47— 9. 36 9. 36—23. 59	6·53 2·82 14·38	− ·0013 + ·0003 − ·0033	− ·0033 + ·0008 − ·0085	− ·0215 + ·0023 − ·1222	− ·1414	23·73	− ·0060	5 5 11	·0005 ·0001 ·0003	·0013 ·0003 ·0008	1·31 0·56 1·31
+ ·0119	23·85	+ ·0005	3 4 12 27 10 7	·0008 ·0006 ·0007 ·0010 ·0004 ·0005	0·35 0·41 0·29 0·37 0·46 0·46	0. 17— 5. 22 5. 22—23. 59	5·08 18·62	− ·0019 + ·0022	− ·0049 + ·0057	− ·0249 + ·1061	+ ·0812	23·70	+ ·0034	5 17	·0002 ·0004	·0005 ·0010	1·02 1·10
− ·0033	23·98	− ·0001	22 5 2 6 2	·0006 ·0008 ·0002 ·0004 ·0004	0·50 0·38 0·31 1·56 0·57	0. 8—23. 59	23·85	− ·0017	− ·0044	− ·1049	− ·1049	23·85	− ·0044	16	·0005	·0013	1·49
− ·0261	23·98	− ·0011	11 54	·0004 ·0007	0·73 0·29	0. 40— 7. 51 7. 51—13. 16 13. 16—18. 46 18. 46—23. 59	7·18 5·42 5·50 5·22	− ·0007 + ·0004 − ·0010 + ·0014	− ·0018 + ·0010 − ·0026 + ·0036	− ·0129 + ·0054 − ·0143 + ·0188	− ·0030	23·32	− ·0001	4 8 10 6	·0004 ·0003 ·0004 ·0002	·0010 ·0008 ·0010 ·0005	1·79 0·68 0·55 0·87
− ·0408	23·98	− ·0017	69	·0007	0·35	0. 15—23. 59	23·73	+ ·0008	+ ·0021	+ ·0498	+ ·0498	23·73	+ ·0021	24	·0003	·0008	0·99
− ·1271	23·98	− ·0053	77	·0007	0·31	1. 19—23. 59	22·67	+ ·0025	+ ·0064	+ ·1451	+ ·1451	22·67	+ ·0064	49	·0002	·0005	0·46
− ·0123	23·89	− ·0005	43 7 3 26	·0004 ·0016 ·0009 ·0015	0·31 0·30 0·21 0·30	1. 23—11. 36 11. 36—12. 10 12. 10—23. 59	10·22 0·57 11·82	− ·0008 + ·0001 − ·0021	− ·0021 + ·0003 − ·0054	− ·0215 + ·0002 − ·0638	− ·0851	22·61	− ·0038	6 3 43	·0002 ·0001 ·0003	·0005 ·0003 ·0008	1·70 0·19 0·27

Month and Day.	DECLINATION MAGNET. Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.	HORIZONTAL Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Aggregate Disturbance by Wave.
	h m h m	h	′				h			′		h	h m h m	h		
1854. April 23	0. 24—10. 47	10·38	+ 2·6	+0·0008	+0·0083				12	1·7	0·0005	0·87	0. 0— 1. 34	1·57	+0·0001	+0·0002
	10. 47—16. 14	5·45	− 4·2	− ·0012	− ·0065	+0·0103	23·56	+0·0004	14	2·0	·0006	0·39	1. 34— 5. 48	4·23	− ·0009	− ·0038
	16. 14—23. 58	7·73	+ 3·7	+ ·0011	+ ·0085				12	1·8	·0005	0·64	5. 48—14. 7	8·32	+ ·0008	+ ·0067
													14. 7—23. 59	9·87	− ·0023	− ·0227
May 25	0. 0— 7. 0	7·00	+ 1·8	+ ·0005	+ ·0035				10	1·4	·0004	0·70	0. 0— 1. 38	1·63	+ ·0022	+ ·0036
	7. 0— 9. 37	2·62	− 3·7	− ·0011	− ·0029				4	4·8	·0014	0·65	1. 38— 3. 12	1·57	− ·0004	− ·0006
