

G. P. REED,
Chronometer Escapement.

No. 76,346.

Patented April 7, 1868.

Fig. 1

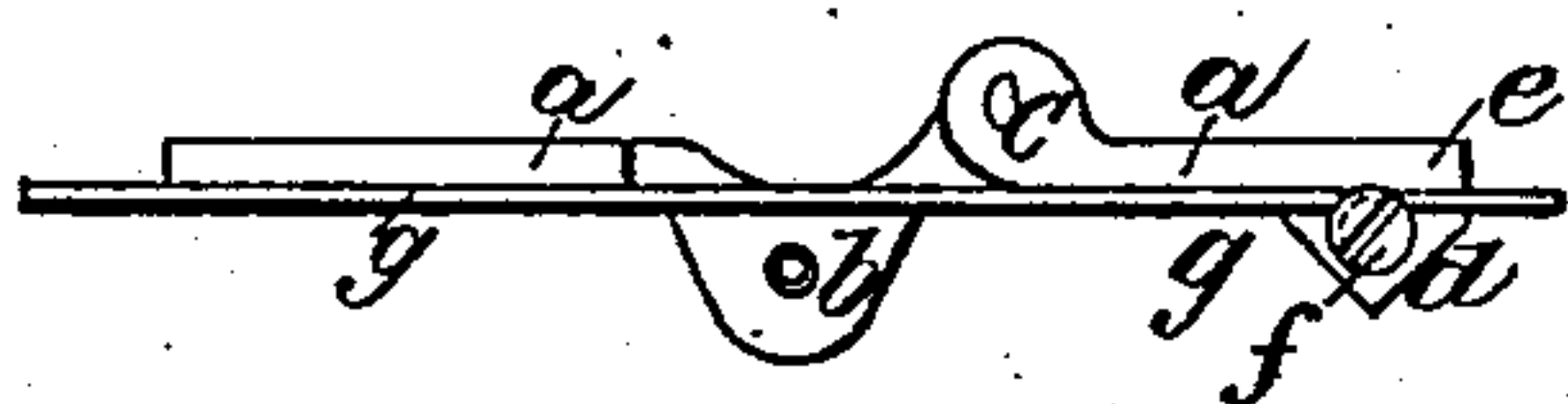


Fig. 2.

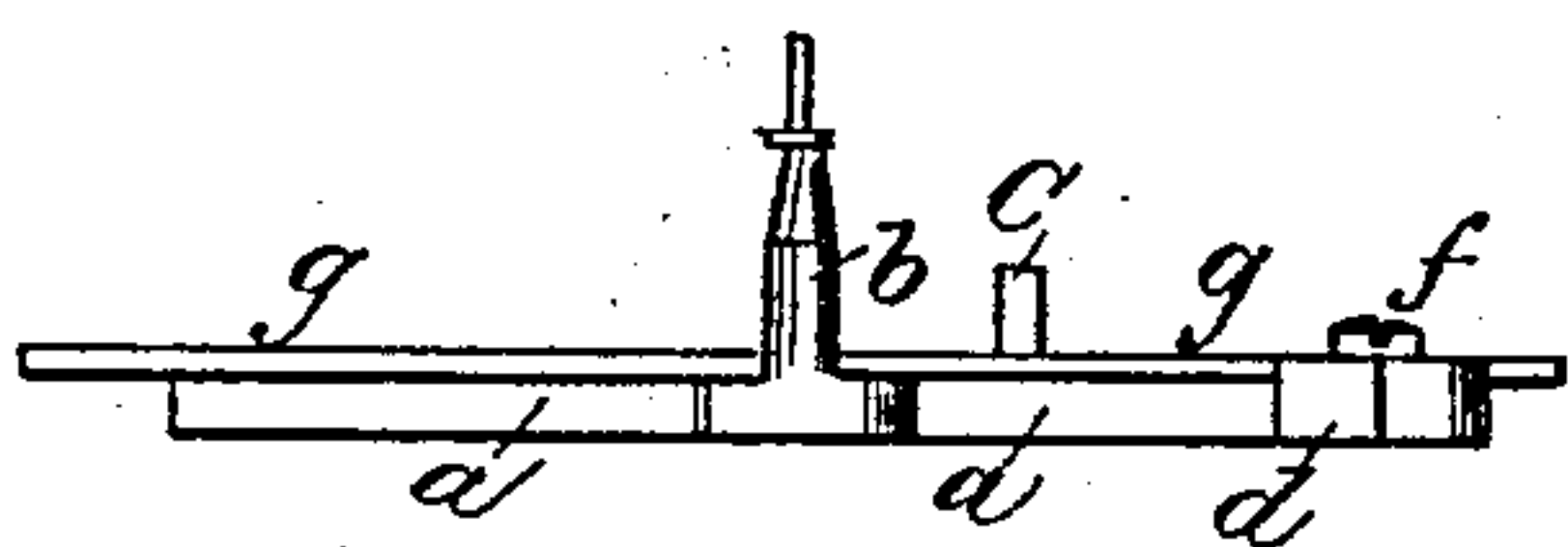


Fig. 3.

