(No Model.)

F. PEQUEGNAT.

CHRONOMETER ESCAPEMENT.

No. 474,301. Patented May 3, 1892.

Fig. 1

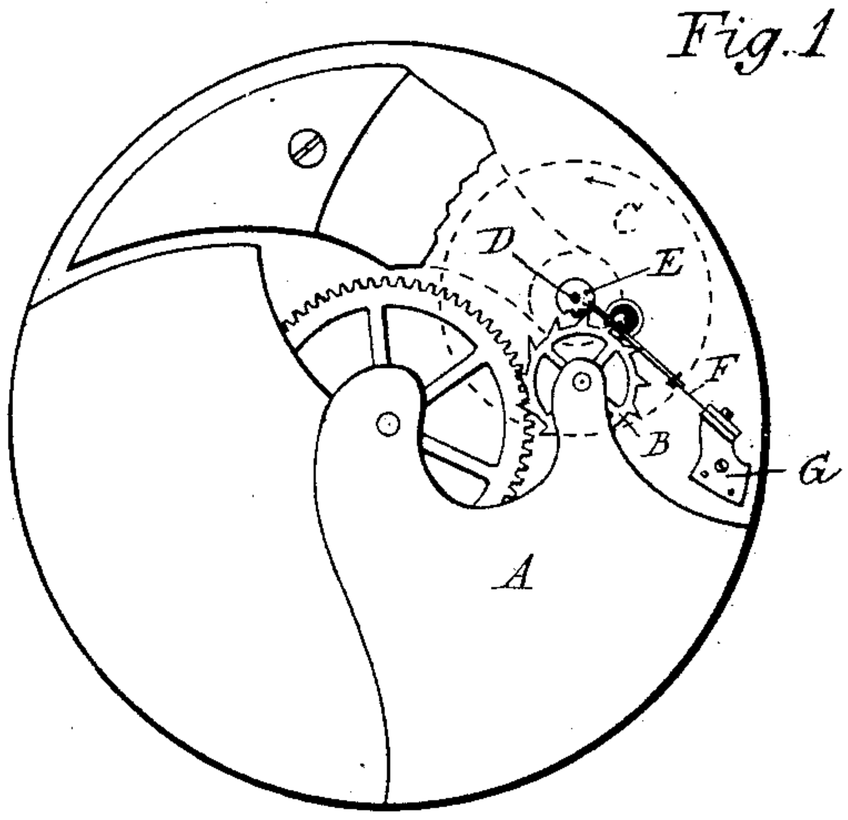


Fig. 2

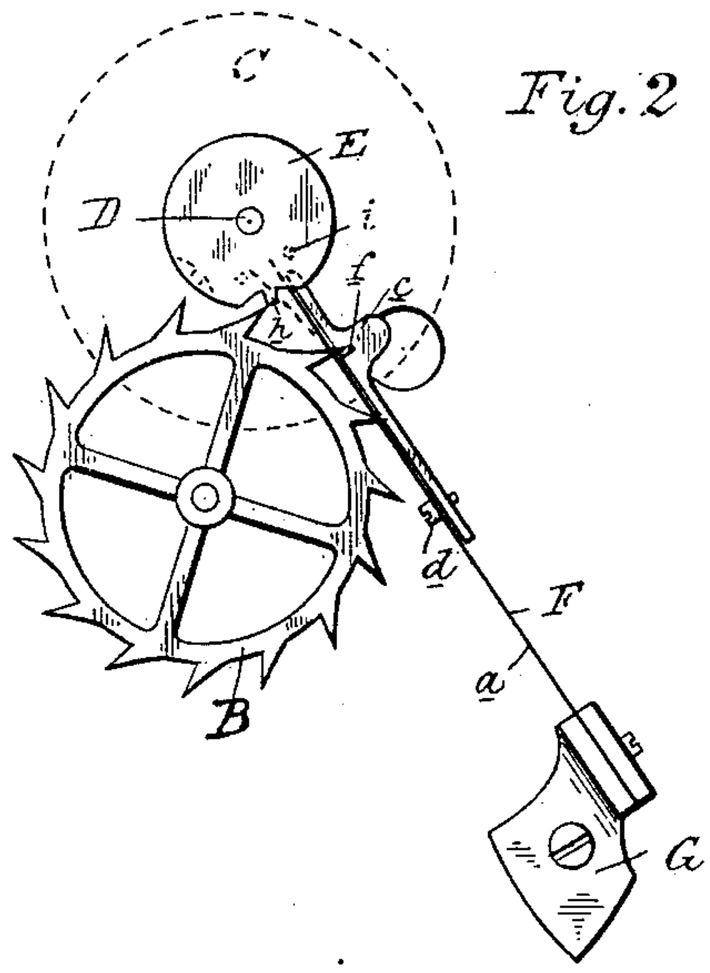


Fig. 3

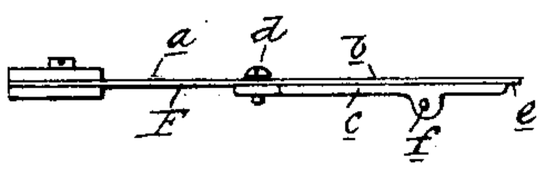


Fig. 4

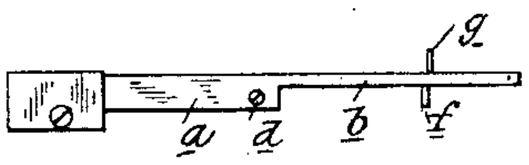


Fig. 5

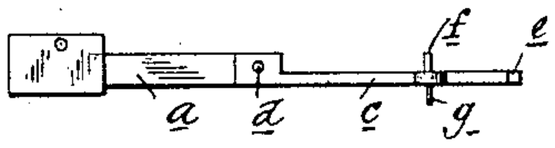
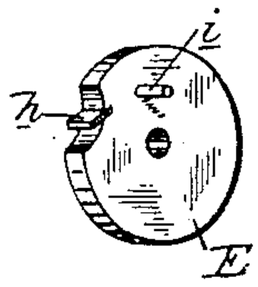


Fig. 6



Witnesses.

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M. B. Dougherty

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UNITED STATES PATENT OFFICE.

FRANK PEQUEGNAT, OF ST. LOUIS, MICHIGAN.

CHRONOMETER-ESCAPEMENT.

SPECIFICATION forming part of Letters Patent No. 474,301, dated May 3, 1892.

Application filed May 27, 1891. Serial No. 394,316. (No model.)

To all whom it may concern:

Be it known that I, FRANK PEQUEGNAT, a citizen of the United States, residing at St. Louis, in the county of Gratiot and State of Michigan, have invented certain new and useful Improvements in Chronometer-Escapements, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in chronometer-escapements and to the peculiar construction of the detent-lever, whereby its manufacture is simplified and cheapened and its efficiency increased, and, further, in the peculiar construction, arrangement, and combination of the various parts, all as more fully hereinafter described.

In the drawings, Figure 1 is an elevation of a chronometer-escapement embodying my invention. Fig. 2 is a similar view enlarged, showing the parts in a different position. Fig. 3 is a side elevation of the detent-lever enlarged. Figs. 4 and 5 are top and bottom plans of the lever. Fig. 6 is a detached perspective view of the table-roller.

A is the frame. B is the escape-wheel; C, the balance-wheel; D, the arbor of the balance-wheel, and E the table-roller secured to the arbor of the balance-wheel, these parts being of known and usual construction, except as more fully hereinafter described.

F is the detent-lever, which consists of a single spring secured in the bracket G. This spring consists of a wide blade *a*, extending a portion of its length, (I have shown it as exceeding about half the length of the detent-lever,) and the reduced portion *b*, extending from the wide or base portion to the end.

