

(No Model.)

L. DEE.
Watch.

No. 239,738.

Patented April 5, 1881.

FIG. 1

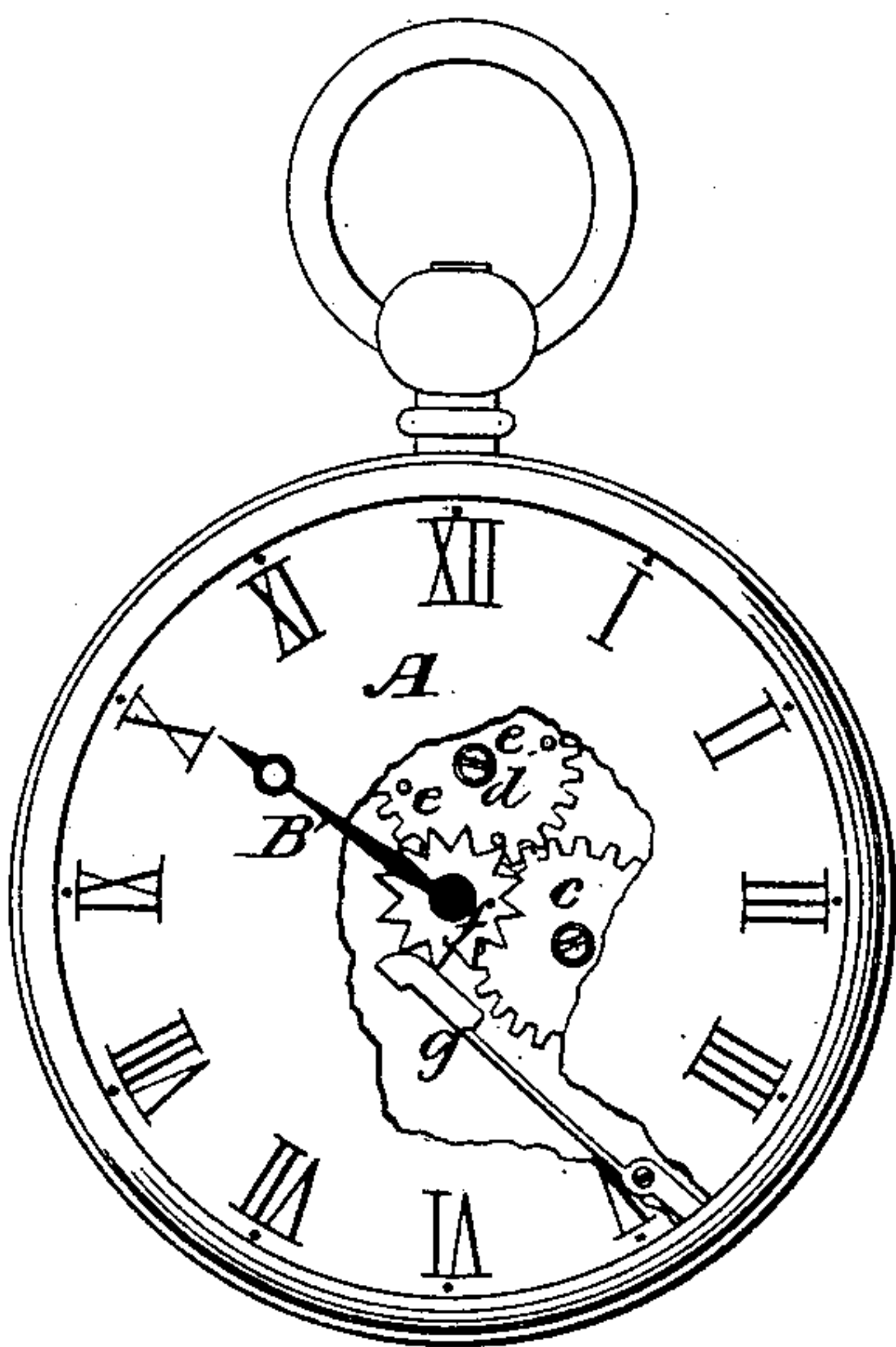


FIG. 3.

