

No. 725,037.

PATENTED APR. 14, 1903.

E. BUYSSE.  
BALANCE ESCAPEMENT.  
APPLICATION FILED SEPT. 3, 1902.

NO MODEL.

Fig. 1.

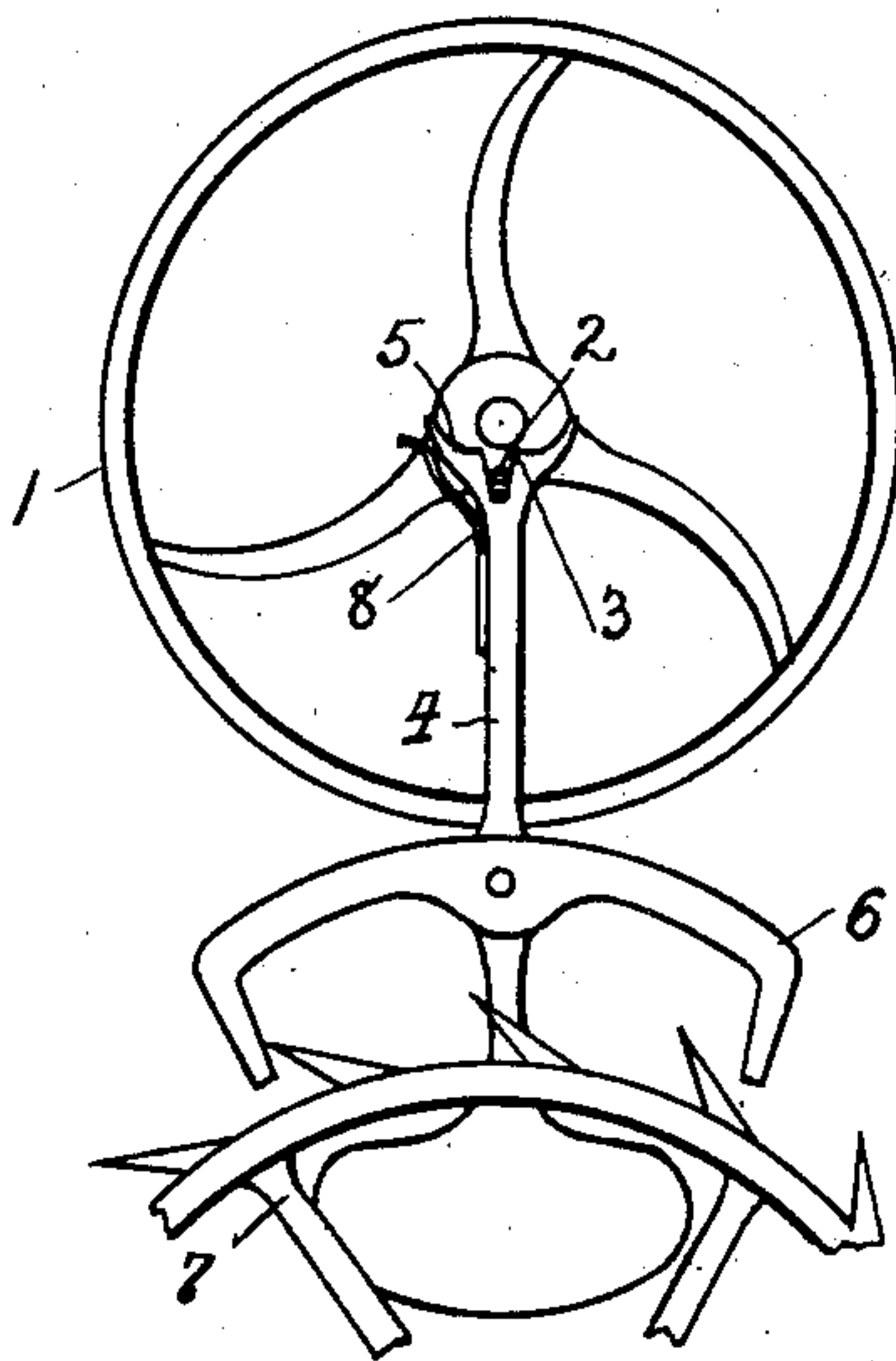


Fig. 2.

