U. A. JUVET.

Stop-Watches.

No. 213,048 Patented Mar. 11, 1879.

Fig. 1.

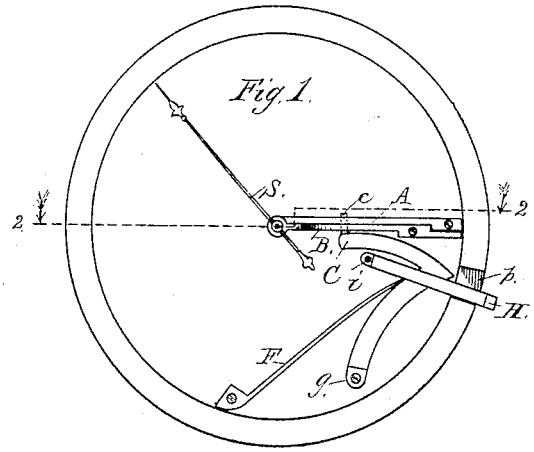


Fig. 2.

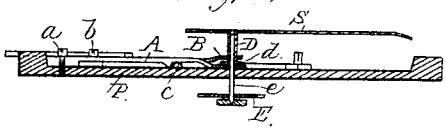


Fig. 3.

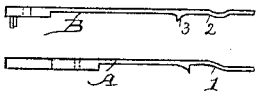


Fig. 4.

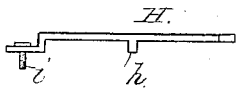
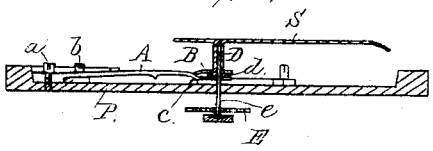


Fig. 5.



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UNITED STATES PATENT OFFICE.

ULYSSES A. JUVET, OF GLENS FALLS, NEW YORK.

IMPROVEMENT IN STOP-WATCHES.

Specification forming part of Letters Patent No. **213,048**, dated March 11, 1879; application filed July 18, 1878.

To all whom it may concern:

Be it known that I, ULYSSES A. JUVET, of Glens Falls, in the county of Warren and State of New York, have invented a new and useful Improvement in Stop-Watches, of which the following is a specification:

The object of my invention is to dispense with the additional movement commonly used to run the independent second-hand in stop-watches, and to obtain an independent second-hand by so mounting the second-hand that it may be detached from its running-pivot and instantly stopped, or may be as readily replaced in connection with the pivot so as to run therewith. To this end I attach the second-hand to a split cannon fitting on the pivot of the second-wheel, so as to be driven by hard friction, and having a base-flange, which is engaged between two springs, which may be raised or depressed by the action either of a push-pin in the pendant, or a slide in the edge of the case, or a lever within the case, as preferred, and when raised will remove the cannon or sleeve from the friction of the pivot and hold it still, or when depressed will restore the cannon to frictional connection with the pivot and then release it, so that the second-hand may partake of the motion of the pivot.

My invention further consists in mounting the second-hand of a watch on a pivot or axis made in two parts, so as to render it detachable, as hereinafter described.

In order that my invention may be clearly understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a plan view of the movement. Fig. 2 is a section on the line 2 2, looking in the direction of the arrows, and showing the second-wheel cannon in frictional connection with the pivot of the running wheel. Fig. 3 is an elevation of the springs detached. Fig. 4 is an elevation of the lever employed under the present illustration to move the carriage which raises the springs or permits their descent. Fig. 5 is a section, showing the second-hand cannon elevated out of frictional connection with the pivot and held by the springs.

A and B are springs, attached by screws *a b* to the dial-plate P, and, when free, pressing down on said plate by their own resilience. The free ends of the said springs are perforated, so as to encircle the pivot *e* of the second-hand wheel E, and receive between them the flange *d* of a split cannon, D, which carries the second-hand S, and when depressed, as shown in Fig. 2, runs with the pivot *e* by hard friction.

To raise the springs when required to remove the cannon from frictional connection with the pivot, I employ a carriage, C, having a stud, *c*, which projects beneath the springs A B. A spring, F, throws the carriage back, so as to permit the springs A B to descend.

The carriage may be driven in by a simple sliding movement by means of a push-pin in the pendant.

In the present illustration I have shown it as an L-shaped lever, fulcrumed at *g*, and actuated by a lever, H, working on a fulcrum-screw, *i*, and provided with a stud, *h*, which bears against the inclined back of the carriage C, so as to throw it forward when the lever H is moved and slips just beyond the projecting angle of the L-shaped carriage, so as to lock it in its forward position.

The lever H works within a notch, *p*, in the margin of the dial-plate, the ends of which notch form stops to limit the motion of the lever in either direction.

The peculiar forms of the respective springs A B, to adapt them to raise and lock the hand S when the carriage C is moved forward, or to depress and release it when the carriage is moved back, are best shown in Fig. 3. The spring A is bent downward toward its extremity, and interposed between the cannon-flange *d* and the plate P, the inclined shoulder 1 forming a bearing against which the stud *c* of the carriage engages, so as to throw up the spring and thereby raise the hand.

The spring B, which acts, in combination with the spring A, as a clamp when the cannon is elevated, and is also employed to depress the cannon and restore it to frictional connection with the pivot, surrounds the cannon above its flange *d*, and has two shoulders, 2 3, with which the carriage-stud *c* engages in its forward and backward movements, in each case raising the spring off the flange *d*; but the shoulder 2 may be dispensed with.

By the invention above described a common

watch is adapted for use as a horse-timer, or as a stop-watch for other purposes, and may be made to mark seconds or fifths of seconds with perfect accuracy.

The parts being in the position shown in Figs. 1 and 2, the second-hand will run as in an ordinary watch. When the second-hand is to be stopped the carriage C is thrown forward, the effect of which is to throw up both springs A B, raising the cannon D sufficiently to relieve it from hard frictional contact with the pivot *e*, and clamping it by its flange *d*, so as to hold it still while the pivot continues to run. When the carriage is retracted its stud *c* recedes from the shoulders 1 and 2 of the respective springs, causing the springs to descend, and the upper one, B, to press the cannon D firmly down on the pivot *e*, so that it will be driven thereby; and the continued movement of the stud brings it against the shoulder 3, so as to raise the spring B alone, and thus remove it from frictional contact with the cannon-flange *d*.

It is not material to the invention whether the spring B is provided with a shoulder, 2, to receive the forward impact of the stud *c*. If this shoulder is dispensed with the spring is raised by the same movement of the stud, acting through the medium of the spring A and flange *d*.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. An independent second-hand connected to its running-pivot *e* by a flanged cannon, D *d*, in combination with a pair of springs or levers, A B, operating in the manner described, to disconnect the hand from its running-pivot and replace it in connection therewith.

2. In combination with the running-pivot *e* and the detachable cannon D, carrying the second-hand S, the springs A B, having shoulders 1 3, and the slide C, acting on said shoulders to detach and lock or replace and release the second-hand, as described.

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Witnesses:
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