No. 762,261. PATENTED JUNE 7, 1904.

H. STRASBURG.

ILLUMINATED CLOCK.

APPLICATION FILED MAR. 29, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

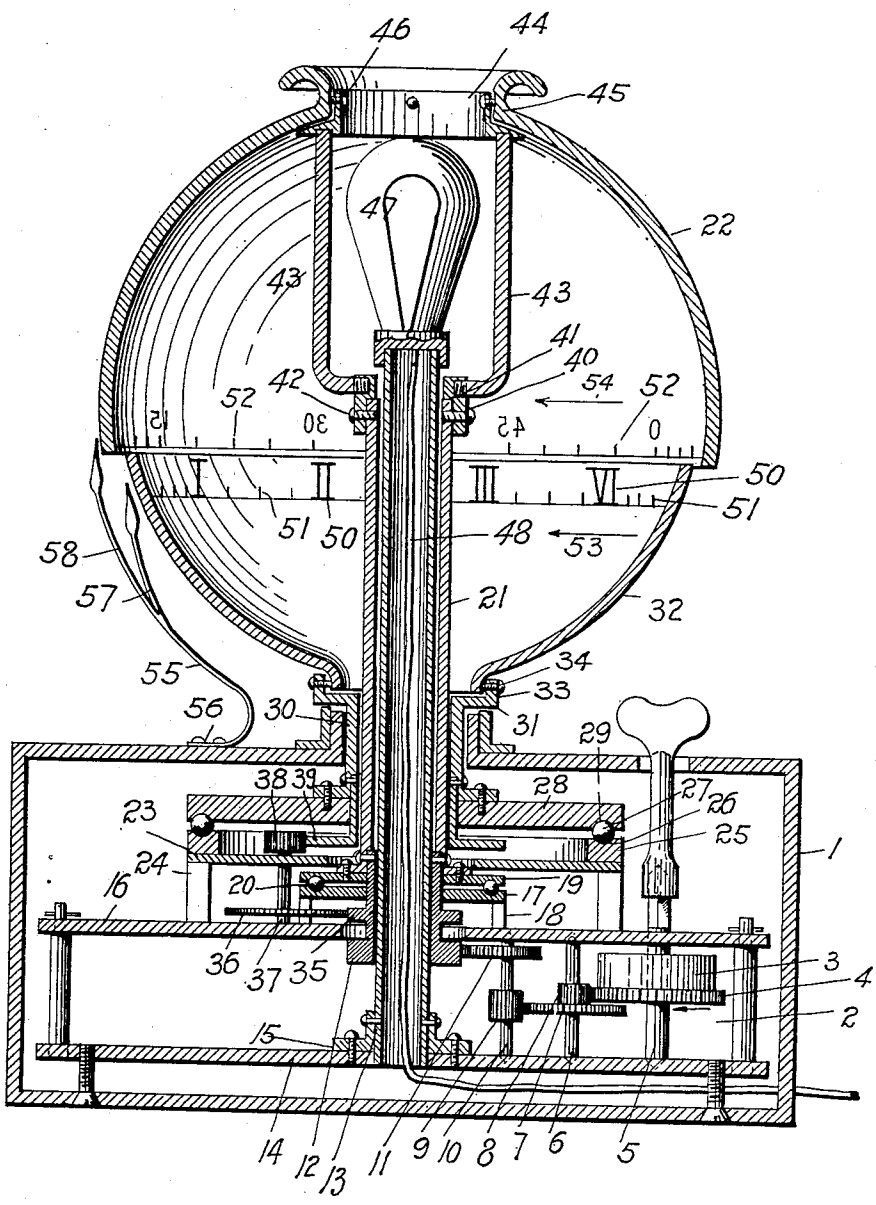

FIG 1

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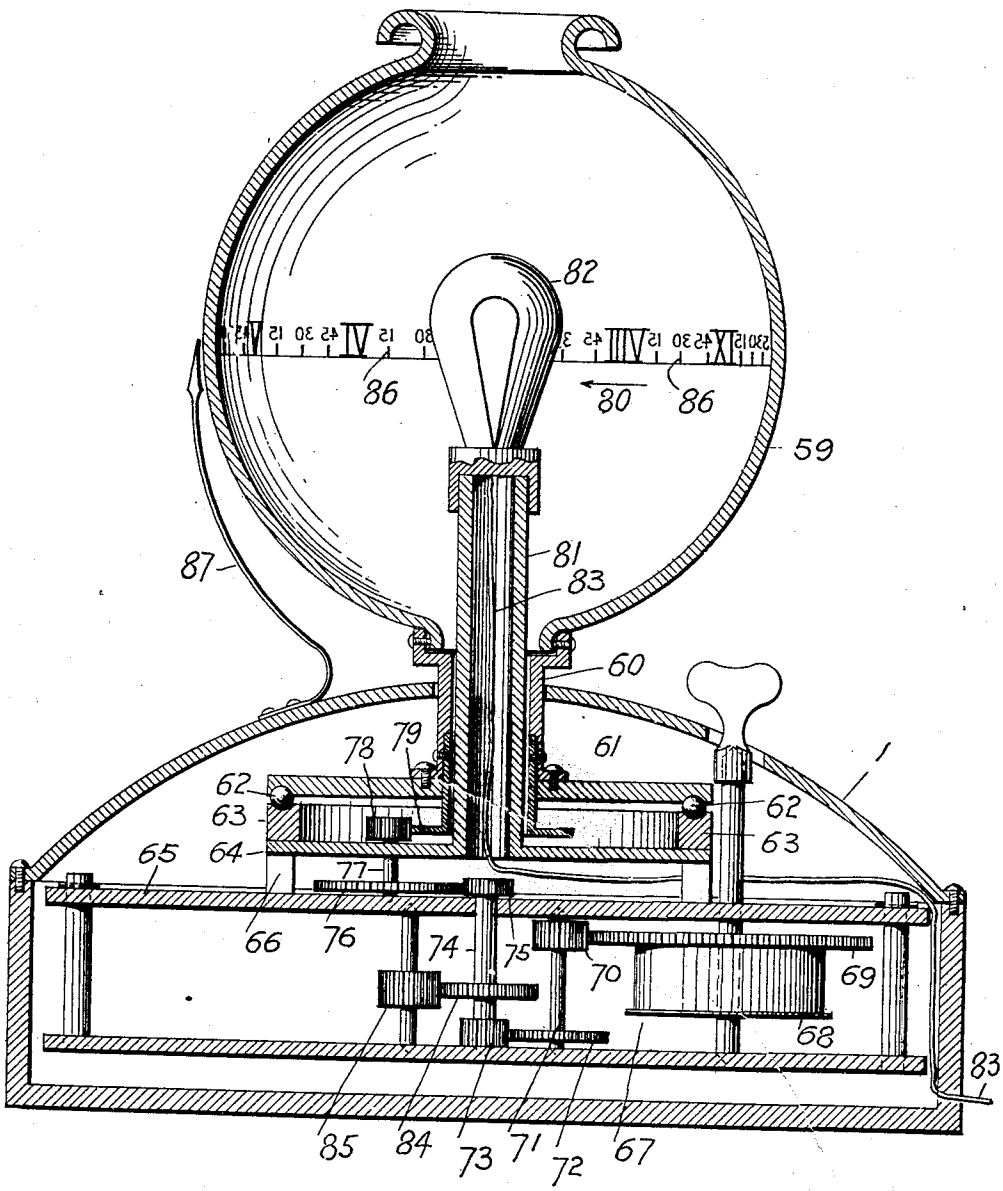

FIG 2

WITNESSES:

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No. 762,261. Patented June 7, 1904.

UNITED STATES PATENT OFFICE.

HARRIS STRASBURG, OF DENVER, COLORADO, ASSIGNOR OF ONE-HALF TO ISIDORE RUDE, OF DENVER, COLORADO.

ILLUMINATED CLOCK.

SPECIFICATION forming part of Letters Patent No. 762,261, dated June 7, 1904.

Application filed March 29, 1904. Serial No. 200,533. (No model.)

To all whom it may concern:

Be it known that I, HARRIS STRASBURG, a citizen of the United States, residing in the city and county of Denver and State of Colorado, have invented new and useful Improvements in Illuminated Clocks, of which the following is a specification.

This invention relates to improvements in illuminated clocks, the object being to provide a clock having its own source of illumination by which to tell the time in day as well as night and which will combine as well a lamp.

A further object is the provision of independent ball-bearings for sustaining the weight of the globes, so that none of said weight will be sustained by the clock-works.