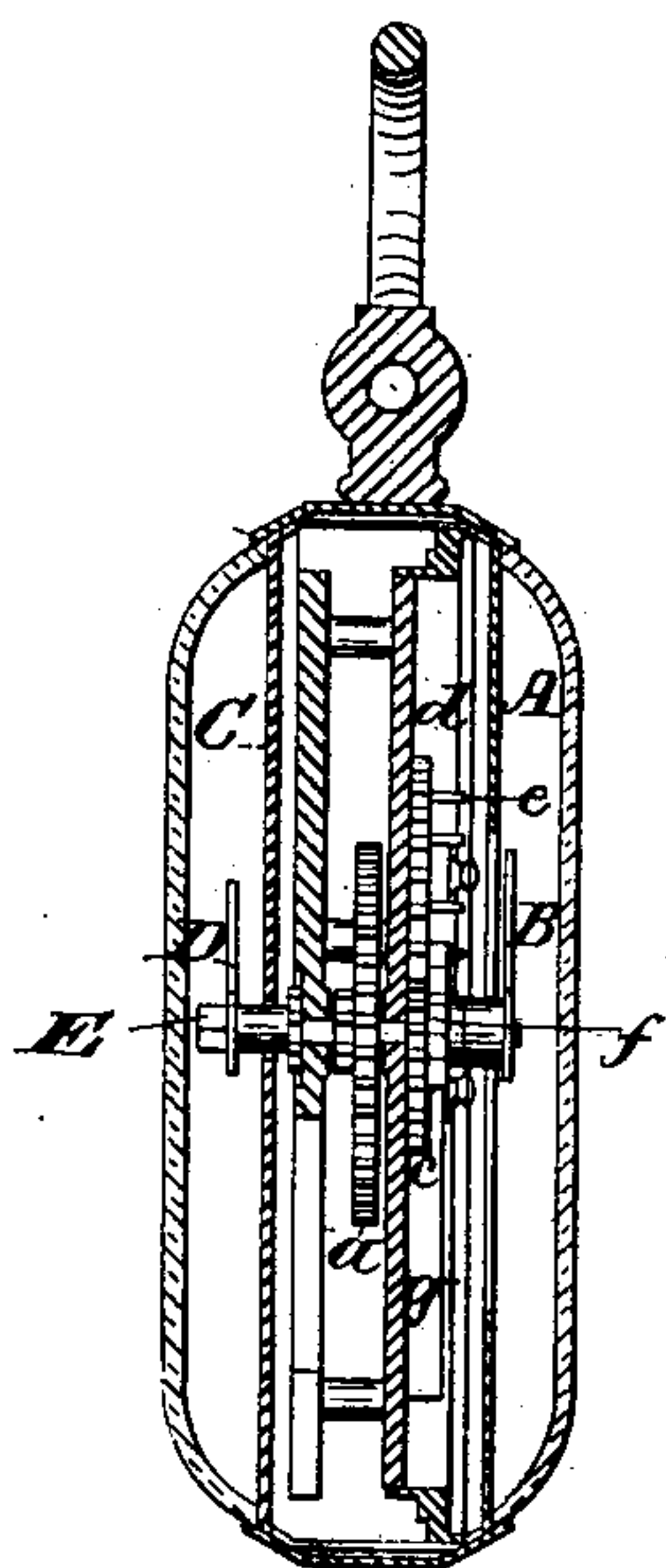


FIG. 2.

