C. E. JACOT.

Clock Escapement.

No. 9,150. Patented July 27, 1852.

Fig. 1.

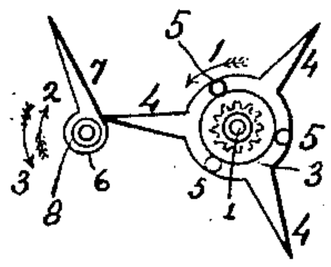


Fig. 2.

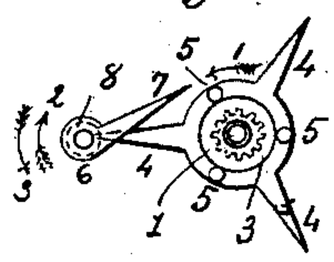


Fig. 3.

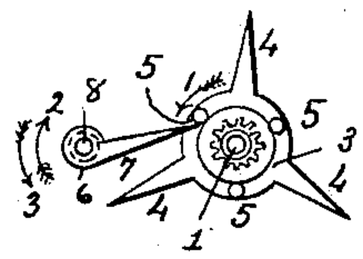


Fig. 4.

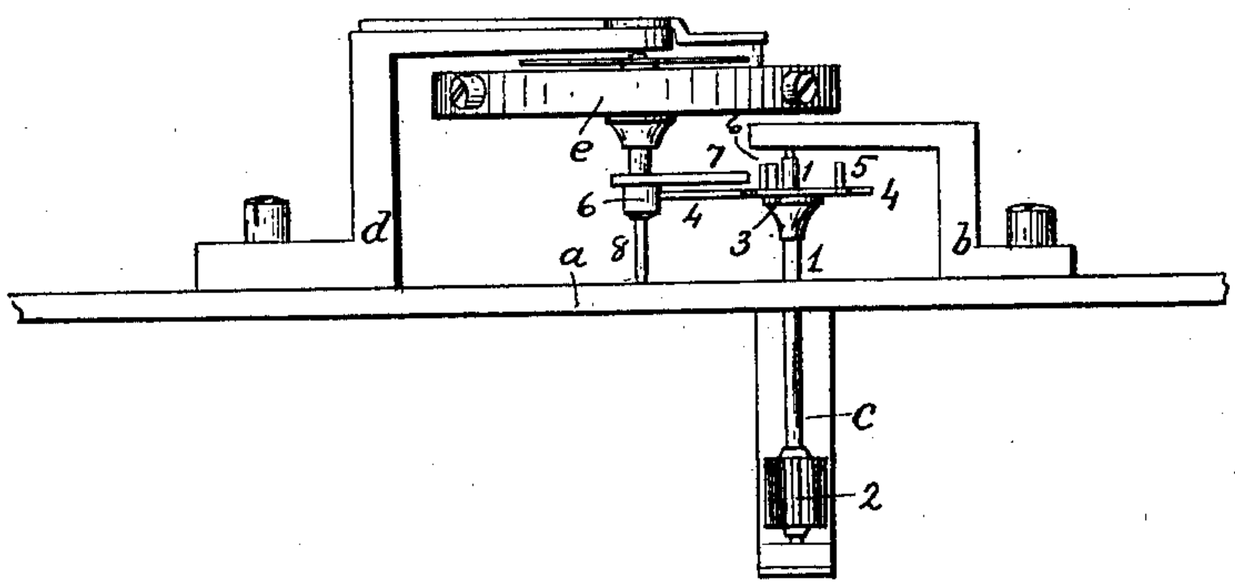
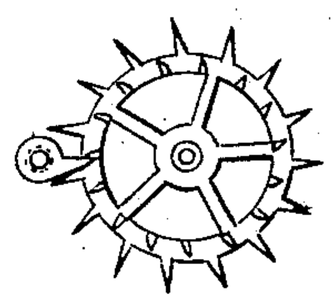


Fig. 5.



Witnesses:

Lemuel W Serrell

Thomas G Harold

Inventor:

Chas E Jacot

UNITED STATES PATENT OFFICE.

CHAS. E. JACOT, OF NEW YORK, N. Y.

DUPLEX ESCAPEMENT.