Referring to the drawings, Figure 1 is a vertical section of the illuminated clock. Fig. 2 is a vertical section of a modified form of the same.

In the drawings, 1 is the casing within which are contained the clock-works 2, which are of the well-known construction, such as are made for an eight-day clock. The power of the spring 3 is transmitted by the pinion 4 on its shaft 5 to the spindle 6, having the small and large fixed pinions 7 and 8, and from the pinion 7 to the small pinion 9 on the spindle 10. A larger pinion 11 on the spindle 10 meshes with the barrel-pinion 12, having a rotating bearing around a central stationary tubular conduit 13, which is made fast at its bottom to the bottom plate 14 of the clock-works by means of the flanged circular brace 15. This conduit 13 may be used to convey a gas-pipe for a lamp at its top or may be used, as shown in the drawings, to convey an electric wire up through the clock-works to the lamp. The barrel-pinion 12 projects through the top plate 16 of the clock-works and through a circular bridge-plate 17, supported on top of the top plate 16 by the posts 18. Resting on top of this circular bridge-plate 17 is a circular bearing-plate 19, which revolves on said plate 17 on the ball-bearings 20, and rising from this bearing-plate 19 is the revolving tube 21, telescoped upon the conduit-tube and upon the top of which the hemispherical globe 22 is supported, as presently explained. At its bottom this tube 21 is securely fastened to the circular bearing-plate 19 and also to the upper end of the barrel-pinion 12, so that in the turning of the pinions of the clock-works the globe 22 and its supporting-tube 21 will turn with the barrel-pinion, which is the equivalent to the pinion turning the minute-hand of a clock.

A second circular bridge-plate 23 is supported above the first circular bridge-plate 17 on posts 24, rising from the top plate 16. On top of the bridge-plate 23 a ring 25 is secured, and the upper surface of this ring is grooved at 26 for a ball-bearing. Resting on the balls 27 in the groove 26 is a circular bearing-plate 28, grooved at 29 to fit the balls. Rising from this bearing-plate 28 is a tube 30, telescoped upon the revolving tube 21 and flanged at its bottom and securely fastened to the bearing-plate, so as to revolve with it, and flanged at its top 31 to form a seat for the hemispherical globe 32. The top flange 31 is provided with an upturned rim 33, through which screws 34 pass horizontally and press against the bottom neck of the globe to hold it securely in place. This lower globe 32 is revolved by means of the pinion 35 on the barrel-pinion 12. This pinion 35 meshes with a pinion 36 on a spindle 37, rising from the works-plate 16 and penetrating the upper circular bridge-plate 23. Above the bridge-plate 23 the spindle 37 is provided with a pinion 38, which meshes with a barrel-pinion 39, which is securely fastened to the tube 30 and bearing-plate 28, so as to revolve with them.

The top globe 22 is supported upon its revolving tube 21 by a skeleton frame consisting of the thimble 40, which is inserted over the top of the tube 21 and rests thereon by its inward circumferential shoulder 41 and is secured against turning by a screw 42. From the periphery of this thimble two or more wires 43 of the skeleton frame extend upward to a circular flanged ring 44, to the flanged bottom of which they are secured. This ring fits within and from below the open neck 45 of the top globe and is secured in said open neck by the screws 46. Within this skeleton

frame 43 is a lamp or other source of light 47. In the drawings an electric lamp is shown, and the wire 48 supplying it is threaded down through the conduit-tube 13 and out at the side of the casing.

As shown in Fig. 1, the lower globe has the Roman numerals "I" to "XII" inscribed upon the outer surface around its upper rim at equal distances apart, as shown at 50, and in the spaces between these numerals are division-points 51, likewise inscribed and spaced apart, so as to divide the spaces into quarters.

Around the lower rim of the upper globe the numerals (preferably Arabic) "5,10,15,20, 25,30,35,40,45,50,55,60" are inscribed upon the outer surface of the globe. In the spaces between these Arabic numerals are division-points 52, likewise inscribed and spaced apart, so as to divide the spaces into fifths. The Roman numerals on the lower globe indicate the hours of the day, and the Arabic numerals on the upper globe are spaced five minutes apart. The division-points 51 on the lower globe indicate the quarters of the hours of the day, and the division-points 52 on the upper globe indicate the minutes of the hours of the day.