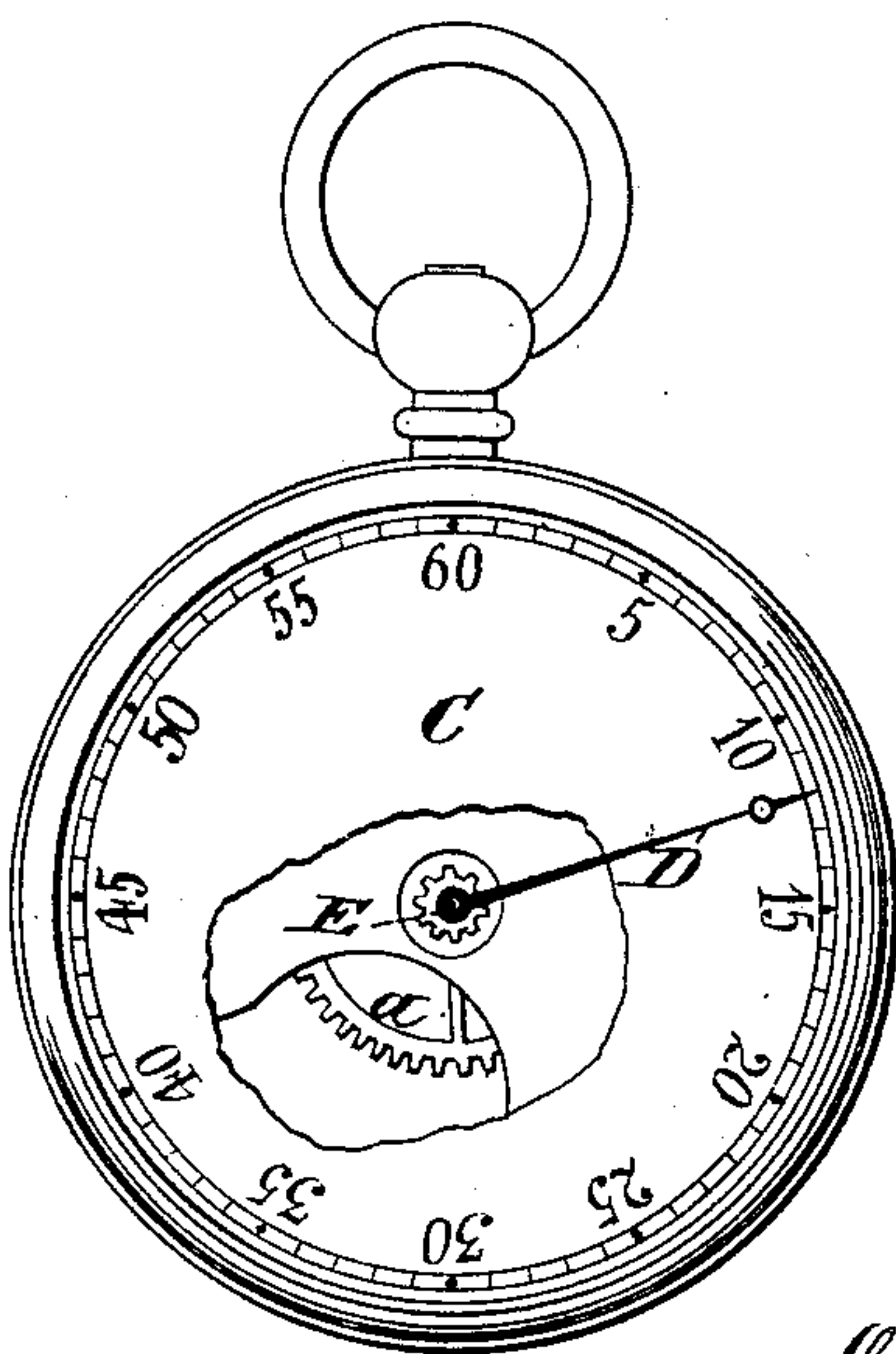
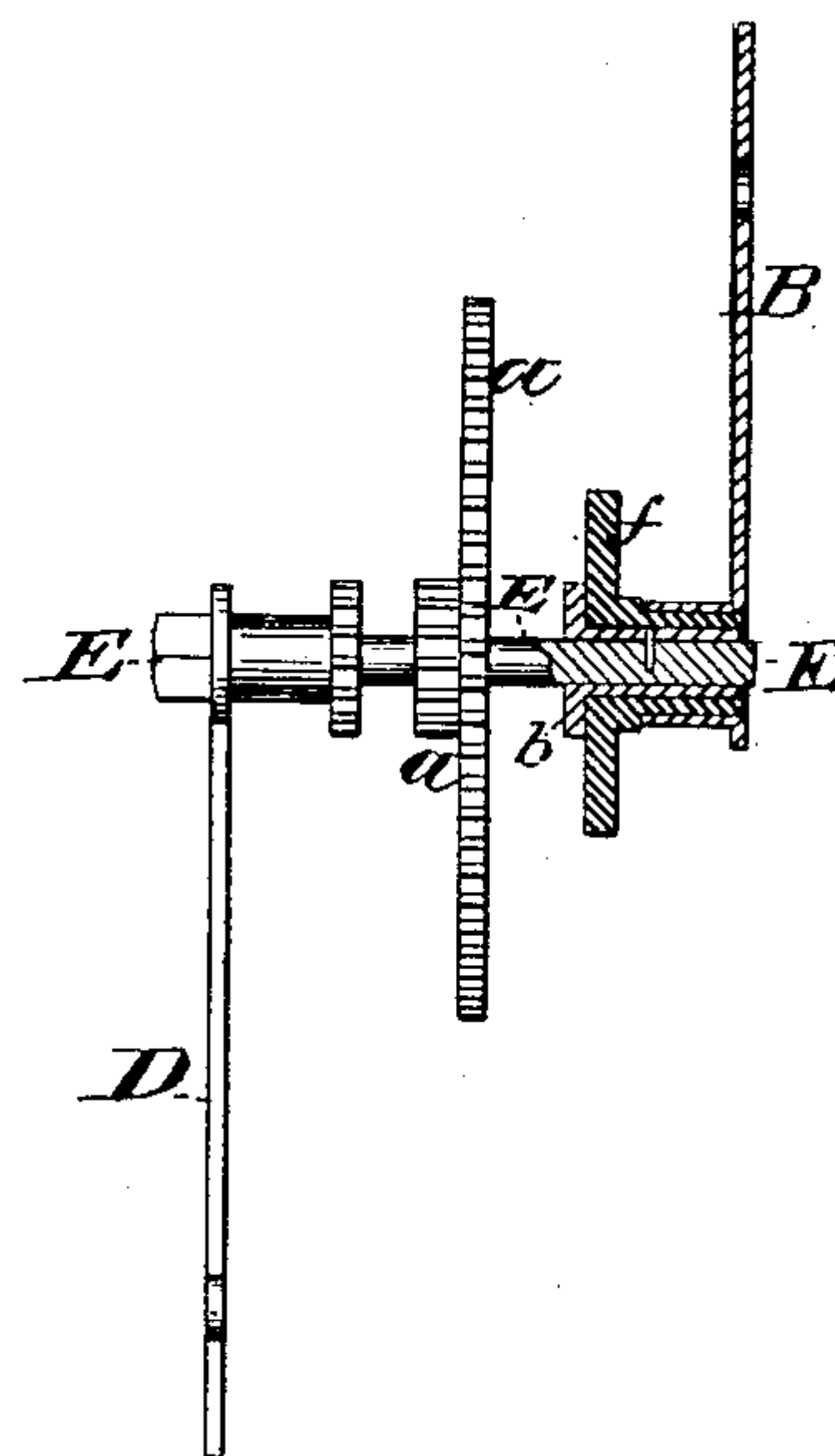


