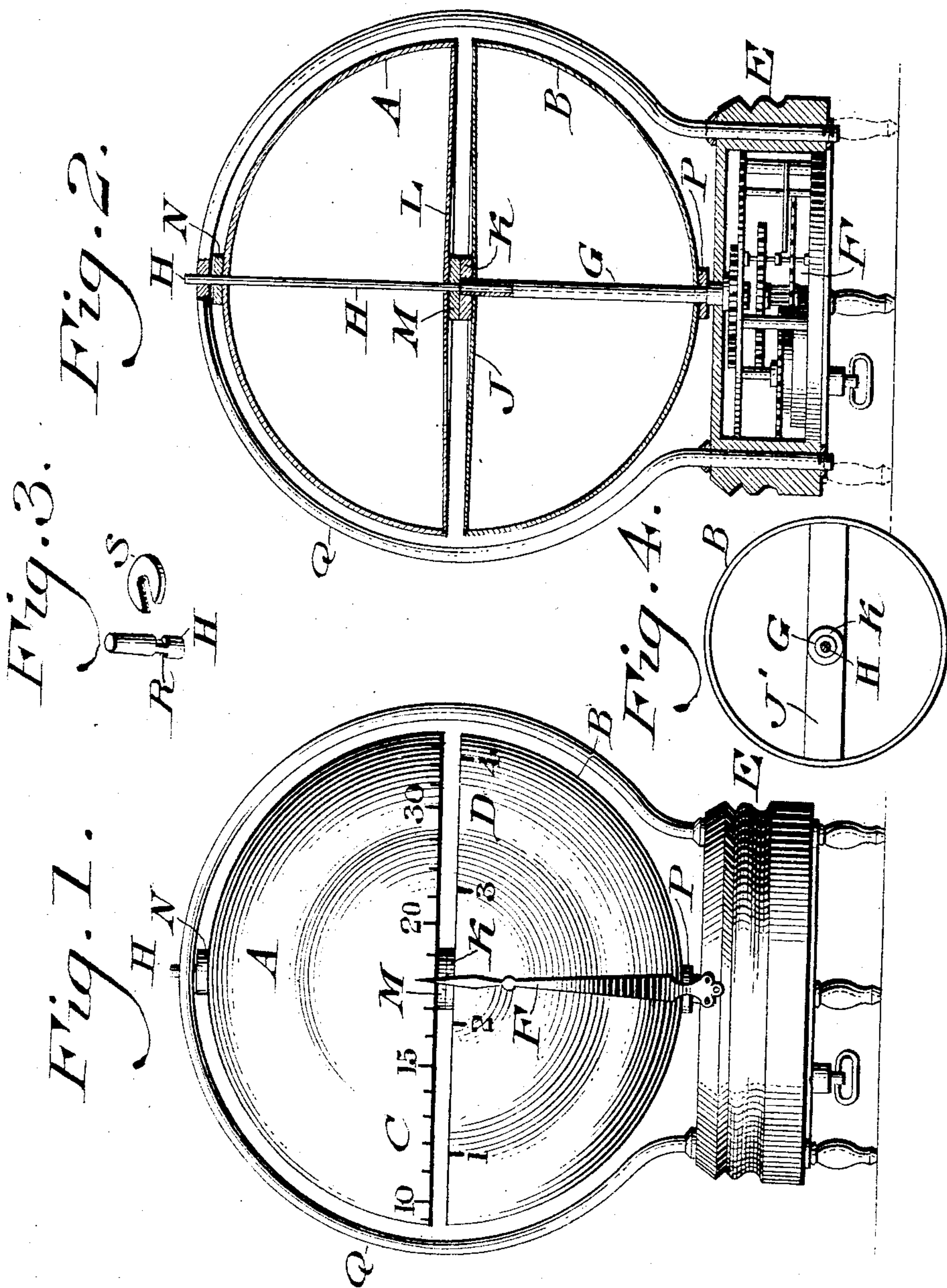


No. 864,533.

A. H. HADLEY.
CLOCK.

PATENTED AUG. 27, 1907.

APPLICATION FILED MAY 14, 1907.



Witnesses
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ARTHUR H. HADLEY, OF PHILADELPHIA, PENNSYLVANIA.

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No. 864,533.

Specification of Letters Patent.

Patented Aug. 27, 1907.

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To all whom it may concern:

Be it known that I, ARTHUR H. HADLEY, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Clock, of which the following is a specification.

My invention consists of a clock composed of rotatable dials, one for hours and the other for minutes, arbors respectively adapted to rotate said dials independent of each other, and novel means for connecting said arbors with the dials, whereby the dials may be nicely supported and set with precision one on the other and the degree of friction between the contacting parts carefully adjusted.