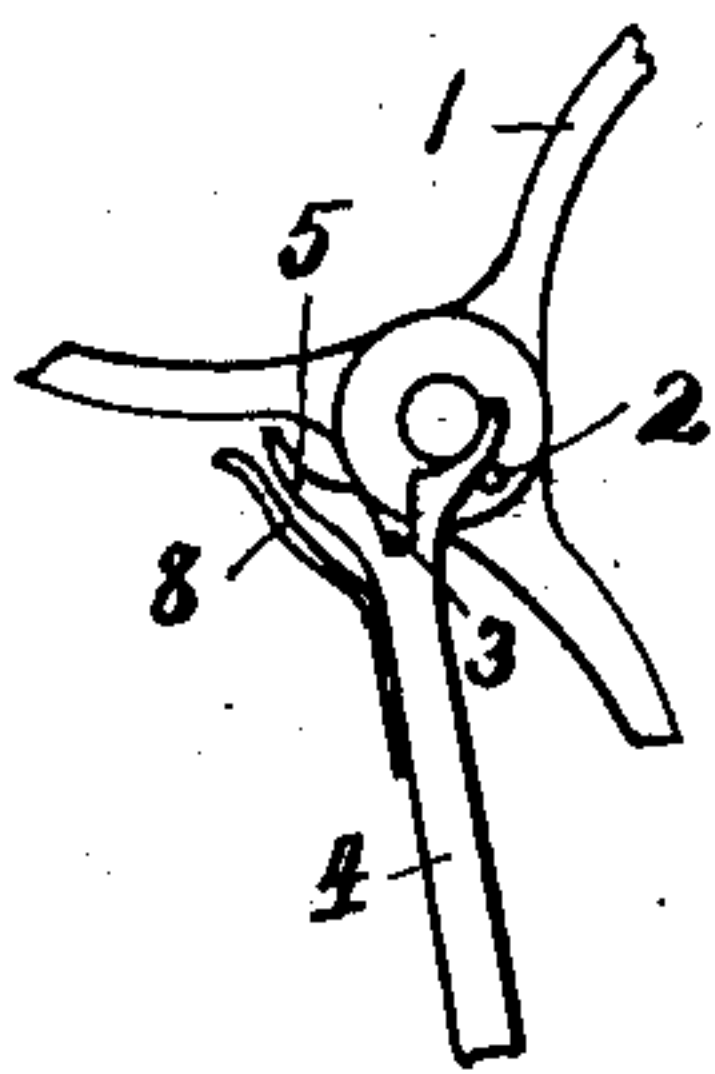
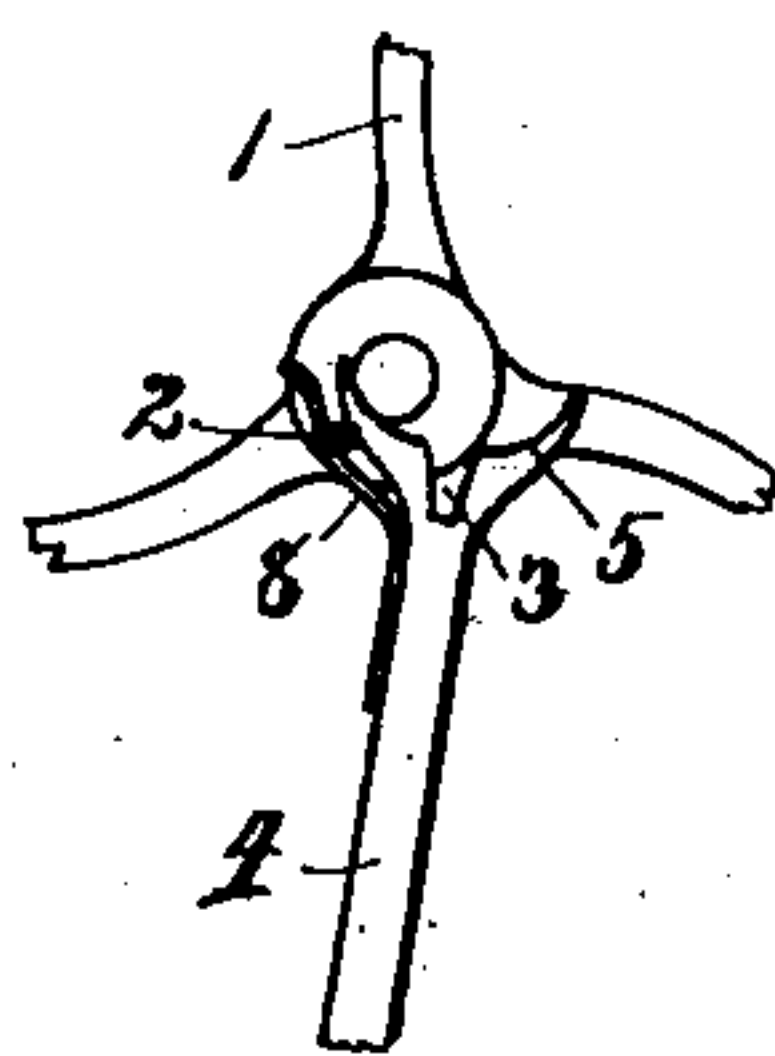


Fig. 3.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

EDWARD BUYSSE, OF SOUTH BEND, INDIANA.