FIG. 4.



ATTEST

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UNITED STATES PATENT OFFICE.

LOUIS DEE, OF LONDON, ENGLAND.

WATCH.

SPECIFICATION forming part of Letters Patent No. 239,738, dated April 5, 1881.

Application filed September 30, 1880. (No model.) Patented in England September 1, 1880.

To all whom it may concern:

Be it known that I, LOUIS DEE, a subject of the Queen of Great Britain, residing at London, England, have invented certain Improvements in Watches, of which the following is a specification.

My improvement consists in providing a watch with two dials, one at the front, as usual, and one at the back. One of these dials is figured and provided with a hand to indicate the hours, and the other is figured and provided with a hand to indicate the minutes. There is no minute-hand on the hour-dial, and no hour-hand on the minute-dial. Both dials are made visible to the user of the watch in the customary way.

The advantage of my invention is that it enables the person using the watch to discover or ascertain the exact time to a minute with greater facility than with the ordinary watch, and with less liability to error.

I am aware that "stop-watches," (so called,) for timing races, &c., have been provided with a dial on one face for the minute and hour hand, as usual, and a quarter-second dial and hand and a segmental minute dial and hand at the back. This construction, while serving the purpose of "timing" for a few minutes, does not at all serve the purpose I seek to accomplish. Indeed, it is not intended to accomplish the same purpose, as the usual minute-hand, arranged to traverse the entire circle of the dial, is employed for ordinary use.

My invention is clearly illustrated in the drawings, wherein Figure 1 shows the dial or face for indicating the hours. Fig. 2 shows the dial for indicating the minutes. Fig. 3 is a cross-section taken through the watch-case, and adapted to show the train of gears by which the hands are connected. Fig. 4 is a view, on a large scale, of the axis upon which the hands are mounted and a portion of the gearing.

I may employ various methods of operating the hands simultaneously or through a common train of gears, but the one I will now describe will serve as well as any.

Let A represent the hour-dial, B the hour-hand, C the minute-dial, and D the minute-hand. The minute-hand is mounted on a square

on the end of the axis or arbor E, and rotates therewith, the arbor being driven in the usual way through gears *a* mounted on the same. A pinion or wheel, *b*, (see Fig. 4,) fixed to the arbor E, meshes with a toothed wheel, *c*, and this meshes, in turn, with another toothed wheel, *d*, which has four upright pins, *e e*, arranged to engage, as the wheel rotates, one of the twelve teeth of a ratchet-wheel, *f*, mounted loosely on the arbor E, and bearing the hour-hand. The proportion between the gears is such that when the arbor has rotated once and the minute-hand has passed once around the dial the ratchet-wheel *f* will have advanced one tooth, carrying the hour-hand over one-twelfth of the circle of the dial. Thus, in this arrangement, the hour-hand does not move slowly all the time, but moves rapidly or springs from one hour-numeral to the next at the completion of the hour. A spring brake or detent, *g*, acts on the ratchet in a well-known way to prevent its backward movement. Other well-known methods than that shown might, however, be employed, whereby the hands could be made to move simultaneously, but at different rates of speed.

As before stated, I do not contemplate employing a minute-hand arranged to traverse the same dial with the hour-hand, and another or auxiliary minute-hand on the back or opposite face of the watch. My object is not to produce a stop-watch for exceptional circumstances, but a watch for general use with the hour and minute hands on opposite and separate faces.

Having thus described my invention, I claim—

A watch or pocket time-keeper having an hour-dial and hand and a minute-dial and hand, one dial at the face, and the other at the back, of the watch, and the hands of both dials driven by the same train of gears and arranged to move around the entire circumferences of their respective dials, substantially as and for the purposes set forth.

LOUIS DEE.

Witnesses:

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Notary Public, London.