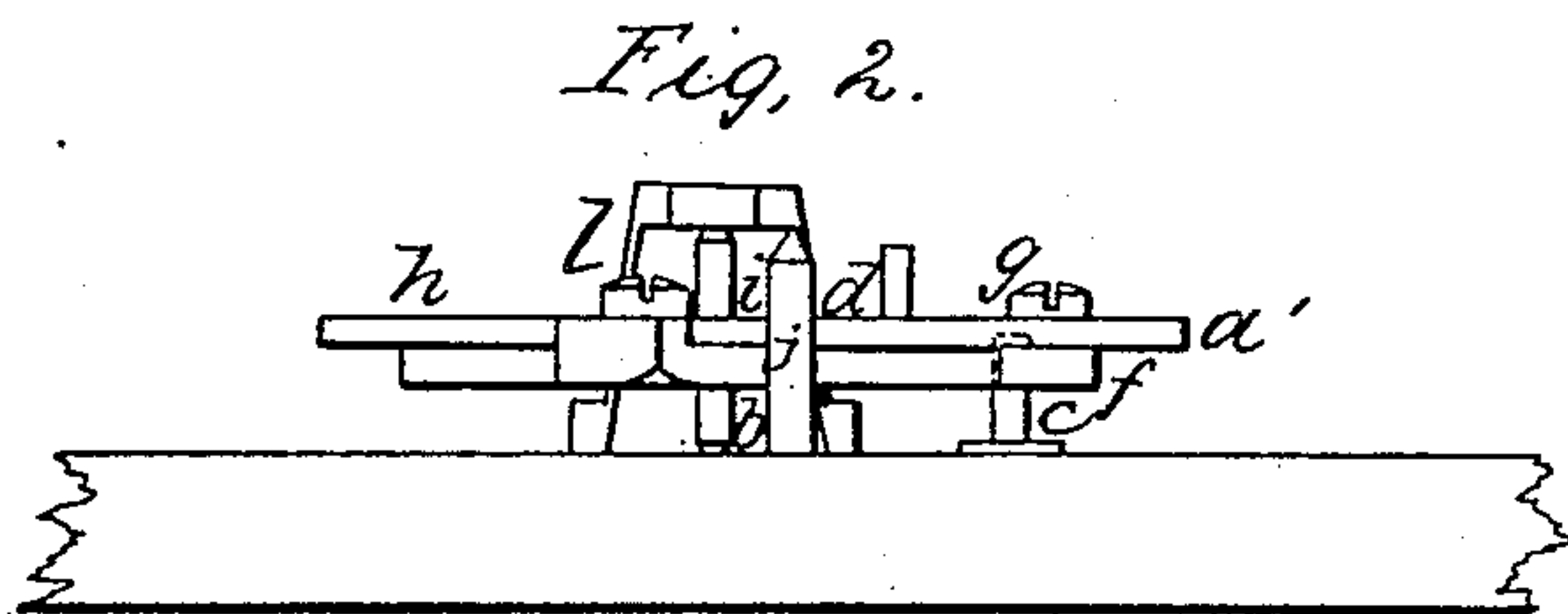
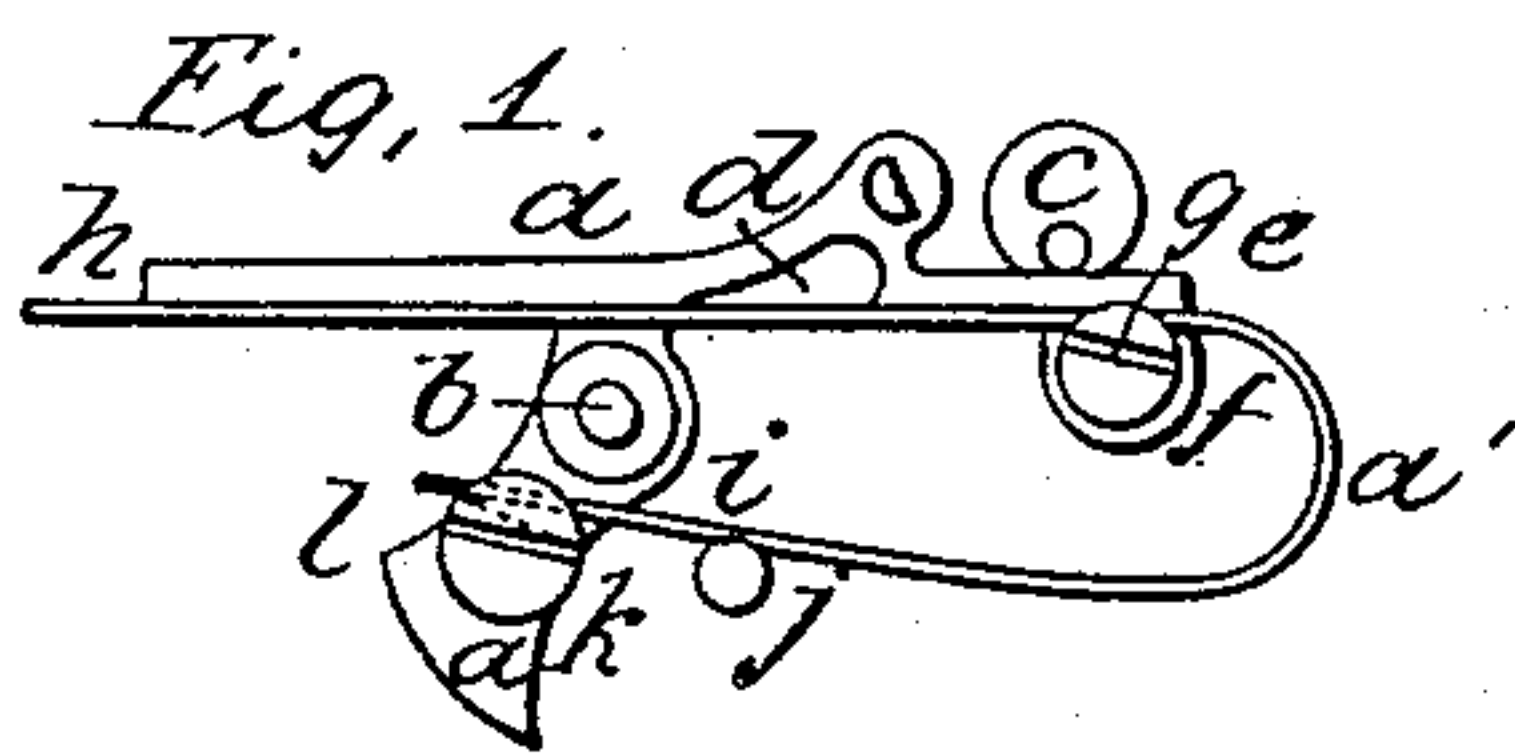