## BALANCE-ESCAPEMENT.

SPECIFICATION forming part of Letters Patent No. 725,037, dated April 14, 1903.

Application filed September 3, 1902. Serial No. 121,981. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD BUYSSE, a citizen of the United States, residing at South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Balance - Escape-  
5 ments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled  
10 in the art to which it appertains to make and use the same.

My invention has relation to improvements in watches, clocks, and other time-registering mechanisms wherein a vibratory pallet  
15 and arm are associated with the balance-wheel and escapement-wheel; and the object is to provide improved means to stop the action of the associated mechanism in instances where it becomes unduly accelerated pur-  
20 posely with the design or intention to register or disclose a longer period in a shorter time.

It is well known that a very perceptible acceleration may be imparted to the mechanism of the kind involved by giving a rapid  
25 oscillatory or vibratory motion to the casing and thereby making indications incorrect. It is the purpose of the present invention to provide means to stop the mechanism when such attempts are made.

30 I accomplish the objects of the invention by the means illustrated in the accompanying drawings, forming a part of this specification, and wherein—

Figure 1 is a view, on an enlarged scale, of a  
35 balance-wheel, a pallet and lever, and a portion of an escapement-wheel with the spring-catch operatively applied to the lever. Fig. 2 is a detail view showing the roller-jewel disengaged from its seat and lodged against the  
40 side of the lever. Fig. 3 is a detail view showing the balance-wheel thrown back from its position indicated in Fig. 2 and the roller-jewel as lodged behind the spring-catch.

Referring to the drawings, 1 designates a  
45 balance-wheel of a timepiece made in any of the approved styles and mounted as usual. It has not been deemed essential to a clear understanding of the improvements to show certain well-known equipments and parts as-  
50 sociated with and carried by the balance-wheel. From the hub of the balance-wheel projects the roller-jewel pin 2, which nor-

mally engages and operates in a central open-  
end slot 3, formed in the head of the pallet-  
lever 4. The head of the pallet-lever is made  
55 with upwardly-curved edges, as 5, extending in opposite directions from the mouth of the slot, so that the roller-jewel will travel thereon when dislodged from the slot. The pallet-  
60 lever 4 extends the proper distance and at the proper point has secured thereto the pallet 6, which is engaged and actuated in the usual manner by the escapement-wheel 7.

It will be perceived that if the mechanism thus described be unduly accelerated by  
65 jerks, oscillation, or vibration the roller-jewel will be thrown out of the slot, the balance will vibrate with increased speed, and the time will not be true time. To prevent  
70 this and to thwart and disclose efforts to produce accelerated movement I attach a catch-spring 8 to the pallet-lever and extend its free position upward and lying adjacent to  
75 the curved outer edge of the head of the lever, so that when the roller-jewel pin 2 is carried over the arm of the head it will enter be-  
80 hind the spring and there lodge, and the mechanism will suspend motion until the roller-jewel pin is released and restored to normal position.

More particularly specifying the action or operation accompanying an overt attempt to  
produce accelerated movement of the mechanism, it may be stated that the extra move-  
85 ment dislodges the roller-jewel and carries it over the head of the pallet-lever to a position indicated in Fig. 2, and then on the return  
90 movement it is carried over the head at the opposite side, as indicated in Fig. 3, and lodges behind the spring 8, where it is held  
until released.

Having thus described my invention, what I claim is—

1. The combination with the balance-wheel, provided with a roller-jewel, and the  
95 pallet-lever, of a catch-spring on the pallet-lever arranged to engage and hold the roller-jewel when dislodged from the lever, as described.

2. The combination with the balance-wheel  
100 provided with a roller-jewel, and the pallet-lever formed with a head in which the roller-jewel is loosely seated, of a catch-spring secured to the outer edge of the head of the pal-



let-lever and arranged to hold the roller-jewel when moved off the head of the lever.

3. The combination of the balance-wheel provided with a roller-jewel, the pallet-lever  
5 formed with a head having an open end slot wherein the roller-jewel is detachably seated and outwardly-curved arms, and a catch-spring secured to the pallet-lever and arranged with a free portion extending adja-

cent to the outer edge of the head to engage it and hold the roller-jewel when moved behind it.

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

EDWARD BUYSSE.

Witnesses:

GEORGE OLTSCH,  
MAGGIE OLTSCH.