

(No Model.)

L. P. JUVET.  
Time Globe.

No. 238,914.

Patented March 15, 1881.

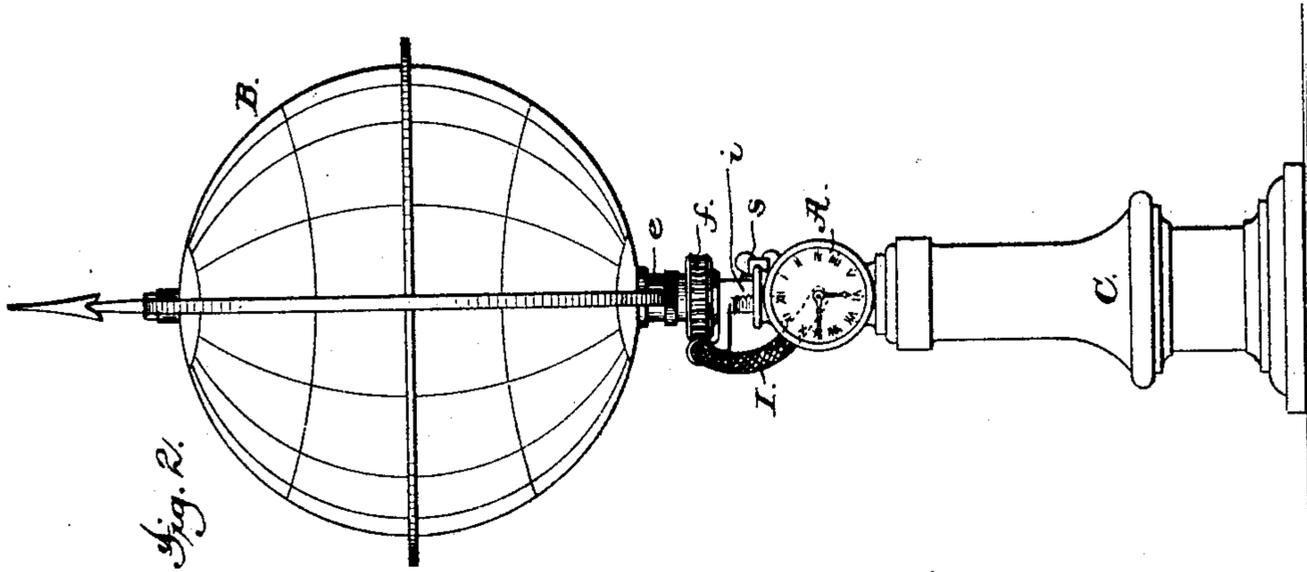


Fig. 2.

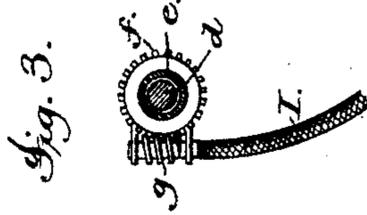


Fig. 3.

