

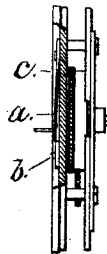
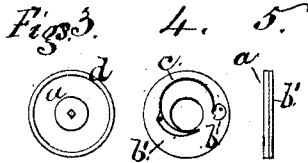
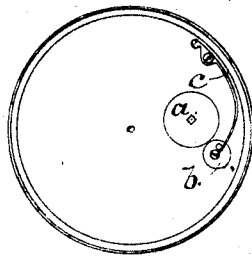
R. FOLSOM.

Maintaining Wheels for Watch-Barrels.

No. 152,097.

Patented June 16, 1874.

*Fig. 1.*



*Fig. 2.*

Witnesses.  
*Pennington Halsted*  
*Geo. T. Smallwood, Jr.*

Inventor.  
*Refus Folsom.*  
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# UNITED STATES PATENT OFFICE.

RUFUS FOLSOM, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN MAINTAINING-WHEELS FOR WATCH-BARRELS.

Specification forming part of Letters Patent No. **152,097**, dated June 16, 1874; application filed April 18, 1874.

*To all whom it may concern:*

Be it known that I, RUFUS FOLSOM, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Watches; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My improvement is designed to dispense with the use of toothed or ratchet wheels or clicks for the purpose of holding the mainspring to place when wound or while being wound up; and consists in the employment, instead thereof, of a toothless plain-edged or milled-edged wheel, placed on the mainspring-arbor, and a toothless eccentric wheel, having also a plain or milled edge, these two wheels acting in conjunction with each other, or with an intermediate wheel, if desired, to permit the free winding of the watch, and also forming a dead-lock against the backward motion of the arbor-wheel.

Figure 1 is a plan of a watch-plate with my improvement applied to it. Fig. 2 is an edge view, partly in section, of the works of a watch, showing my improvement thereon. Figs. 3, 4, and 5 show a modification of the improvement.

The plain-edged wheel on the mainspring-arbor is shown at *a*, and the plain-edged eccentric wheel at *b*, their positions being such that their edges can be brought into tight binding or locking contact by the force of a small spring, *c*, bearing against a pin on the eccentric wheel, and bringing a longer radius of such wheel to cause it to gripe the edge of wheel *a*, while, upon turning the eccentric in the direction against the force of the spring, as in the act of winding the watch, the longer radius of eccentric wheel *b* is carried away from wheel *a*, so that their edges no longer bind, the spring always, when released, acting to restore the binding or locking condition, which thus remains permanent until again

positively relieved. The backward power of the mainspring, when the winding up ceases, causes the arbor-wheel to revolve the eccentric to a more extreme and close binding contact, thus making a dead-lock.

The practical advantages of this improvement may be stated as follows—viz., the action is quicker and stronger than with the usual click and click-wheel; the devices are more durable, simpler, and less expensive; the action of the eccentric is so gradual and positive that it does not allow that drop-motion which attends the usual click-wheel; in the act of rotating for the purpose of winding, its action is smooth, easy, and noiseless, and there is none of that jarring and clicking motion which are unavoidable in the use of the click-wheel; and the device may be applied with ease to any and all classes of watches, and by any ordinary workman.

In a stem-winding watch a reversible motion is required, so as to prevent breakage of any part of the train, and it is also useful in setting the watch to time without disturbing the winding parts. For this purpose I place another wheel, *b'*, over the arbor-wheel, the arbor-wheel being turned out, as seen in Fig. 3, so as to leave a band or rim, *d*, and the eccentric *b'* on said other wheel *b'* being so placed near the edge of this wheel that when the two wheels are placed together, with the eccentric and its spring inside the rim *d*, the act of revolving the top wheel *b'* backward will free the eccentric from the inner edge of the rim *d* and from the winding power; and when turned in the winding direction, the locking contact is again restored. In this way a very easy, free, safe, and noiseless action is secured.

I claim—

The toothless eccentric wheel *b* and the spring *c*, in combination with the winding arbor wheel or wheels of a watch.

RUFUS FOLSOM.

Witnesses:

M. W. FROTHINGHAM,  
R. L. ROBERTS.