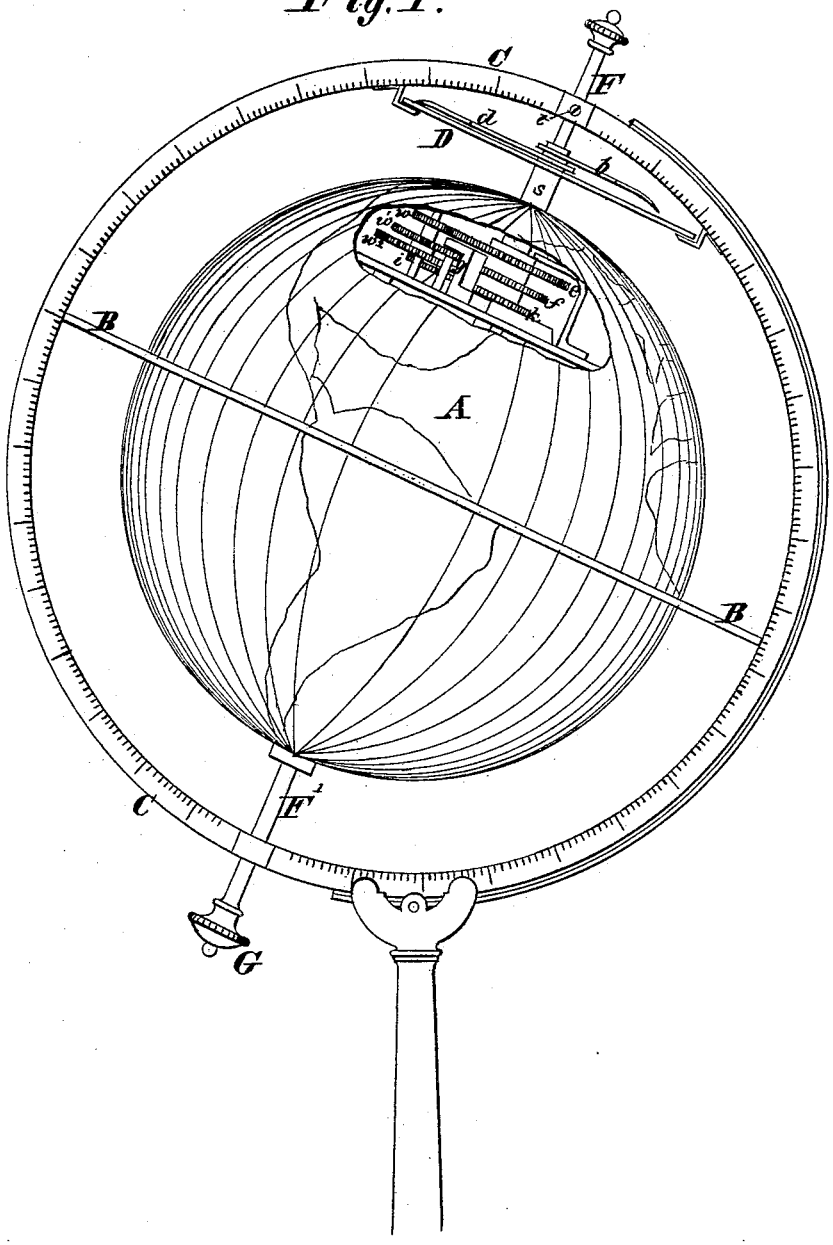
3 Sheets—Sheet 1.

L. P. JUVET.

TIME GLOBE.

No. 189,042. Patented April 3, 1877.

Fig. 1.



WITNESSES

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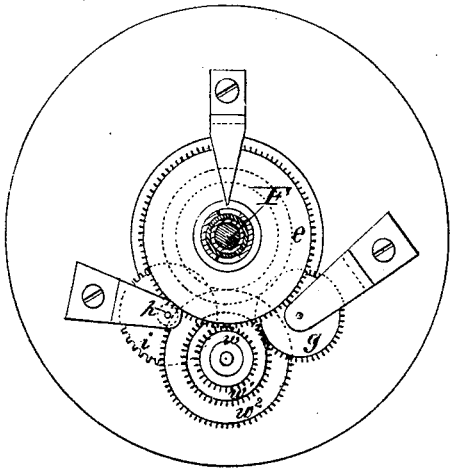
Fig. 2.