	9. 37—13. 55	4·30	+ 0·2	+ ·0001	+ ·0004	+ ·0004	23·63	·0000	6	1·5	·0004	0·72	3. 12—23. 59	20·78	+ ·0007	+ ·0146
	13. 55—17. 30	3·58	− 1·9	− ·0006	− ·0021				6	1·7	·0005	0·60				
	17. 30—22. 21	4·85	+ 1·3	+ ·0004	+ ·0019				11	2·3	·0007	0·44				
	22. 21—23. 38	1·28	− 1·2	− ·0003	− ·0004				1	1·0	·0003	1·28				
1855. March 12	0. 0— 7. 45	7·75	+ 4·8	+0·0014	+0·0109				21	1·7	0·0005	0·37	0. 34— 4. 0	3·43	+0·0010	+0·0034
	7. 45— 8. 16	0·52	− 2·0	− ·0006	− ·0003				3	2·6	·0008	0·17	4. 0—23. 59	19·98	− ·0027	− ·0540
	8. 16— 8. 57	0·68	+ 1·0	+ ·0003	+ ·0002	−0·0117	23·99	−0·0005	3	3·0	·0009	0·23				
	8. 57—16. 52	7·92	−11·0	− ·0032	− ·0253				21	2·9	·0008	0·38				
	16. 52—23. 59	7·12	+ 1·4	+ ·0004	+ ·0028				7	1·4	·0004	1·02				
April 4	0. 20— 5. 35	5·25	+ 4·2	+ ·0012	+ ·0063				11	1·8	·0005	0·48	0. 24— 2. 11	1·78	− ·0004	− ·0007
	5. 35—18. 8	12·54	− 3·7	− ·0011	− ·0138	− ·0028	23·64	− ·0001	37	2·5	·0007	0·34	2. 11— 4. 38	2·45	+ ·0004	+ ·0010
	18. 8—23. 59	5·85	+ 2·8	+ ·0008	+ ·0047				7	1·2	·0003	0·84	4. 38— 8. 22	3·73	− ·0013	− ·0048
													8. 22— 9. 40	1·30	+ ·0004	+ ·0005
													9. 40—11. 39	1·98	− ·0010	− ·0020
													11. 39—12. 49	1·17	+ ·0007	+ ·0008
													12. 49—23. 59	11·17	− ·0005	− ·0056
July 19													0. 0— 8. 29	8·48	+ ·0023	+ ·0195
													8. 29—22. 47	14·30	− ·0032	− ·0458
Oct. 18	0. 15— 8. 18	8·05	+ 2·1	+ ·0006	+ ·0048				13	2·5	·0007	0·62	0. 0— 1. 47	1·78	+ ·0006	+ ·0011
	8. 18—15. 28	7·17	− 6·8	− ·0020	− ·0143	− ·0052	23·74	− ·0002	18	2·7	·0008	0·40	1. 47—23. 59	22·20	− ·0022	− ·0488
	15. 28—23. 59	8·52	+ 1·8	+ ·0005	+ ·0043				9	1·2	·0003	0·95				
1856.	No days of great disturbance throughout the year.															
1857. Feb. 26	1. 24— 8. 48	7·40	+ 1·9	+0·0006	+0·0044				13	0·6	0·0002	0·57	1. 22— 9. 13	7·85	+0·0006	+0·0047
	8. 48—14. 43	5·92	− 5·5	− ·0016	− ·0095	+0·0014	22·59	+0·0001	14	1·8	·0005	0·42	9. 13—23. 59	14·77	− ·0009	− ·0133
	14. 43—23. 59	9·27	+ 2·4	+ ·0007	+ ·0065				14	0·8	·0002	0·66				
March 13	0. 0— 7. 5	7·08	+ 1·9	+ ·0006	+ ·0042				16	0·5	·0001	0·44				
	7. 5— 9. 37	2·53	− 9·5	− ·0028	− ·0071	+0·0052	23·16	+0·0002	5	7·2	·0021	0·51				
	9. 37—23. 10	13·55	+ 2·2	+ ·0006	+ ·0081				16	0·5	·0001	0·85				
