

25 Sheets. Sheet 1.

L. P. Juvet,

Geographical Clock.

N<sup>o</sup> 64,989.

Patented May 21, 1867.

Fig. 2

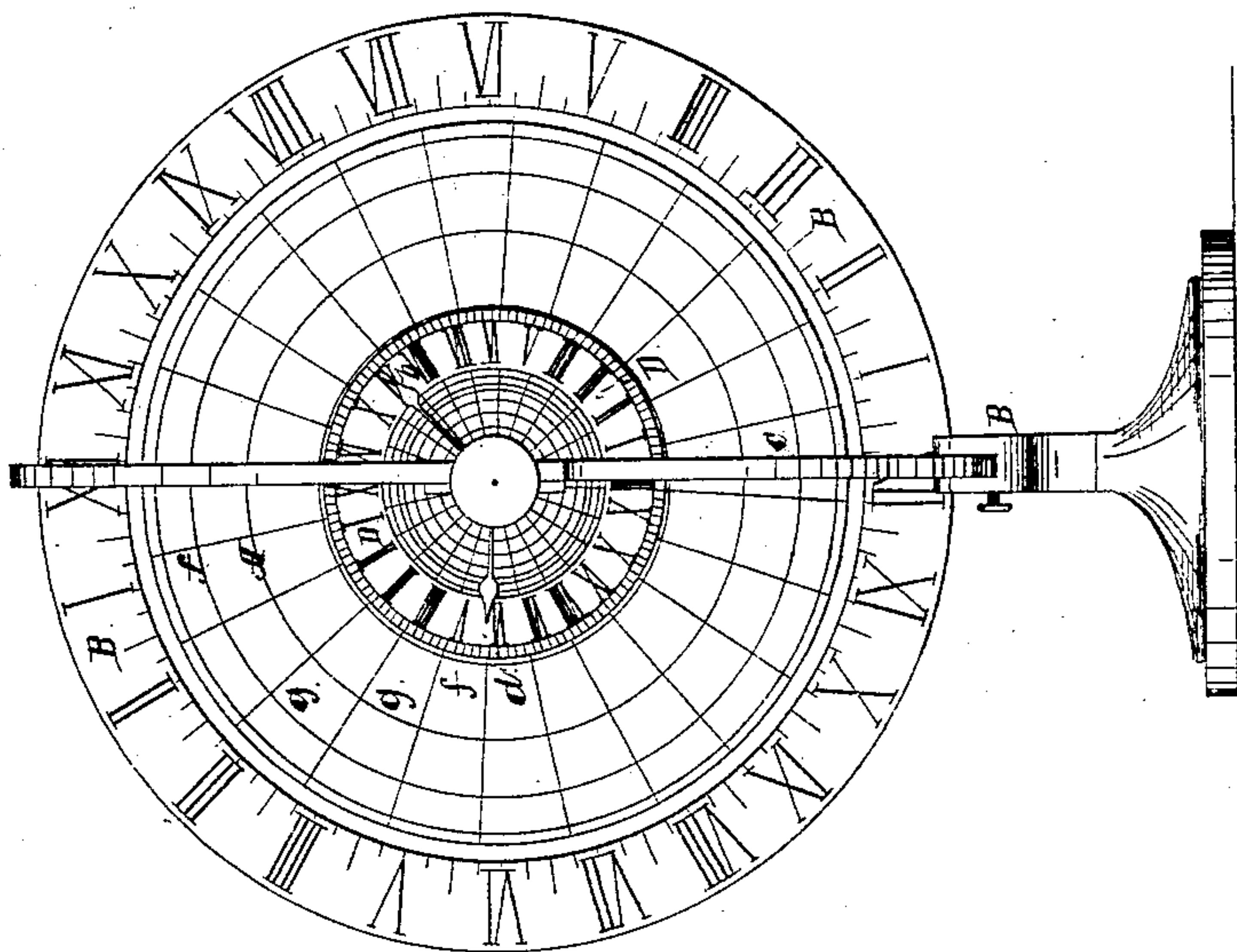
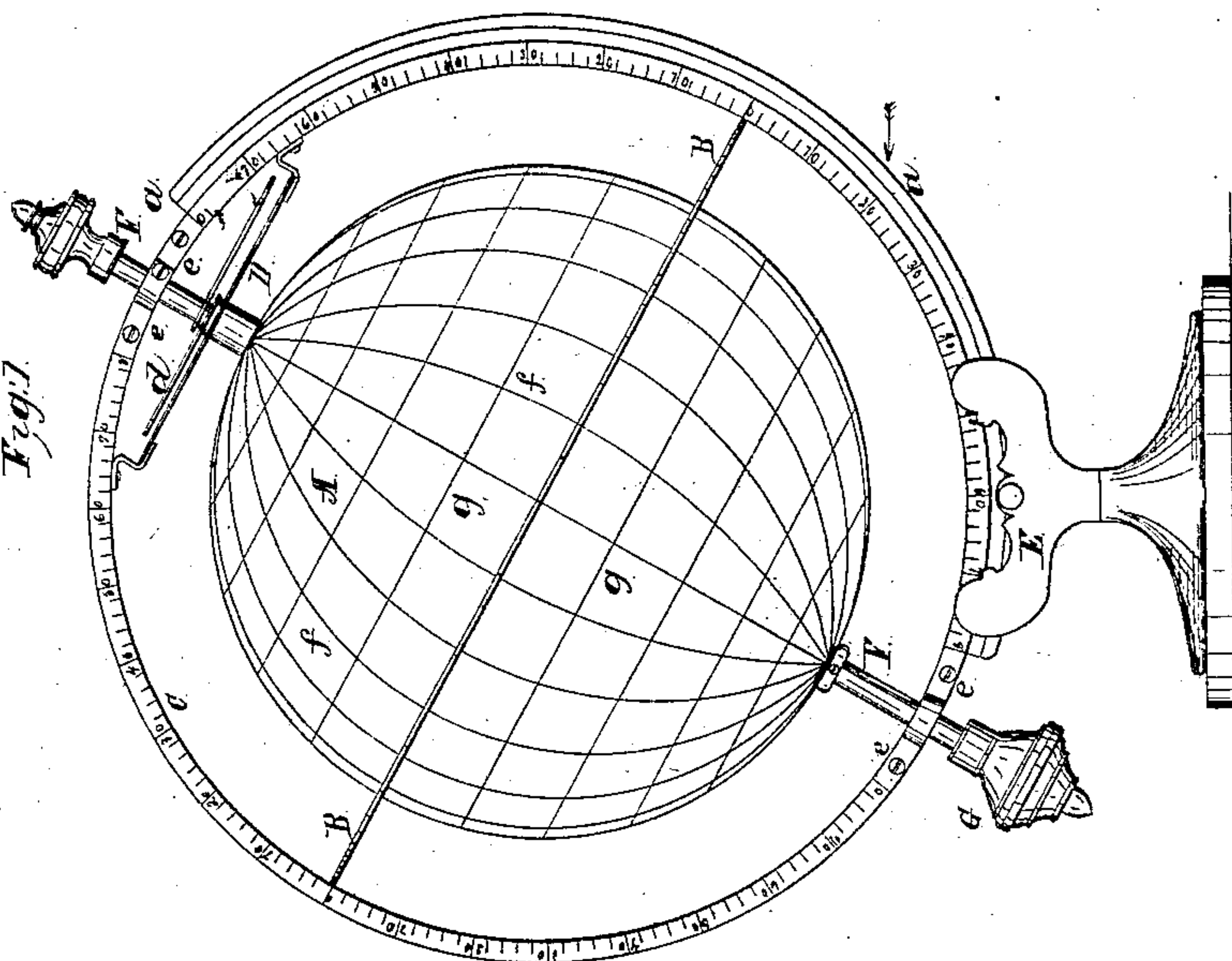