Specification of Letters Patent No. 9,150, dated July 27, 1852.

To all whom it may concern:

Be it known that I, CHARLES E. JACOT, of the city, county, and State of New York, watch manufacturer, have invented, made, and applied to use a new and Improved Duplex Escapement for Watches or other Time-Keepers, for which I seek Letters Patent of the United States; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making part of this specification, in which—

Figure 1 is a plan with one of the star points of the escapement wheel against the roller of the balance; Fig. 2 is a plan, showing the position of the parts as the notch in the roller on the balance allows the escapement wheel to move; Fig. 3 is another plan, showing the position, as the ruby pin gives the impulse to the balance; Fig. 4 is a vertical side elevation, showing my improvements; and Fig. 5 is a plan of the old duplex escapement, shown in this, to illustrate the differences between the old escapement and my improved plan; the whole of these figures being larger than the usual size; and the like marks of reference apply to the same parts in all the figures.

a, is a plate, carrying brackets *b*, above and *c*, below, which take the ends of the arbor 1, with a pinion 2, to which any competent power is applied; and near the upper end is a small wheel 3, having three star points 4, set as nearly equidistant from each other, as may be, but a slight difference in their dividing will not be important. At the distance of one third the radius, or length of the points 4, and equi-distant between the star points 4, I place three ruby or other perpendicular pins 5, which act as teeth of impulse. 8, is the arbor of the balance, and *d*, is a bracket, receiving the upper end; *e*, is a balance wheel of any usual or convenient form. On the arbor 8, is a roller 6, with a notch, which passes the end of the point 4, to allow the escapement wheel to rotate; 7, is a lever arm, of a length to pass behind, and just clear of the pins of impulse 5, as the balance and escapement wheel rotate together, as seen in Fig. 3.

The operation is as follows: Power is applied to rotate the pinion 2, and wheel 3, in the direction of the arrow 1, the balance being quiescent, and standing in about the position shown in Fig. 2; as the balance is moved by the power, acting through the point 4, on the notch of the roller 6, the arm 7, is placed behind one of the pins 5, which, as the point 4, disengages from the roller 6, gives the arm an impulse, which rotates the balance against the hair spring, giving it any amount of rotation required, (the power being sufficient) in the direction of the arrows 2, less than a complete rotation, the hair spring now overcoming the momentum, coils itself up, and gives the balance a rotation in the direction of the arrow 3, the momentum of which carries the notch, in the roller 6, past the point 4, and as it returns, the point 4, enters the notch in the roller, and as it disengages, another impulse is given by one of the pins 5, to the arm 7, as before.

It may, at first, appear that this is but a slight variation from the common duplex escapement shown in Fig. 5, but this wheel has to be made with great accuracy, with fifteen teeth, and is the most difficult part of the watch to make, and is the most easily deranged; the teeth of impulse are placed at a distance of two thirds of the radius, consequently, the arm on the balance is shorter, thus the balance has a leverage against the power; the impulse power, only, operating with one half its power on the balance; and to cause less friction, the roller on the balance has to be very small, which reduces the strength of axis of the balance, so that the turning of the hands will, sometimes, spring it, and allows several of the teeth to escape at once. But in my new plan, these difficulties are obviated; and instead of the balance having a leverage against the power, the power has a leverage against the balance, of two to one; so that, although the escapement wheel has to rotate oftener, the power gives a greater impulse to the balance, and the roller 6, can be so much larger, without the friction of the point 4, checking the balance, and the power operates with an impulse, during about one quarter of the rotation of the wheel 3.

I do not claim any of the parts herein described, or shown, nor do I claim the duplex escapement, shown in Fig. 5, but

What I do claim as new, and of my own

invention, and desire to secure by Letters Patent of the United States is—

The construction and arrangement of the escapement wheel 3, with three points 4, and pins 5, to take the arm 7, on the balance axis; the whole being constructed, and operating, substantially as described and shown.

In witness whereof, I have hereunto signed my name, this twenty eighth day of September, one thousand eight hundred and fifty.

CHS. E. JACOT.

Witnesses:
W. SERRELL,
LEMUEL W. SERRELL.