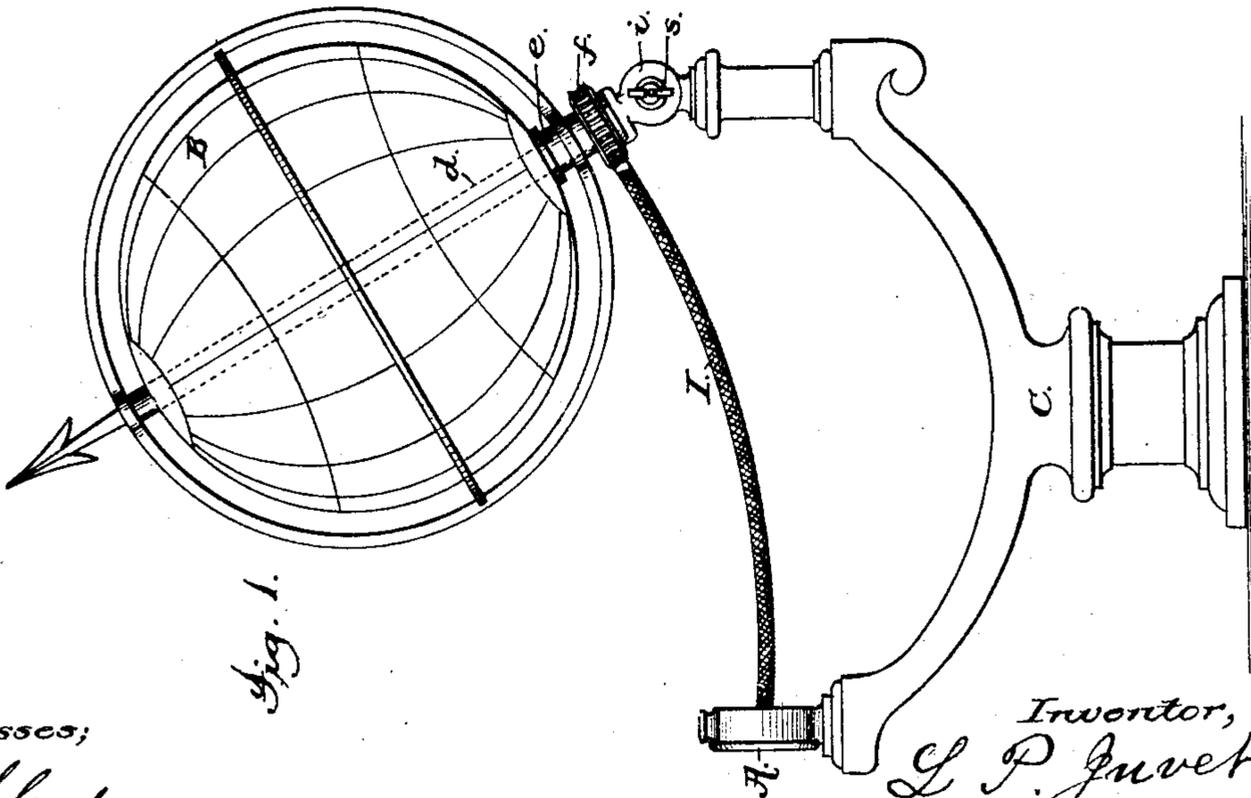


Fig. 1.

Witnesses;

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# UNITED STATES PATENT OFFICE.

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

## TIME-GLOBE.

SPECIFICATION forming part of Letters Patent No. 238,914, dated March 15, 1881.

Application filed December 13, 1880. (No model.)

*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 specification.

My present invention relates to an improvement in time-globes designed to have the clock-work located outside of the globe, and has for its object to provide for use a time-globe which, while it will answer admirably the ordinary purpose of such a contrivance or article, can be very cheaply manufactured.

In the construction of time-globes the arrangement of the clock-work within the globe, though desirable in many respects, necessarily makes the manufacture expensive, while, even with the clock-work located outside of the globe, no arrangement of globe and clock has heretofore been made, that I know of, in which these devices have been so combined that a perfectly operative contrivance of the kind could be afforded at a price low enough to render the article marketable at a price within the means of the masses.

By an exceedingly simple combination of devices, by which I am enabled, with the addition of very few parts, to combine an ordinary clock with a terrestrial globe, so as to have the latter illustrate the vicissitudes of day and night without interfering with the perfect operation of the former, I am enabled to provide for use a time-globe which can be made unprecedentedly cheap, and at the same time perfectly reliable as to its time-keeping qualities or operations; and to the accomplishment of this desirable object my invention consists in the combination, with an ordinary clock, of a terrestrial globe mounted to be rotated by or on a shaft, and having its said (axial) shaft driven from the shaft or arbor of the minute-hand of the clock through the medium of gears which cause the globe's shaft to rotate once to every twenty-four revolutions of the said minute-hand arbor, all as will be hereinafter more fully explained; and my invention further consists in the combination of a clock and globe, through the medium

of a flexible driving-shaft receiving motion from the clock mechanism and imparting it to the globe, whereby I am enabled to simplify the apparatus, and also to render it capable of variations of position of the globe and its shaft, all as will be hereinafter more fully explained.

To enable those skilled in the art to make and use my invention, I will proceed to more fully explain it by reference to the accompanying drawings, forming part of the specification, and in which—

Figure 1 is a side view or elevation of a time-globe embracing my invention. Fig. 2 is a front view of the same. Fig. 3 is a detail view, showing the worm and gear, &c.

