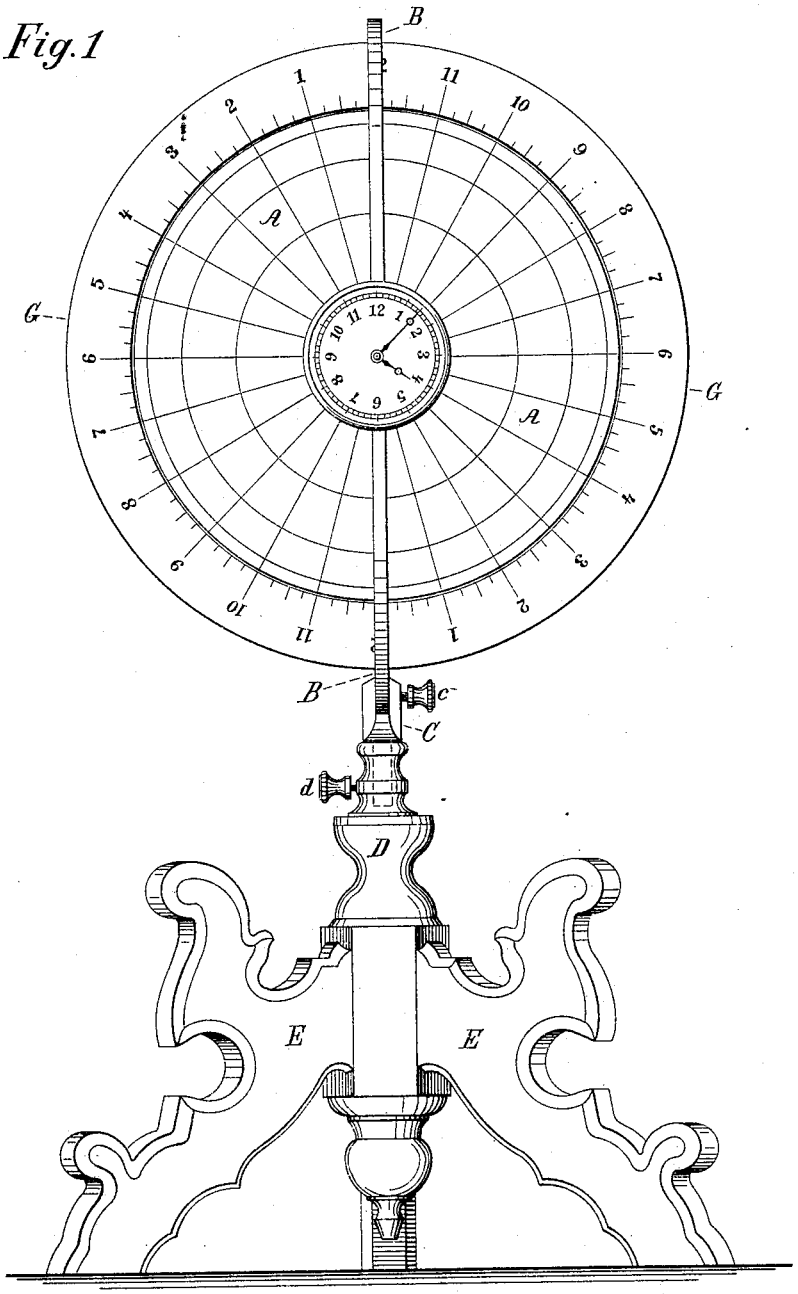
2 Sheets—Sheet 1.

L. P. JUVET.

Time-Globe.

No. 220,480. Patented Oct. 14, 1879.

Fig. 1



Witnesses:
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2 Sheets—Sheet 2.