Fig. 1



Witnesses:  
S. S. Sakwestroff  
Theodore Lang.

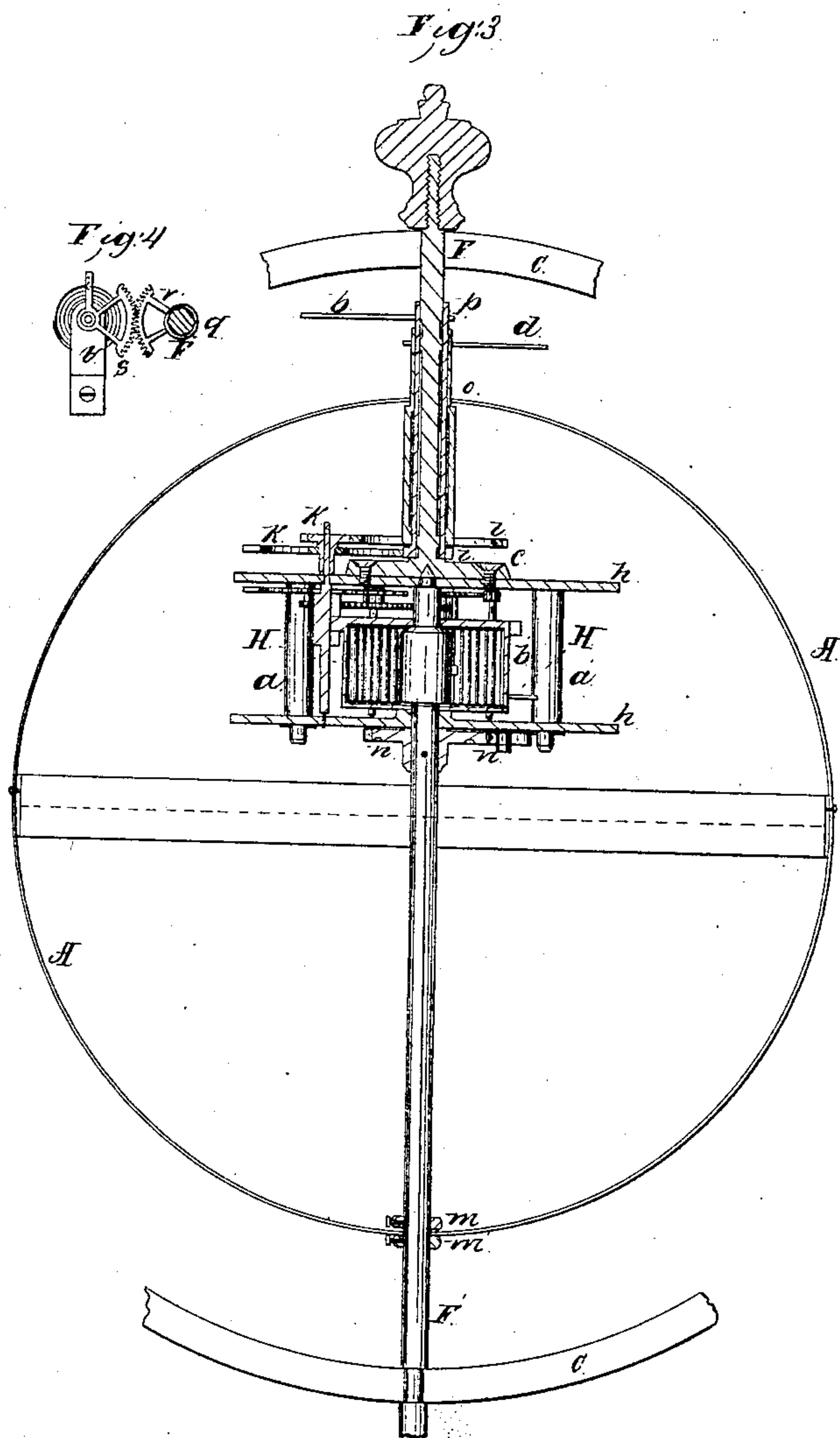
Inventor:  
L. Paul Juvet

L. P. Juvet, 2 Sheets. Sheet 2.

Geographical Clock.

N<sup>o</sup> 64,989.

Patented May 21, 1867.



Witnesses:

S. S. Bahnestock  
Theodore Lang

Inventor:

L. Paul Juvet



# United States Patent Office.

L. PAUL JUVET, OF GLENS FALLS, NEW YORK.

Letters Patent No. 64,989, dated May 21, 1867.

## IMPROVEMENT IN TIME GLOBES.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, LOUIS PAUL JUVET, of Glens Falls, in the county of Warren, and State of New York, have invented a new and improved Time Globe; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing, making a part of this specification, in which like parts are indicated by like letters in the several figures.

The nature of my invention consists in a revolving terrestrial globe, combined with a chronometer movement within the same, two stationary dials, and a meridian ring, &c.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation. In the drawings—

Figure 1 is a side view of my revolving globe.

Figure 2 is front view or elevation, the axis being horizontal.

Figure 3 is an axial section of the works and globe.