Figure 1 represents a side elevation of a clock embodying my invention. Fig. 2 represents a vertical section thereof. Fig. 3 represents a perspective view of detached portions. Fig. 4 represents a plan view of a modification.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings: A and B designate the dials of a clock, the same being of the form of hemispheres and having respectively on the exteriors thereof the numbers of the hours and minutes, as at C, D.

E designates the base of the clock, and F designates an index or hand, which rises therefrom and has its point adjacent to the hour and minute numbers on the dials.

Connected with the train of gearing F, which occupies the base E, are the arbors G and H, the arbor G being tubular and passing through the bottom of the dial B and vertically entering the latter. The arbor H passes through the arbor G, enters the dial A and extends through what may be termed the top of the latter.

The arbor G is secured to the dial B in the following manner:—At the top of said dial is the diaphragm J, which extends diametrically and is firmly attached at its periphery to said top, said diaphragm being composed of material of resilient nature. Rigidly connected with the upper end of the arbor G, is a washer or collar K, which is also rigidly connected with the central portion of said diaphragm J. By these means, when the arbor G rotates, the dial B receives motion corresponding to the hours of a clock.

The arbor H is secured to the dial A in the following manner:—At the bottom of said dial is the diaphragm L, which extends diametrically and is firmly attached at its periphery to said bottom, said diaphragm being composed of material of resilient nature. The arbor H passes through the center of the diaphragm L and has rigidly connected with the same on the under side of said diaphragm, the washer or collar M, which is also rigidly connected with said diaphragm. By these

means, when the arbor H rotates, the dial A receives motion corresponding to the minutes of a clock.

The portion of the arbor H that passes through the top of the dial A and extends above the same, has soldered or otherwise firmly secured to it the collar N.

The portion of the arbor G that passes through the bottom of the dial B and extends below the same, has soldered or otherwise firmly secured to it the collar P, it now being noticed that the collars K, M are rotatably in contact and they serve to support and steady the dials, it being remembered that the diaphragms with which said collars are rigidly connected are resilient in their nature, as has been stated, and so they may be deflected to greater or less extent by properly moving said collars so as primarily to set the collars on the arbors and so adjust the friction between said collars with nicety.

The upper end of the arbor H is freely mounted in the crown of the yoke Q, which freely encircles the dials and has its legs firmly connected with the base E.

In order to freely connect the collar N with the adjacent portion of the arbor H, the latter is grooved, forming the reduced neck R, and said collar is bifurcated as at S so as to be capable of sliding on said neck, thus connecting the dial A with the adjacent portion of said arbor and providing a shoulder, which retains the top of the dial A in position on said arbor without interfering with the proper rotation of the latter, and consequently of the dial, said key S being readily removable when it is desired to dismember the clock.

While I have specified certain means for carrying out my improvements, I do not wish to be limited exactly to the same, but desire to make such changes as may come within the scope of the novelty involved, as for instance, the diaphragms which occupy the diametrical portions of the hemispherical dials and completely close the dials at said portions, may be simply cross-bars or plates of resilient material, as at J', Fig. 4, without producing different results.

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

1. In a clock, rotating dials of hemispherical form, and resilient diaphragms connected with said dials at or about the diametrical portions thereof.

2. In a clock, rotating dials of hemispherical form, resilient diaphragms connected with said dials at or about the diametrical portions thereof, and arbors formed of telescopic parts respectively engaging members of a clock train, said parts being rigidly secured to said dials respectively.

3. In a clock, rotating dials, an arbor formed of telescopic parts which are connected with said dials respectively and in engagement with a clock train, resilient members attached to said dials respectively, and contacting pieces firmly secured respectively to said resilient members and the parts of the arbor.

4. In a clock, rotating dials, resilient diaphragms ex-

tending across the inner ends of the same and connected therewith, an arbor composed of telescopic parts extending respectively through said diaphragms, collars rigidly connected respectively with said parts and diaphragms
5 and freely superimposed one on the other.

10 5. In a clock, rotating dials one placed above the other, resilient members secured to said dials, a telescopic arbor having its parts passing through said members respectively, collars on said parts respectively firmly secured to said members, and means on said parts of the arbor respectively for adjusting said resilient members and setting said collars in proper contact with each other.

6. In a clock, a rotating dial, an arbor therefor, a yoke,

means for supporting said yoke, said arbor passing freely through the crown of said yoke, and a key adapted to
15 slidingly engage the upper end of said arbor above said dial.

7. In a clock, rotating dials of hemispherical form, resilient diaphragms connected with said dials at or about their diametrical portions, and means interposed between
20 said diaphragms and in contact with each other for flexing said diaphragms.

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