L. P. JUVET.

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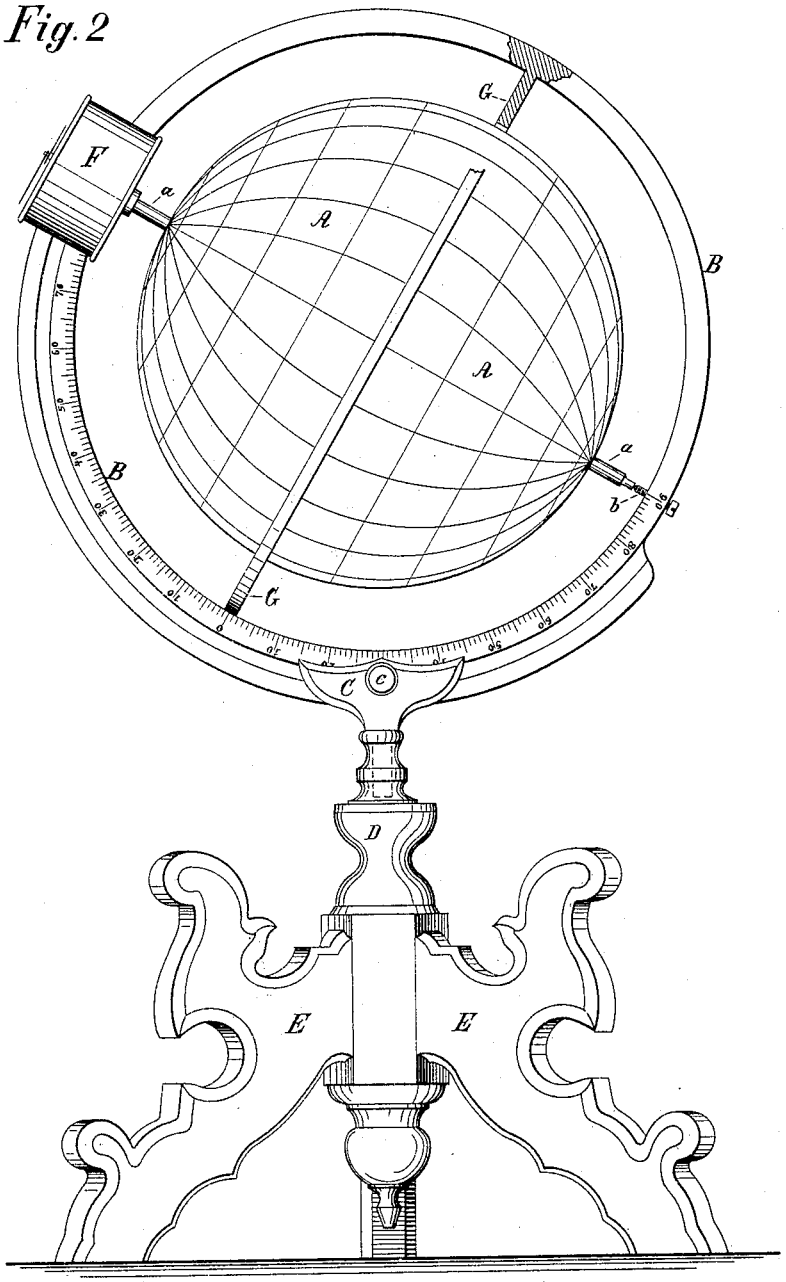
Fig. 2



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UNITED STATES PATENT OFFICE.

LOUIS P. JUVET, OF GLENS FALLS, NEW YORK.

IMPROVEMENT IN TIME-GLOBES.

Specification forming part of Letters Patent No. **220,480**, dated October 14, 1879; application filed February 7, 1879.

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 certain new and useful Improvements in Time-Globes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this application.

Previous to my invention various constructions of time-globes or globe-clocks have been suggested and patented, among which some have been so made as to have the clock-work employed to rotate the globe arranged within the globe, others with this mechanism arranged outside of the globe; also some with only an equatorial dial, others with both this and another ordinary clock-dial, the latter being provided with the usual hour and minute hands.

But in all prior contrivances (with which I am familiar) in which the clock-mechanism was located outside of the globe and the clock-face exposed to full and unobstructed observation, both the clock-work and the clock-face were arranged in some sort of case or stand which was separate from and independent of the globe and its fixtures, while in all those in which the clock-work was located within the globe the clock-face (whether formed on the surface of the globe or made separately and attached to the globe-fixtures) was so arranged as to have a full view of it by the observer obstructed by the meridian-ring or some other fixture of the contrivance.

My invention has for its object to provide for use a globe-clock which, while possessing all the essential features of operation of all other contrivances heretofore made for analogous purposes, and while being simple and economic of construction and perfect in operation, shall have the clock-work outside of the globe, and the clock-face exposed to view in a perfectly unobstructed manner.

And to these ends and objects my invention consists in a time-globe or globe-clock having the usual clock-face located externally to the meridian-ring and supported thereby, either directly or indirectly, substantially as will be hereinafter more fully explained.

And my invention further consists in a globe-clock or time-globe having the clock-work which rotates the globe and also operates the hands of the ordinary clock-face arranged exterior to the globe, and supported, either directly or indirectly, by the meridian-ring of the globe, all as will be hereinafter more fully set forth.