c is a reinforcing-plate secured at the outer end of the base portion of the spring by a screw or pin *d* and extending beside the reduced portion of the spring to near the end thereof, leaving only the projecting lip *e*. This plate also carries the detent-pallet *f* and a stop-pin *g*, adapted to strike any suitable stop on the watch-frame, and I preferably provide any suitable means for adjusting this stop.

The table-roller is provided with the impact-jewel *h* in its circumference and the pin *i* upon the lower face.

The parts being thus constructed their operation is as follows: The oscillation of the balance-wheel carries with it the table-roller. In moving in the direction shown by the arrow (the detent-pallet being in engagement with a tooth of the escape-wheel) the pin *i* first strikes the detent-lever and disengages the pallet. The escape-wheel starts to revolve and a tooth strikes the impact-jewel *h*, giving the impulse to the table-roller to wind the balance-spring and carrying the pin *i* past the lever, which at once springs back into the path of the escape-wheel and engages with a tooth thereon. This movement of the pin causes the lever to bend in the portion *a*, as the reinforcing-plate *c* prevents the reduced portion from being bent. The escape-wheel is now held, while the balance-wheel returns, the pin *i* passing the lever by striking the lip *e* and bending the reduced portion of the spring only, as shown in dotted lines in Fig. 2. This reduced portion is free to move in this direction, as it is secured to the plate *c* only by the screw *d*. The balance-spring then returns the table-roller to the position shown in dotted lines in Fig. 2, and the operation is repeated.

By making the detent-lever a single spring having a main and reduced portion with the reinforcing-plate I can produce it very cheaply as compared with levers heretofore produced, consisting of two springs of different tensions secured to a rigid lever.

What I claim as my invention is—

In a chronometer-escapement, a detent-lever consisting of a single-piece spring secured at one end to a suitable bracket and having its opposite end reduced from a point at or about the center of the lever and a rigid reinforcing-plate secured to the lever below the reduced portion and extending parallel therewith to a point slightly below the end of the lever, whereby the lever is formed with two independent bending-points, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK PEQUEGNAT.

Witnesses:
GIDEON S. CASE,
T. BAMBOROUGH.