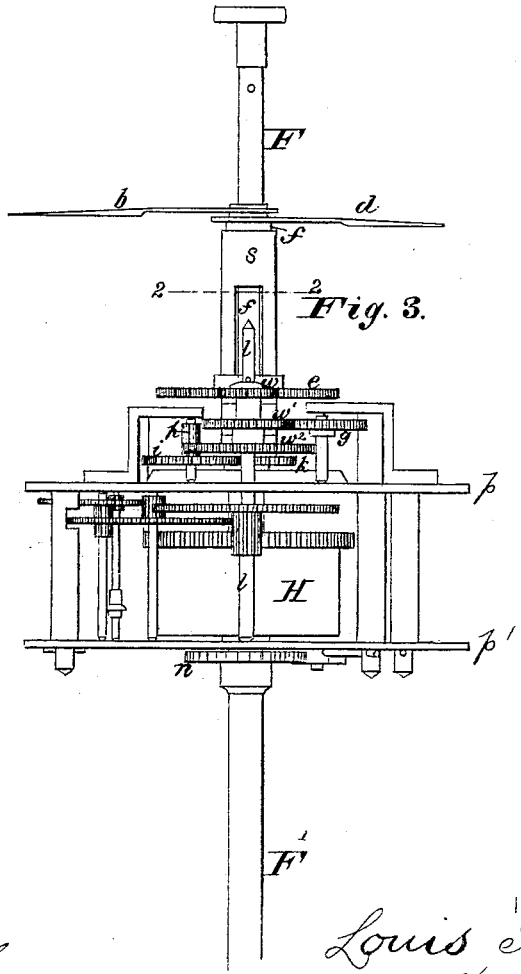


Fig. 3.

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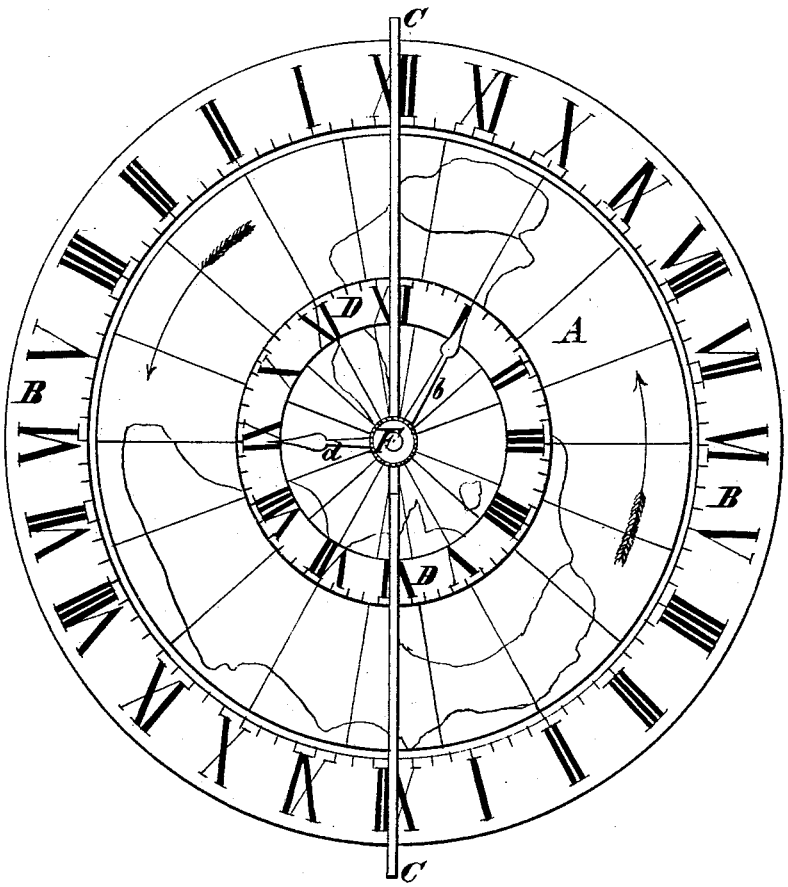
Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

LOUIS PAUL JUVET, OF GLEN'S FALLS, NEW YORK.

IMPROVEMENT IN TIME-GLOBES.

Specification forming part of Letters Patent No. **189,042**, dated April 3, 1877; application filed September 15, 1876.