May 7	0. 0— 8. 5	8·08	+ 5·1	+ ·0015	+ ·0121				37	1·2	·0003	0·22	0. 0— 5. 18	5·30	+ ·0029	+ ·0154
	8. 5—15. 23	7·30	−11·5	− ·0033	− ·0241	+ ·0207	23·98	+ ·0009	28	5·0	·0015	0·26	5. 18— 7. 8	1·83	− ·0008	− ·0015
	15. 23—23. 59	8·60	+13·1	+ ·0038	+ ·0327				25	3·3	·0010	0·34	7. 8— 7. 36	0·47	+ ·0001	·0000
													7. 36—23. 59	16·38	− ·0034	− ·0557
„ 10	0. 0— 7. 48	7·80	+ 1·3	+ ·0004	+ ·0031				16	0·8	·0002	0·49	0. 0—14. 26	14·43	+ ·0022	+ ·0317
	7. 48— 9. 36	1·80	− 1·3	− ·0004	− ·0007				7	1·6	·0005	0·25	14. 26—15. 57	1·52	− ·0007	− ·0011
	9. 36—10. 6	0·50	+ 0·2	+ ·0001	+ ·0001				3	0·6	·0002	0·17	15. 57—17. 18	1·35	+ ·0009	+ ·0012
	10. 6—12. 33	2·45	− 0·7	− ·0002	− ·0005				3	0·5	·0001	0·82	17. 18—22. 6	4·80	− ·0010	− ·0048
	12. 33—13. 18	0·75	+ 0·5	+ ·0001	+ ·0001	+ ·0056	23·75	+ ·0002	3	1·2	·0003	0·25				
	13. 18—15. 6	1·80	− 1·1	− ·0003	− ·0005				8	1·0	·0003	0·23				
	15. 6—17. 0	1·90	+ 0·9	+ ·0003	+ ·0006				3	4·7	·0014	0·63				
	17. 0—19. 45	2·75	− 1·7	− ·0005	− ·0014				9	0·9	·0003	0·31				
	19. 45—23. 45	4·00	+ 4·1	+ ·0012	+ ·0048				8	0·7	·0002	0·50				
Sept. 3	0. 0— 6. 46	6·77	+ 3·1	+ ·0009	+ ·0061				5	1·3	·0004	1·35	0. 0—10. 23	10·38	+ ·0012	+ ·0125
	6. 46—10. 10	3·40	− 3·3	− ·0010	− ·0034				8	1·6	·0005	0·43	10. 23—15. 31	5·13	− ·0022	− ·0113
	10. 10—11. 19	1·15	+ 2·7	+ ·0008	+ ·0009	− ·0124	23·98	− ·0005	2	9·7	·0028	0·58	15. 31—16. 22	0·85	+ ·0003	+ ·0003
	11. 19—18. 37	7·30	− 9·8	− ·0029	− ·0212				28	3·2	·0009	0·26	16. 22—23. 59	7·62	− ·0036	− ·0274
	18. 37—22. 0	3·38	+ 5·4	+ ·0016	+ ·0054				9	4·6	·0013	0·38				
	22. 0—23. 59	1·98	− 0·4	− ·0001	− ·0002				3	1·0	·0003	0·66				
Nov. 12	0. 0— 8. 42	8·70	+ 4·2	+ ·0012	+ ·0104				20	1·5	·0004	0·44	0. 0— 5. 51	5·85	+ ·0005	+ ·0029
	8. 42—13. 0	4·30	− 7·6	− ·0022	− ·0095	+ ·0163	23·25	+ ·0007	11	2·7	·0008	0·39	5. 51— 6. 40	0·82	− ·0004	− ·0003
	13. 0—23. 15	10·25	+ 5·0	+ ·0015	+ ·0154				16	1·8	·0005	0·64	6. 40—11. 34	4·90	+ ·0010	+ ·0049
													11. 34—23. 16	11·70	− ·0007	− ·0081

FORCE MAGNET.						VERTICAL FORCE MAGNET.											
Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Mean Period of Irregularity.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.