A represents a hollow globe made of two hemispherical sections, divided at the equator, and properly fitted and secured, as will hereafter be described. B is an equatorial dial. C is a meridian ring supporting the axis of the globe, as also a dial, D, near one of the poles. The dial B is also secured to it. The meridian ring C slides in a standard, E, by means of a groove *a*, and corresponding mechanical fitting. This circle is divided into degrees, so as to regulate the inclination of the axis of the globe at pleasure, at the same time indicating latitude. *b* and *d* are hands operated by the works inside of the globe, and indicating the time on dial D the same as on the dial of a clock or watch. This dial, however, is marked from one to twelve twice, as the globe revolves once in twenty-four hours. The hands move to the left. Were the dial at the other pole, they would move to the right. The aim is to make the globe revolve in the direction our earth does, and I prefer having the dial at the north pole. F F' represents the axis of the globe on which it revolves. G is a thumb-piece attached to lower end of axis F', by which to wind the chronometer inside of globe. The axis F F' is secured to circle C by means of two "axle boxes" *e e*. *f* indicates longitudinal lines on the globe, and *g* those of latitude. The works used in the construction of my time globe, as seen in fig. 3, are composed of two plates, *h h'*, united by pillars *a'*. Between the plates and in their centre is the barrel-wheel H, containing the main-spring *b'*, which imparts the motion to a train of wheels and pinions, that motion being regulated by a "patent-lever" or any other escapement able to run in different positions. The barrel-wheel arbor F' is made of suitable length to extend through the plate *h'* of the globe A and the meridian ring C, and receive the thumb-piece G, by means of which the main-spring *b'* is "wound up" from the outside without detaching the sections of the globe and without the use of a special key. The ratchet-wheel *n* is secured to the arbor below the plate *h'*. Upon the plate *h*, and coincident with the barrel-wheel arbor, the flanged end *c'* of the arbor F is secured by screws. This arbor is also secured by screws or otherwise to the meridian circle C, thus rendering the works of the chronometer stationary with the globe. On and around this arbor F are the two wheels *i* and *j*, receiving their motions from the double-wheel *k*; and these are so calculated as to make the wheel *j* revolve once in two hours, being the one hundred and twenty minutes of the dial D, and the wheel *i* one revolution in twenty-four hours; their respective motions being transmitted by a prolongation of their arbors *p* and *o* to the globe A, and the two hands *b* and *d* of the dial D, these two hands being secured by hard friction to the upper end of their respective arbors. With a slight alteration in the number of teeth of these wheels the dial D could be made with twelve hours only, instead of twenty-four, at the option of the constructor. The globe A is made of two hemispherical sections divided at the equator, and of equal weight, in order to obtain a regular motion of rotation. They are attached together by means of an inside ring, *l*, attached to one of the sections, over which the other is adjusted and secured by means of little screws—four or more. An aperture is made at one of the poles of proper size to receive and fit the axis F' on which it must revolve; at the other pole the aperture is made to fit the end of the arbor *o* of daily-wheel *i*, which imparts the motion to the globe, and the end of this arbor should be square, sexagon, octagon, or of other angular form by which to carry the globe with it. The globe is prevented from sliding up and down the axis by means of two rings *m m'*, placed one within and one without the globe on F' and secured to it by set-screws.

Having thus described the different parts of the machine, I will proceed to describe its operation.

Supposing the globe to be stationary, by turning the thumb-piece G attached to arbor F, the main-spring *b'* is



wound up and motion is imparted to the works, and through the arbor *o* of daily-wheel *i* to the globe, this arbor carrying the hour-hand; the latter indicating the hour on the dial *D*, whilst the minute-hand on the arbor *p* indicates the minutes on the same dial for local time. The globe is thus revolved diurnally. To ascertain the time of day at any part of the globe—say Washington city—look at its meridian and where it meets the equatorial dial *B*, (which is also divided into hours and fractions of the same,) the time of the day at Washington city and all places on its meridian will at once be ascertained. It will thus be seen that my time globe illustrates to the pupil the diurnal revolution of the earth on its axis, causing the vicissitudes of day and night, shows the respective time at any meridian, and by means of the additional dial *D* the instrument renders the services of a common clock, even when not used for educational purposes. If it be desired to attach a regulator, operating from the outside of the globe, it can easily be done, as illustrated by fig. 4. This is effected by placing a sleeve *q* concentric to the arbor *F'*, at one end of which is a toothed sector, *r*; which engages another similar one, *s*, adjusted on the balance-wheel bridge and bearing the pins which control the hair-spring. It will be readily perceived that by turning the sleeve *q* the toothed sector *r* will impart the motion to the regulating sector *s*, producing the desired effect.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The axis of the globe *A*, when constructed of the two sections *F* and *F'*, the former serving as an axis for the hollow arbors *o* and *p* carrying the hour and minute-hands *d* and *b*, and the latter serving as a winding arbor, constructed, arranged, and operating in the manner substantially as shown and described and for the purpose set forth.

2. The combination of the dial *D*, globe *A*, and the chronometer movement within the same, arranged, constructed, and operating in the manner substantially as shown and described and for the purpose set forth.

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Witnesses:

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