To all whom it may concern:

Be it known that I, LOUIS PAUL JUVET, of Glen's Falls, in the county of Warren and State of New York, have invented a certain new and useful Improvement in Time-Globes, of which the following is a specification:

In Letters Patent No. 64,989, granted to me on the 21st of May, 1867, I described a globe revolved by mechanism within it, in a manner corresponding with the diurnal rotation of the earth, and connected with a minute and an hour hand, the latter moving in coincidence with the globe; a dial marked with twice twelve hours, and located at the equator, serving to indicate the time at any longitude, and a corresponding dial located at the pole, serving, in connection with the hands, to indicate the time at the point where the globe is used.

My globe, as now improved, is provided with hands moving in a direction the reverse of that of the globe itself, so that the motion of the globe may be from west to east, corresponding with that of the earth, or from right to left as viewed from the north pole, while the motion of the hands may be from left to right, as in an ordinary time-keeper.

In the accompanying drawing, Figure 1 is a side elevation of the improved globe, partly broken away to expose the interior mechanism. Fig. 2 is a horizontal section on the line 2 2, Fig. 3. Fig. 3 is an elevation of the operating mechanism, viewed in a line at right angles to that shown in Fig. 1. Fig. 4 is a plan of the globe viewed from the pole.

A represents a hollow globe, made in two hemispherical sections, divided at the equator, and properly fitted and secured. B is an equatorial dial. C is a meridian ring, supporting the axis of the globe. F F′ represent the axis of the globe on which it revolves, the portion F′ being swiveled to the fixed part F, and provided with a thumb-piece, G, for winding up the mechanism, as described in my previous patent. Between the plates *p p′*, and in their center, is the barrel-wheel H, containing the mainspring, which imparts motion to a series of wheels and pinions, the motion being regulated by an escapement of any preferred construction. The portion F′ of the axis constitutes the barrel-wheel arbor, by which it is wound up. The ratchet-wheel *n* is secured to the arbor below the plate. The fixed part of the arbor is secured by screws *t*, or otherwise, to the meridian-ring C, to render the movement of the chronometer stationary within the globe. The movement for operating the globe is the same as before, and the equatorial dial B is, as before, marked with figures from 1 to 12 twice, to represent the twenty-four hours of the day and night. As now improved, the dial D is preferably marked with a single series of figures from 1 to 12, extending around the circle, as in an ordinary clock-dial, and arranged, in the customary manner, from left to right. This dial being located near the north pole, I have arranged the hands *b d* to receive a motion in reverse direction from that of the globe, so that both the motions of the hands and of the globe may be proper. The mechanism which I have adopted to impart this reverse motion to the hands consists of a triple wheel, *w w*^{1} *w*^{2}, the three wheels being of different sizes, and connected to one sleeve, which is driven by hard friction from the arbor *l*, in customary manner. The small wheel *w* drives the wheel *e* on the sleeve *s*, by which the globe A is carried from right to left. The second wheel, *w*^{1}, drives the wheel on the hour-hand sleeve *f* by means of an intermediate wheel, *g*, so as to impart the required motion to the hour-hand in the opposite direction at double the velocity of the globe. The third wheel, *w*^{2}, operates through an intermediate pinion, *h*, and wheel *i* on the wheel *k* of the minute-hand sleeve, so as to drive this in the same direction as the hour-hand, but at twelve times the velocity required, in customary manner.

The required reverse movement of the hands and globe might be obtained by other means than these I have described; but I prefer to employ three wheels, *w w*^{1} *w*^{2}, made fast on the same sleeve, so that when the instrument is to be set to time, the motion of the minute-hand back or forward has the required effect on the hour-hand and on the globe, thus keeping all in their proper relations.

Having thus described my invention, the following is what I claim as new therein, and desire to secure by Letters Patent:

1. A globe revolved to correspond with the

diurnal rotation of the earth by means of mechanism within it, communicating also through intermediate gearing with one or more hands, and imparting thereto a rotation in reverse direction to that of the globe, so as to indicate the time on an ordinary clock-dial.

2. A time-globe, A, provided with an equatorial dial, B, for indicating the time at various longitudes, and a polar dial, D, for indicating the time at a selected place by means of hands *b d*, having the motions proper to the hands of a time-piece.

3. The globe A, revolved on its axis from west to east by the wheels *w e*, in combination with gearing w^1 w^2 *g n i k* and hands *b d*, to indicate the time on a dial, D, substantially as set forth.

L. P. JUVET.

Witnesses:
F. F. PRUYN,
C. B. IDE.