	h				h	h m h m	h					h					h
−0·0196	23·99	−0·0008	1 8 23 17	0·0001 ·0008 ·0007 ·0005	1·57 0·53 0·36 0·58	0. 15—14. 24 14. 24—23. 59	14·15 9·58	+0·0015 −·0014	+0·0039 −·0036	+0·0552 −·0345	+0·0207	23·73	+0·0009	9 12	0·0003 ·0002	0·0008 ·0005	1·57 0·80
+·0176	23·98	+·0007	4 3 45	·0011 ·0010 ·0006	0·41 0·52 0·46	0. 5—1. 8 1. 8—17. 30 17. 30—20. 59 20. 59—23. 59	1·05 16·37 3·48 3·00	+·0003 −·0011 +·0005 −·0030	+·0008 −·0029 +·0013 −·0077	+·0008 −·0475 +·0045 −·0231	−·0653	23·90	−·0027	1 21 7 3	·0002 ·0003 ·0002 ·0013	·0005 ·0008 ·0005 ·0033	1·05 0·78 0·50 1·00
−0·0506	23·41	−0·0022	13 46	0·0005 ·0005	0·26 0·43	0. 32—23. 59	23·45	−0·0035	−0·0090	−0·2111	−0·2111	23·45	−0·0090	23	0·0003	0·0008	1·02
−·0108	23·58	−·0005	5 4 15 4 6 3 16	·0005 ·0006 ·0007 ·0019 ·0007 ·0013 ·0005	0·36 0·61 0·25 0·32 0·33 0·39 0·70	0. 28—12. 0 12. 0—20. 46	11·53 8·77	−·0005 +·0006	−·0013 +·0015	−·0150 +·0132	−·0018	20·30	−·0001	15 4	·0002 ·0002	·0005 ·0005	0·77 2·19
−·0263	22·78	−·0012	29 51	·0006 ·0005	0·29 0·28	0. 0—13. 27 13. 27—23. 27	13·45 10·00	+·0009 −·0016	+·0023 −·0041	+·0309 −·0410	−·0101	23·45	−·0004	11 10	·0003 ·0002	·0008 ·0005	1·22 1·00
−·0477	23·98	−·0020	4 56	·0002 ·0005	0·45 0·40	0. 0—23. 50	23·83	+·0017	+·0044	+·1049	+·1049	23·83	+·0044	13	·0003	·0008	1·83
−0·0086	22·62	−0·0004	4 17	0·0007 ·0005	1·96 0·87	0. 37—23. 48	23·18	−0·0023	−0·0059	−0·1368	−0·1368	23·18	−0·0059	10	0·0005	0·0013	2·32
−·0418	23·98	−·0017	23 6 2 71	·0007 ·0005 ·0009 ·0009	0·23 0·30 0·24 0·23	1. 13—23. 51	22·63	−·0055	−·0141	−·3191	−·3191	22·63	−·0141	58	·0003	·0008	0·39
+·0270	22·10	+·0012	44 5 5 11	·0005 ·0005 ·0006 ·0002	0·33 0·30 0·27 0·44	0. 0—11. 18 11. 18—23. 59	11·30 12·68	+·0013 −·0016	+·0033 −·0041	+·0373 −·0520	−·0147	23·98	−·0006	4 9	·0004 ·0003	·0010 ·0008	2·83 1·41
−·0259	23·98	−·0011	28 23 4 37	·0004 ·0009 ·0008 ·0007	0·37 0·22 0·21 0·21	0. 0—3. 39 3. 39—23. 59	3·65 20·33	+·0001 −·0080	+·0003 −·0206	+·0011 −·4188	−·4177	23·98	−·0174	1 36	·0004 ·0003	·0010 ·0008	3·65 0·56
−·0006	23·27	·0000	12 4 20 22	·0006 ·0004 ·0005 ·0004	0·49 0·20 0·24 0·53	No Photographic Trace.											

Month and Day.	DECLINATION MAGNET. Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.