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

A represents an ordinary clock or time-piece, and B a terrestrial globe, both of which devices are suitably mounted on a stand or support, C, of any suitable and desired design and size. The globe B is mounted on an axial shaft, *d*, which is arranged in the relative position of a polar axis of motion, and on which (by preference) the said globe turns.

*e* is a collar or sleeve, which also turns on the shaft *d*, but is made fast to the globe B and rotates it.

*f* is a worm-gear secured to the lower end (preferably) of the sleeve *e*, and with which engages a driving-worm, *g*, which is mounted to turn freely in suitable bearing-boxes attached to the stand C in any suitable manner. Said worm *g* has attached to one end of it, and is driven by one end of a (preferably) flexible shaft, I, the other end of which is made fast to the back end of the arbor of the minute-hand of clock A, in the manner clearly illustrated, and so that the movement of said arbor will create a similar rotative movement in the shaft I, which, in turn, will drive the worm *g* at a like speed. The pitch of the worm *g* and the number of teeth of the worm-gear *f* are such that it requires twenty-four revolutions of said worm to produce one revolution of the said gear, from which conditions it follows that for every twenty-four revolutions of the arbor of the minute-hand of clock A the sleeve *e*, (to which worm-gear *f* is secured,) and consequently the globe A, will be rotated once on

its axis. Thus will the globe A be caused to turn once on its axis during the twenty-four hourly rotations of the arbor of the minute-hand of the clock, or once per day.

- 5 By having the shaft I a flexible one—such, for instance, as are commonly used in dental lathes nowadays—I am enabled to make the connection between the worm *g* and the minute-hand arbor of the clock A directly, and yet  
10 have the polar shaft or axis of the globe in line with the central hand-shaft of the clock by simply distorting or bending the driving-shaft out of line with the axes of the worm and the clock-shaft, which could not be done were the  
15 shaft I an inflexible one or stiff rod, and thus I avoid any complication in the driving mechanism of the globe. This feature of my invention may, however, be separated from and used independently of the main part thereof.
- 20 The shaft *d* is, by preference, secured at its lower end (to the stand C) through the medium of a pivotal joint at *i*, provided with a clamping thumb-screw, *s*, so that the inclination of the globe's polar axis may be varied in the  
25 usual manner; and, if desired, a graduated arc may be applied at the vicinity of this joint, to designate the degree of inclination at which the polar axis may be set, in the well-known manner.
- 30 In the operation of my improved time-globe the arbor of the minute-hand of the clock drives the flexible shaft I so as to revolve it once every hour, or twenty-four times per day, and this shaft I, through the medium of the worm  
35 *g*, worm-gear *f*, and sleeve *e*, causes the globe B to revolve at the reduced speed of once in twenty-four hours, (or once to every twenty-four revolutions of said shaft I,) thus showing the diurnal movement of the earth.
- 40 If some other device than the flexible shaft

I be used to impart the motion and power of the minute-hand arbor of clock A to the worm *g* of the globe-gearing, then either some sort of means must be added to effect the change  
45 of direction of the shafts necessary, in order to drive from the horizontal minute-hand arbor to the obliquely-arranged shafts and gears of the globe, and to permit any desired change in the degree of obliquity of said gears, or some  
50 different system of gearing must be applied to the globe. This would necessarily render the contrivance slightly more complex and expensive, but leave it still comparatively simple and economic of manufacture.

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

1. The combination, with an ordinary clock,  
60 A, of a terrestrial globe, B, and suitable gearing for rotating the same by a direct connection of the gear mechanism with the arbor of the minute-hand of the clock, as described, the  
65 whole being arranged and operating substantially as set forth.

2. The combination, with an ordinary clock,  
A, and the globe B, provided with means through which to properly rotate it, of a flexi-  
70 ble shaft, I, for communicating the power and motion of the clock mechanism to the globe-gearing, substantially as and for the purpose set forth.

Witness my hand this 22d day of November, 1880.

L. P. JUVET.

In presence of—  
JACOB FELBEL,  
H. JANVIER.