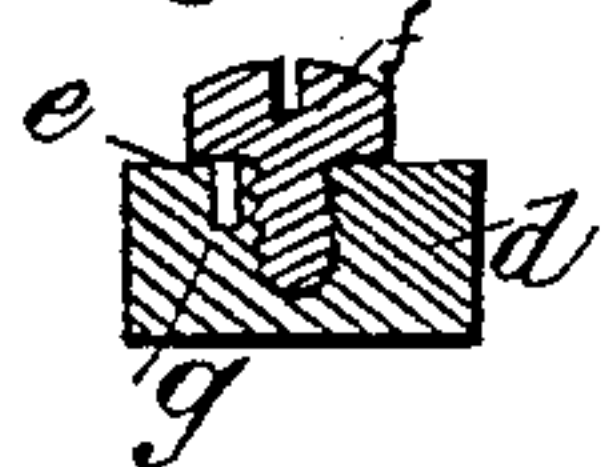
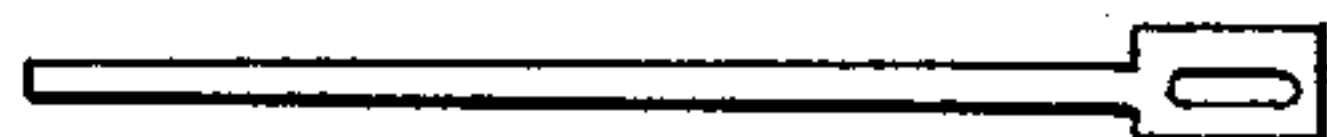


Fig. 4.



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GEORGE P. READ, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 76,346, dated April 7, 1868.

IMPROVEMENT IN CHRONOMETER-ESCAPEMENTS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Be it known that I, GEORGE P. READ, of Boston, in the county of Suffolk, and State of Massachusetts, have invented a new and useful Mode of Applying the Lifting or Feather-Spring to the Detent-Lever of a Chronometer-Escapement; and do hereby declare the following to be a full, clear, and exact description thereof, due reference being had to the accompanying drawings, making part of this specification, and in which—

Figure 1 is a top view or face representation,

Figure 2 an edge elevation,

Figure 3 a vertical and transverse section of a chronometer-escapement detent-lever, showing the application of my invention thereto, the said figures being made upon an enlarged scale, the more clearly to show such invention.

Figure 4 is a representation of a feather-spring as heretofore constructed.

The mode heretofore practised, to a great extent, in applying the lifting-spring to the detent lever in chronometer-escapements, has been to form the spring with an enlargement upon one end, this enlargement having an elongated slot made in it, through which a screw passes and is screwed into the detent-lever, the head of the screw overlapping the opposite sides of the slot, and serving to hold the spring in place. This necessitates the making of a spring of a peculiar shape for this particular purpose, and is a matter of considerable expense, as well as of inconvenience, in the matter of replacement or removal of the spring.

The invention consists in applying the lifting-spring to the detent-lever in such manner as to be enabled to employ for such spring a piece of the ordinary hair-spring now universally employed in watches and chronometers, as well as to enable it to be applied or inserted in place, and adjusted longitudinally very easily and expeditiously, one particular advantage of my invention being the ease and economy with which a broken spring may be replaced.

The invention is accomplished by making a saw-kerf, or narrow slot, in the upper face of the free end of the detent-lever, of a sufficient depth to nearly receive the width of the spring, a screw being passed into the metal immediately contiguous to the slot, and so that the head of the screw shall overlap and bear upon the upper edge of the spring, and, by its pressure thereupon, retain it securely in place, at the same time, when occasion requires, allowing the spring to be adjusted longitudinally with much greater accuracy and nicety than if it were secured in place by a wedge.

By referring to the drawings above mentioned, as accompanying and making part of this specification, it will be seen that *a* denotes the detent-lever of a chronometer-escapement, *b* its pivot or axis, and *c* its detent, such being constructed and applied in the ordinary manner.

In carrying out my invention, I cut within the face of the outer or free end of the detent-lever *a*, or an enlargement, *d*, thereof, a narrow saw-kerf, *e*, of a width sufficient to easily receive the thickness of the feather-spring, and of a depth slightly less than that of such opening.

I furthermore insert within the metal of the enlargement or end, *d*, of the lever *a*, and in close proximity to the saw-kerf *e*, a screw, *f*, the head of such screw, as before observed, overlapping or spraining the saw-kerf.

The feather-spring is shown at *g*, being, in this instance, a narrow strip or ribbon, cut from an ordinary hair-spring, the said spring being inserted, at one end, within the saw-kerf *e*, and retained securely in place therein by the downward pressure of the head of the screw *f* upon it, the spring extending along between the pivot and detent of the lever *a*, as shown in the drawings.

To move the spring in either direction longitudinally within its slot, or to enable it to be removed entirely therefrom, it is only necessary to give a partial turn of the screw in the right direction, which frees its pressure upon the spring.

The above description will readily explain the nature and advantage of my invention to intelligent persons, and particularly to watchmakers, to whom this specification is chiefly addressed, and who will appreciate its advantages, which, though to a casual observer would appear slight, are in reality, owing to the delicate nature of the construction of a watch, of great importance.

In fixing the ordinary hair-spring to its post, the employment of the principal idea of my invention may be found of great value, as the uniform curve or arc of the spring may be maintained by forming the saw-kerf of a corresponding-sized arc of a circle with that described by the spring.

I claim as my invention—

The mode, substantially as herein shown and described, of applying the feather or the hair-spring of a chronometer or watch-escapement, that is, by means of the saw-kerf *e* and screw *f*, substantially in manner and for the purpose as before explained.

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