	h m h m	h	′				h			′		h
1857. Nov. 16	1. 40—13. 8	11·47	− 5·2	−0·0015	−0·0172	− 0·0073	21·32	−0·0003	20	3·2	0·0009	0·57
	13. 8—22. 59	9·85	+ 3·4	+ ·0010	+ ·0099				21	1·3	·0004	0·47
„ 17	1. 13— 2. 46	1·55	+ 0·5	+ ·0001	+ ·0002				•1	1·8	·0005	1·55
	2. 46—15. 51	13·08	− 8·5	− ·0025	− ·0327	− ·0049	22·76	− ·0002	25	3·1	·0009	0·52
	15. 51—23. 59	8·13	+11·7	+ ·0034	+ ·0276				16	2·1	·0006	0·51
Dec. 16	0. 0— 5. 4	5·07	− 1·7	− ·0005	− ·0025				2	0·4	·0001	2·54
	5. 4— 7. 43	2·65	+ 0·4	+ ·0001	+ ·0003				4	0·5	·0001	0·66
	7. 43— 9. 0	1·28	− 0·7	− ·0002	− ·0003	− ·0021	23·98	− ·0001	3	1·0	·0003	0·43
	9. 0—17. 36	8·60	+ 7·6	+ ·0022	+ ·0189				23	3·6	·0010	0·37
	17. 36—23. 59	6·38	− 9·8	− ·0029	− ·0185				34	6·0	·0017	0·19
„ 17	1. 14— 2. 37	1·38	− 1·9	− ·0006	− ·0008				6	4·6	·0013	0·23
	2. 37— 3. 14	0·62	+ 1·6	+ ·0005	+ ·0003				4	5·2	·0015	0·16
	3. 14— 4. 21	1·12	− 1·0	− ·0003	− ·0003				6	1·7	·0005	0·19
	4. 21— 5. 16	0·92	+ 0·9	+ ·0003	+ ·0003				3	4·4	·0013	0·31
	5. 16— 5. 41	0·42	− 1·6	− ·0005	− ·0002				2	2·0	·0006	0·21
	5. 41— 6. 20	0·65	+ 1·3	+ ·0004	+ ·0003	− ·0086	22·76	− ·0004	4	2·7	·0008	0·16
	6. 20— 7. 20	1·00	− 1·6	− ·0005	− ·0005				5	5·6	·0016	0·20
	7. 20— 8. 15	0·92	+ 1·1	+ ·0003	+ ·0003				4	3·3	·0010	0·23
	8. 15—14. 33	6·30	− 4·0	− ·0012	− ·0076				27	2·4	·0007	0·23
	14. 33—15. 45	1·20	+ 3·3	+ ·0010	+ ·0012				5	2·7	·0008	0·24
	15. 45—23. 59	8·23	− 0·7	− ·0002	− ·0016				12	0·7	·0002	0·69

Month and Day.	HORIZONTAL Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Aggregate Disturbance by Wave.
	h m h m	h		
1857. Nov. 16	0. 0— 4. 30	4·50	+0·0002	+0·0009
	4. 30—11. 4	6·57	− ·0010	− ·0066
	11. 4—20. 1	8·95	+ ·0009	+ ·0081
	20. 1—23. 20	3·32	− ·0018	− ·0060
„ 17	1. 29—11. 52	10·38	− ·0014	− ·0145
	11. 52—16. 14	4·37	+ ·0007	+ ·0031
	16. 14—23. 59	7·75	− ·0021	− ·0163
Dec. 16	0. 0—15. 9	15·15	+ ·0014	+ ·0212
	15. 9—23. 24	8·25	− ·0065	− ·0536
	23. 24—23. 59	0·58	+ ·0034	+ ·0020
„ 17	1. 23—23. 59	22·60	− ·0039	− ·0881

FORCE MAGNET.						VERTICAL FORCE MAGNET.											
Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Mean Period of Irregularity.	Times of Beginning and End of Wave.	Length of the Wave in Time.	Mean Disturbance by Wave.	Equivalent in Terms of Horizontal Force.	Aggregate Disturbance by Wave.	Algebraic Sum of Aggregate Disturbance in the Day or Days.	Sum of Hours.	Mean Disturbance.	Number of Irregularities.	Mean Value of Irregularity.	Equivalent in Terms of Horizontal Force.	Mean Period of Irregularity.
	h				h	h m h m	h					h					h
−0·0036	23·34	−0·0002	7 19 25 5	0·0004 ·0003 ·0002 ·0008	0·64 0·35 0·36 0·66					No Photographic Trace.							
− ·0277	22·50	− ·0012	32 14 22	·0004 ·0006 ·0004	0·32 0·31 0·35					No Photographic Trace.							
− ·0304	23·98	− ·0013	26 54 2	·0006 ·0024 ·0024	0·58 0·15 0·29	0. 0—23. 59	23·98	−0·0036	−0·0093	−0·2230	−0·2230	23·98	−0·0093	19	0·0003	0·0008	1·26
− ·0881	22·60	− ·0039	93	·0008	0·24	0. 0—12. 26 12. 26—23. 59	12·43 11·55	+ ·0015 − ·0002	+ ·0039 − ·0005	+ ·0485 − ·0058	+ ·0427	23·98	+ ·0018	27 3	·0003 ·0002	·0008 ·0005	0·46 3·85