

W. C. KELLUM.
Clock Escapement.

No. 83,776.

Patented Nov. 3, 1868.

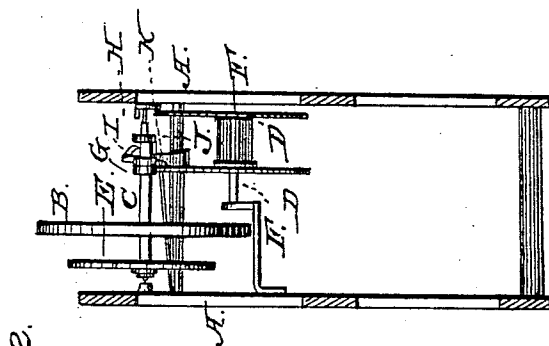


Fig. 2.

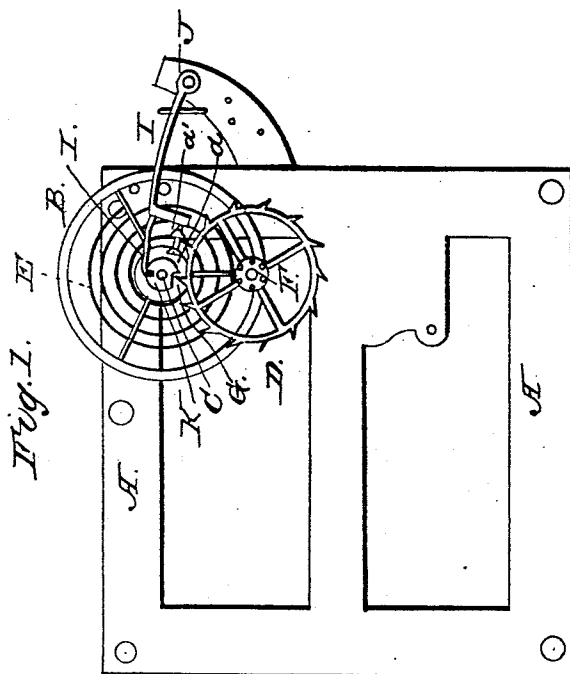
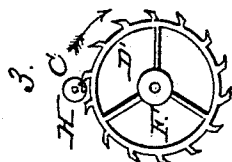


Fig. 1.

Witnesses.
Geo. A. Strong
J. L. Borne

Inventor
W. C. Kellum

United States Patent Office.

WILLIAM C. KELLUM, OF SAN FRANCISCO, CALIFORNIA.

Letters Patent No. 83,776, dated November 3, 1868.

IMPROVEMENT IN CLOCK-ESCAPEMENT.

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

To all whom it may concern:

Be it known that I, WILLIAM C. KELLUM, of the city and county of San Francisco, State of California, have invented an Improved Back-Action Chronometer; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains, to make and use my said invention or improvements without further invention or experiment.

The nature of my invention is to provide an improved escapement for time-pieces, called a back-action chronometer, and consists in so constructing the escape-wheel or wheels, that there are two sets of escape-teeth moving about the same axis, one of which gives its impulse directly to the impulse-roller, while the other set of teeth are so constructed, that, as they pass the impulse-roller, or pin, they give it motion in the opposite direction from their own and from the backs of the teeth.

To more fully explain my invention, reference is had to the accompanying drawings, and letters of reference marked thereon, of which—

Figure 1 is a side sectional elevation of the escapement.

Figure 2 is an end view of the same.

Similar letters of reference indicate corresponding parts in each of the figures.

A A are the plates of the time-piece enclosing the mechanism.

The balance B is supported on the axis C, between these plates, and is actuated by the escape-wheels D D'.

E is the hair-spring.

The wheels D D' turn upon the same axis, F, and act upon the impulse-pallets or rollers G and H, situated on the axle of the balance B.

The detent-lever I is supported so as to move about the axis J, and is raised by the pin K, which comes in contact with the end of the lever at each semi-vibration, and raises it sufficiently to release a tooth of the wheel D from the double-headed screw. This screw catches each tooth of the wheel D twice, first on the head *a*, and then *a'*, so that as the wheel B turns, the pin K raises the detent with its screw, and releases a tooth of the wheel D. At the same time a tooth of this wheel comes in contact with the impulse-roller G, and gives an impulse in that direction. As the balance returns, the pin K again raises the lever I, and releases a tooth of the wheel D. At this instant the impulse-pin H, or equivalent roller, reaches a point at which the peculiarly-shaped tooth of the wheel D', shown plainly at fig. 3, comes in contact with it, just as it passes, and gives it an impulse in an opposite direction to the motion of the tooth, or, in other words, gives the back-action.

Having thus described my invention,

What I claim, and desire to secure by Letters Patent, is—

1. The impulse-wheel D' on the same shaft with the escape-wheel D, and having teeth arranged to give an impulse in a direction the reverse of that given by the wheel D, substantially as described.

2. In combination with the impulse and escape-wheel D, and the reverse impulse-wheel D', the double-headed screw-detent, substantially as described.

In witness whereof, I have hereunto set my hand and seal.

WM. C. KELLUM. [L. s.]

Witnesses:

J. L. BOONE,
C. W. M. SMITH.