The two globes are turned in the same direction, as indicated by the arrows 53 54, and in being revolved by the clock-works at their said respective speeds pass a stationary forked hand or pointer 55, secured to the casing, as at 56. One fork, 57, points to the Roman numerals on the lower globe, and the other fork, 58, points to the Arabic numerals on the upper globe. The clock-works are so timed as to revolve the lower globe once in twelve hours; but the upper globe is revolved once in every hour, so that as the globes pass the stationary hand 55 the pointer 57 will indicate the hour of the day and the pointer 58 will indicate the minute of the hour of the day.

In Fig. 2 is shown a modification of the construction of the invention by which the parts are reduced to include but one globe 59. In this modified form the globe turns on a supporting-tube 60, rising from a circular bearing-plate 61, resting on balls 62, having bearings in rings 63 on the circular bridge-plate 64, supported on the top works-plate 65 by the posts 66. The globe is revolved by means of the clock-works 67, which consists of the mainspring 68, driving the pinion 69, which meshes with pinion 70 on spindle 71. At its lower end spindle 71 has a pinion 72, which meshes with a pinion 73 on the spindle 74, journaled in the bottom plate of the clock-works and projecting above the top plate of the works. At its projecting end is the pinion 75, meshing with the pinion 76 on spindle 77, which is journaled in the top plate 65 of the works and projects upward through the circular bridge-plate 64. At its projecting end this spindle 77 carries a pinion 78, which meshes with a barrel-pinion 79, which is secured to the supporting-tube 60 and circular bearing-plate 61 and revolves with them. The clock-works are timed to revolve the globe 59 in the direction of the arrow 80 once in twelve hours, for the purpose presently explained. Rising from the circular bridge-plate 64 is a central vertical conduit-tube 81, telescoped within the revolving globe-supporting tube 60 and supporting at its top an electric lamp 82 or other source of light. The electric lamp shown in the drawings is supplied by the cable 83, which passes down the hollow of the tube and outward under the bridge-plate over the clock-works and out the side of the casing. The pinions 84 and 85 in the clock-works have to do with the escapement mechanism, only partially shown and not essential to be described. In this modification the globe is inscribed upon its outer surface on its equatorial line with the Roman numerals "I" to "XII" at equal distances apart, and in the spaces between these Roman numerals are division-points 86, likewise inscribed and spaced apart, so as to divide said spaces into quarters of the hours. A stationary hand 87 projects upward from the casing and points toward these numerals, and the globe in revolving passes the hand to indicate by said numerals the time of day.

I claim—

1. In an illuminated clock, a foundation-casing the clock-works therein, a vertical stationary conduit-tube rising centrally through said clock-works and projecting out the top of the casing, a lamp supported on the top thereof, a bridge upon the top plate of said clock-works, a ball-bearing thereon, a bearing-plate revolving on said ball-bearing, a revolving telescoping tube secured upon and rising from said revolving bearing-plate, a globe inclosing said lamp marked to tell the time of day and secured upon the top of and revolving with said tube-gear secured at the lower end of the revolving tube intermeshing with the gear of the clock-works and a stationary pointer or hand projecting from the casing and pointing toward the time-marks on said globe, substantially as described.

2. In an illuminated clock, a casing, a clock-works therein, a vertical stationary conduit-tube rising centrally through said clock-works and projecting out the top of the casing, a lamp supported on the top of the stationary tube, the minute-hand tube telescoped upon said conduit-tube and projecting above said casing, a flange bearing-plate near the base of said minute-hand tube, a bridge-plate beneath said bearing-plate, a ball-bearing between the bearing-plate and the bridge-plate, a hemispherical globe secured upon the top of said minute-hand tube and marked at its lower rim by points and numerals indicating the minutes of the hour, an hour-hand tube telescoped upon said minute-hand tube also projecting above the casing, a flange bearing-

plate near the base of said hour-hand tube, a bridge-plate beneath said bearing-plate, a ball-bearing between said bearing-plate and bridge-plate, a hemispherical globe secured upon the top of said hour-hand tube and marked at its upper rim by points and numerals indicating the hours of the day, and a stationary hand projecting from said casing and pointing to the numerals on said globes to indicate the time of day, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRIS STRASBURG.

Witnesses:

EDWARD L. SHANNON,

LAFAYETTE F. CRAWFORD.