G. P. Reed.

Chronometer Escapement.

Nº 87,707.

Patented Mar. 9, 1869.



Witnesses,
Geo. A. Loving.
Edward. Griffith

Inventor,
George P. Reed.
by his Attorney.
Frederick Curtis.



GEORGE P. REED, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 87,707, dated March 9, 1869.

IMPROVEMENT IN CHRONOMETER-ESCAPEMENT.

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. REED, of Boston, in the county of Suffolk, and State of Massachusetts, have made an invention of a certain new and useful Improvement in Chronometer-Escapements; 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 or face representation, and

Figure 2, an edge elevation of the detent-lever, and adjuncts, of a chronometer-escapement, showing the application of my invention thereto.

The object of my present invention is to simplify the construction of a watch, by dispensing with the coiled spring, now applied to the arbor of the detent-lever of a chronometer-escapement, for returning the lever back to its stop, or banking-pin, as it is termed, and so disposing the feather or lifting-spring of the escapement, as to cause it to perform both functions, in manner as hereinafter explained.

In the drawings above mentioned, as accompanying this specification, and illustrating my invention—

a denotes the detent-lever of a chronometer-escapement, and

b, its pivot, or arbor, constructed and applied in the ordinary or any suitable manner, the banking-pin, or stop of such lever, being shown at *c*.

The feather-spring, which, in this instance, is a narrow and thin ribbon of metal, is shown, at *d*, as inserted within a saw-kerf, *e*, cut within the face of the outer or free end of the detent-lever, or an enlargement, *f*, thereof, the spring being retained in place therein, by a screw, *g*, the head of which overlaps its upper edge, as shown in the drawings, the end, *h*, of such spring, constituting the lifting-spring of the escapement.

The above-described application of the spring to the detent-lever, is shown as claimed in United States Letters Patent, issued to me on the 7th day of April, 1868, and forms no part of my present invention, it being shown, in the present instance, as being in the form with which I shall probably combine my present invention.

In carrying out the invention comprising the subject of this application, I dispense with the coiled spring, heretofore applied to the lower part of the arbor of the detent-lever, for returning such lever back to its stop after the detent has passed the escape-wheel, and I increase the length of the feather-spring *d* to such an extent as to be able to bend its outer portion, *a'*, into the form of a yoke, and extend the free end or

arm *i* of such yoke inwardly, and nearly parallel to the lifting-portion, *h*, thereof, and resting it upon a stud, or support, *j*, fixed to the bridge, or plate of the watch, and below and slightly to one side of the arbor of the detent-lever, as shown in the drawings, the extremity of this portion of the spring being extended through a large notch, or depression, *k*, made in the upper surface of the detent-lever, a screw, *l*, being secured to the lever, in such manner as to prevent displacement of the spring.

The inherent elasticity of the portion *i* of the spring, acting against the stud *j*, as represented, serves to maintain the detent-lever in place against the "banking-pin" *c*, as it is termed, except at such intermittent periods of time as it is lifted therefrom by the action of the pallet upon the end, *h*, of the spring, while the said end, *h*, of the spring serves, in the manner as shown in Letters Patent before referred to, to perform this function of lifting the lever.

As the stop *j*, which supports the return portion of the spring *d*, is situated in close proximity to the arbor, or fulcrum of the detent-lever, the lifting of such lever is very easily performed.

The employment of the ordinary coiled "locking"-spring entails the necessity of employing a collet, stud, and screw.

The use of my present invention dispenses with these parts, as well as with the spring itself, with a consequent reduction of the number of parts of a watch, as well as its cost, and with an increased facility for repairing or manipulating the works of such watch.

In addition to these advantages, however, one great value of my invention is the fact that the friction upon the detent-lever is reduced, and the function of such lever and its adjuncts, performed in a sensitive and perfect manner.

What I believe to be novel and original with myself, and desire to secure by Letters Patent of the United States, is—

1 The combination and relative positions of the spring *a'* and stop or post *j*, with the detent-lever and axis *b*, whereby the force required to operate said lever is diminished, substantially in the manner described.

2. The screw *l* or its equivalent, applied to the detent-lever *a*, as herein shown and set forth, for the purpose of preventing displacement of the locking-portion *a'* of the spring *d*, when removed from the watch.

GEO. P. REED.

Witnesses:

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