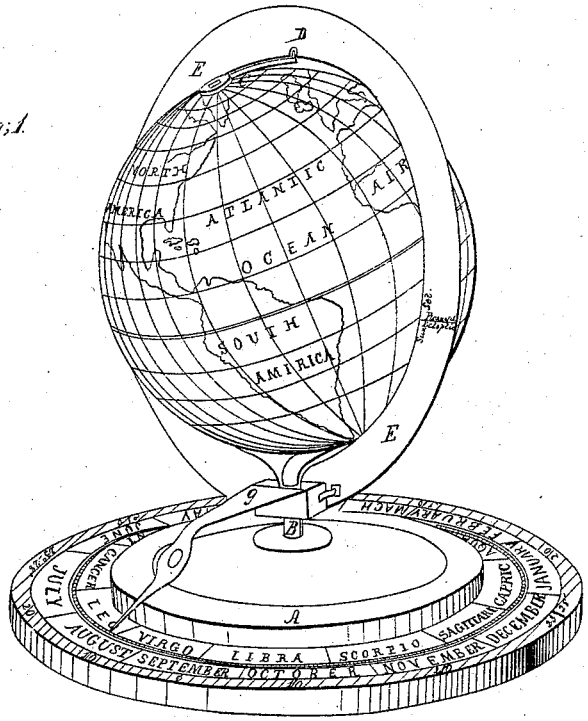
S. Cornell,

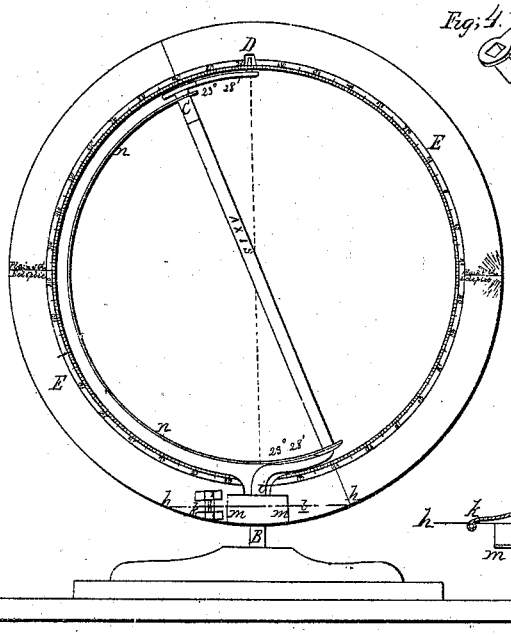
Mounting Globes,

No. 4,098. Patented July 5, 1845.

Fig; 1.



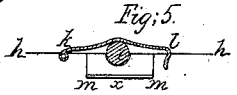
Fig; 2.



Fig; 4.

Fig; 3.

Fig; 5.



Witnesses.
H. B. M. Cornell
Wm. Rumble.

Inventor.
Silas Cornell.

UNITED STATES PATENT OFFICE.

SILAS CORNELL, OF ROCHESTER, NEW YORK.

MOUNTING GLOBES.

Specification of Letters Patent No. 4,098, dated July 5, 1845.

To all whom it may concern:

Be it known that I, SILAS CORNELL, of the city of Rochester, in the county of Monroe and State of New York, have invented a new and useful improvement in the mounting and fitting of artificial globes for the illustration of several geographical and astronomical phenomena connected with the motion of the earth, which is described as follows, reference being had to the annexed drawings of the same, making a part of this specification.

The globe to which these improved appendages are fixed, may be of the common construction, except that it should revolve on its axis and not have the axis to revolve with it.

The stand A, Figure 1 is a circular piece of wood, having that part of its upper surface next the circumference made into three annular divisions by concentric circles. The outer of these divisions contains an analemma, showing the declination of the sun for every day in the year; the next division contains a calendar, and the third contains the signs of the zodiac; these two latter divisions being of the same construction as is usual on the wooden horizon of a common globe. In the center of the stand is inserted a round iron rod B the lower part of which is called the pillar and the upper part the axis. These may be of one or more pieces as may be most convenient. The pillar is connected to the axis by an arm which is curved, being a segment of 23° 28′ of a circle whose radius is its distance from the center of the globe, as shown more fully in Fig. 2. The upper part of the axis is made square to fit the socket of the brass rest C, which supports the day circle on a pivot D. The rest is shown in Fig. 4.

The day circle is a thin circular plate of metal E, E, supported on the pivot D, and kept in its place at the bottom by a clasp securing it to the iron pillar around which it revolves. One side of this circle is supposed to always face the sun's place, and is made white to indicate day: the other side is blackened to indicate night. At right angles with the axis of the day circle and at equal distances from the points on which it turns is marked a line for the plane of the ecliptic, having an illuminated point on the right hand to indicate that the sun is always in that plane. The inner edge of the day circle is graduated so that when its plane cuts the poles of the globe the graduated edge will show the latitude of planes which are made to pass under it.

The index *g*, is attached to the lower part of the day circle, so as to stand out at right angles, having its point inclined downward toward the line of days in the calendar.

Fig. 3 is the index with its broad end bent downward to be inserted in the opening made to receive it as shown in Fig. 5.

Fig. 5 is a horizontal section of the lower part of the day circle to show its attachment to the pillar that supports the globe; the section being made through the dotted line *h*, *h*, in Fig. 2 the letters in Fig. 2 and Fig. 5 referring to the same parts, *h*, *h*. Fig. 5, is a part of the day circle bent into the form of half a cylinder where it rests against the pillar *i*, hidden in Fig. 2 by the plate *m*, *m*. *k*, *l*, is a clasp with an eye at *k* to receive a wire shown at *k* Fig. 2 forming a hinge for the clasp to turn on. The end *l*, of the clasp, bent into the form of a hook, is kept in its place by passing through a hole *l* in the day circle, being so adjusted as to press against the inner edge of the hole and retain its place by its elasticity at the same time keeping the day circle pressed against the pillar and half embracing it. *m*, *m*, is a double plate of metal with its ends bent at right angles and soldered to the day circle, with an opening *x* to receive the index.

A brass meridian *n*, *n*, Fig. 2 revolves on the extremities of the axis of the globe, being graduated from the Equator to the poles. The pillar is so inserted in the stand that the arm connecting it with the axis extends in a line toward the beginning of the sign Capricorn and the upper or north end of the axis is inclined toward the beginning of the sign Cancer.

When the index is set to any day in the calendar, and the globe made to revolve on its axis, it will show, on the light side of the day circle, those parts of the earth that receive the light of the sun on that day; and the number of meridians on that side of the day circle in any latitude will show the number of hours in a day in that latitude at that time of the year; and the dark side of the day circle will give the same particulars in relation to the night.

The declination of the sun is shown for all times of the year by the relative positions

of the Equator and the ecliptic; and also by the analemma.

Many other particulars to be illustrated by this globe cannot be here enumerated.

The invention claimed and desired to be secured by Letters Patent consists in—

The arrangement of the day circle with its index in combination with the globe mounted upon the oblique axis and in combination therewith the calendar and analemma.

Rochester 6th month 14 1845.

SILAS CORNELL.

Witnesses:
F. I. M. Cornell,
William Rumble.