To enable those skilled in the art to make and use my invention, I will now proceed to more fully describe it, referring by letters to the accompanying drawings, making part of this specification, in which I have illustrated in front elevation, at Fig. 1, and in side elevation, at Fig. 2, a globe-clock embracing the several features of my invention.

In the several figures of the drawings the same part will be found designated by the same letter of reference.

A represents a terrestrial globe, which, by preference, I make hollow and as light as practicable, of any desired material, and which, as represented, has its axial shaft *a* mounted to turn freely in bearings or supports in the meridian-ring B. The axis *a* of the globe is, by preference, provided with and turns on centers, as seen at *b*, so as to rotate with the least possible friction.

The meridian-ring B is supported in about the usual manner, by a holder-clamp or device, C, in which it is adjustable circumferentially, to set the globe with its axis at any required degree of obliquity to the horizon, and in which it may be securely held fast at any adjustment by a thumb-screw, *c*, all in the usual manner, for well-known purposes.

The metallic stand C has a vertical spindle or shank, which extends down into and fits (so as to turn freely within) a cylindrical housing in the top portion, D, of the stand E, in a quite usual manner in analogous apparatus, and so that the entire globe-fixture may be turned round by hand on a vertical axis, and may be fixed or held fast in any desired position by a thumb-screw, *d*.

The clock mechanism, which both rotates the globe A and drives the hour and minute hands of an ordinary clock-face, is, by preference, inclosed in a case, F, and, together with its said case and the clock-face, is attached to or supported by the meridian-ring B, as shown.

G is the equatorial dial, which, as usual, is

attached to the meridian-ring B, and is numbered on both sides with figures indicating the twenty-four hours of time within which the earth makes one revolution on its axis, and the globe A, of course, is rotated once in every twenty-four hours by the clock-work which drives it.

I have shown the clock-work and clock-face located, by preference, at the north pole of the globe, and in looking at the clock-face, as in Fig. 1, the equatorial dial, it will be seen, is numbered, beginning at the highest point from right to left, since the globe turns in this direction—*i. e.*, in a direction opposite to that in which the hands of the clock-face rotate; but the other side (not seen in the drawings) or surface of the equatorial dial G is, of course, numbered in the opposite direction, since, when viewed from the south pole, the globe rotates from left to right.

The clock-face is made as usual, and has the usual hands, and needs no particular description by me; and the works of the clock may be made after the fashion of the usual chronometer movements.

I have shown both the clock-face and the works of the clock (except the gear of the globe-shaft *a* and the pinion that drives it) located exterior to the meridian-ring B; but, if deemed expedient, all or the greater part of the works of the clock may be located or arranged within the said ring B—*i. e.*, intermediate to said ring and the surface of the globe A.

The arrangement of the clock-work and its case F (if one be used) should, however, be such as not to obstruct a proper or desirable view of the globe's surface; and the clock-face must be located outside of the ring B, so as to avoid the obstruction to a full view of the said face, such as occurs in prior contrivances—such, for instance, as patented to me on the 3d day of April, 1877.

The general mode of operation of the apparatus and its uses are analogous to the working and purposes of other prior time-globes or globe-clocks, and therefore need no particular description here. But in my improved apparatus the construction differs from all others that I know of, in that the clock-face supported by the ring B (or by the globe-fixtures proper) is located outside of said ring, and also differs from all others in that the clock-work, which is outside of the globe, is arranged on or supported by the meridian-ring; and to these two essential differences are due the advantages I gain by my invention, principal among which are these, viz.: an unobstructed view of the clock-face is obtained; the clock-work may be so directly connected with or geared to the shaft of axis of the globe as to most easily rotate it with the least complexity of gearing; the whole structure is capable of very economic manufacture, and is not liable to derangement in any of its parts; all parts are readily accessible in case of any derangement of any part, or the necessity for any repair, and the whole contrivance is neat in appearance, and desirable for all its intended uses.

Having now so fully described the construction and operation of my improved time-globe that any one skilled in the art can make and use my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the globe and its meridian-ring, the clock-face, arranged exterior to the meridian-ring and supported thereby, all substantially as described, for the purpose set forth.

2. A globe-clock in which the clock-work, which both rotates the globe and drives the clock-hands, is arranged exterior to the globe and is supported by the globe-fixtures, substantially in the manner and for the purposes hereinbefore set forth.

In testimony whereof I have hereunto set my hand and seal this 3d day of February, 1879.

L. P. JUVET. [L. S.]

In presence of—
WM. A. WAIT,
O. R. CARPENTER.