

918,132.

L. L. D. ELDERKIN.  
WINDING INDICATOR FOR WATCHES.  
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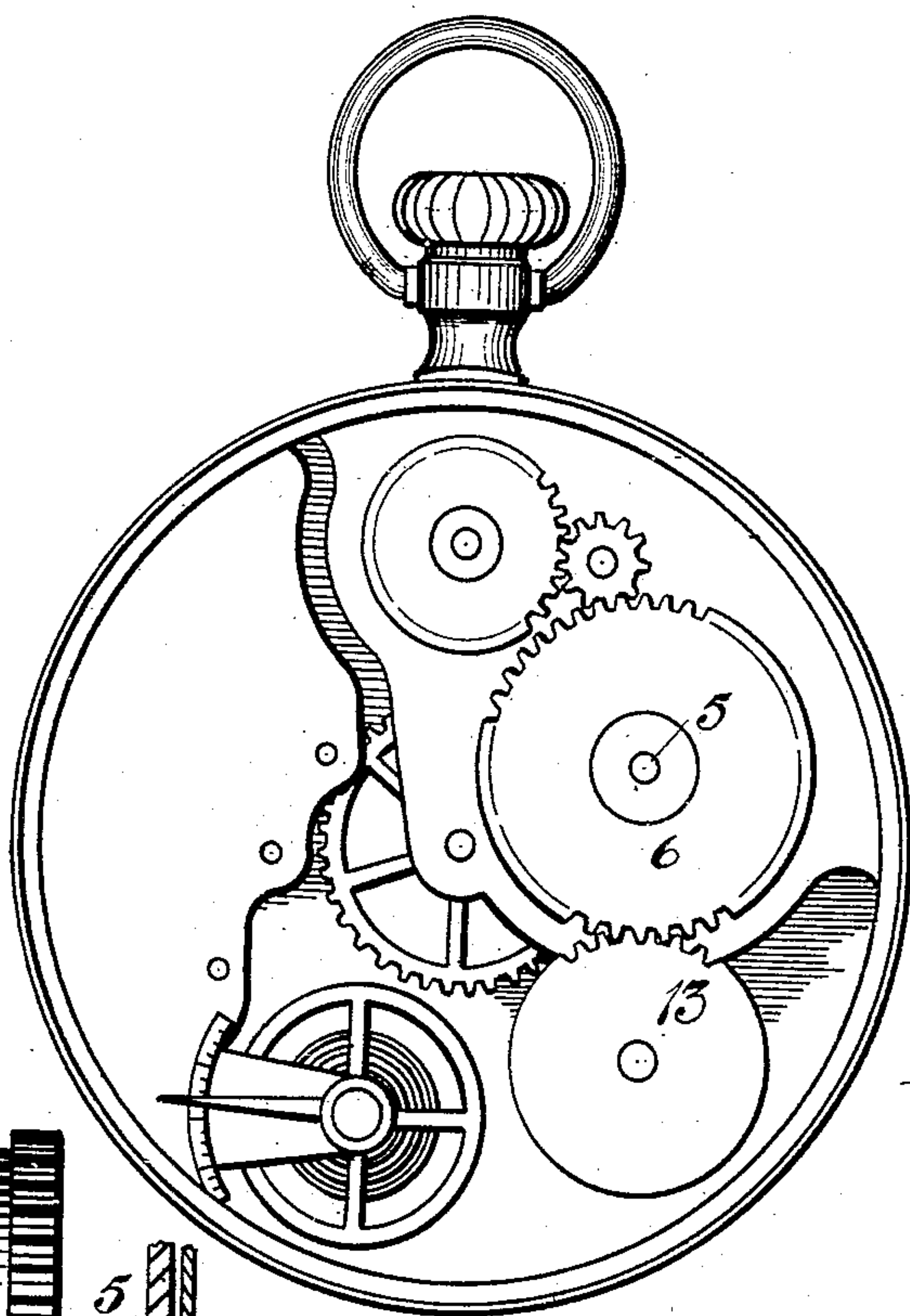


Fig. 1.

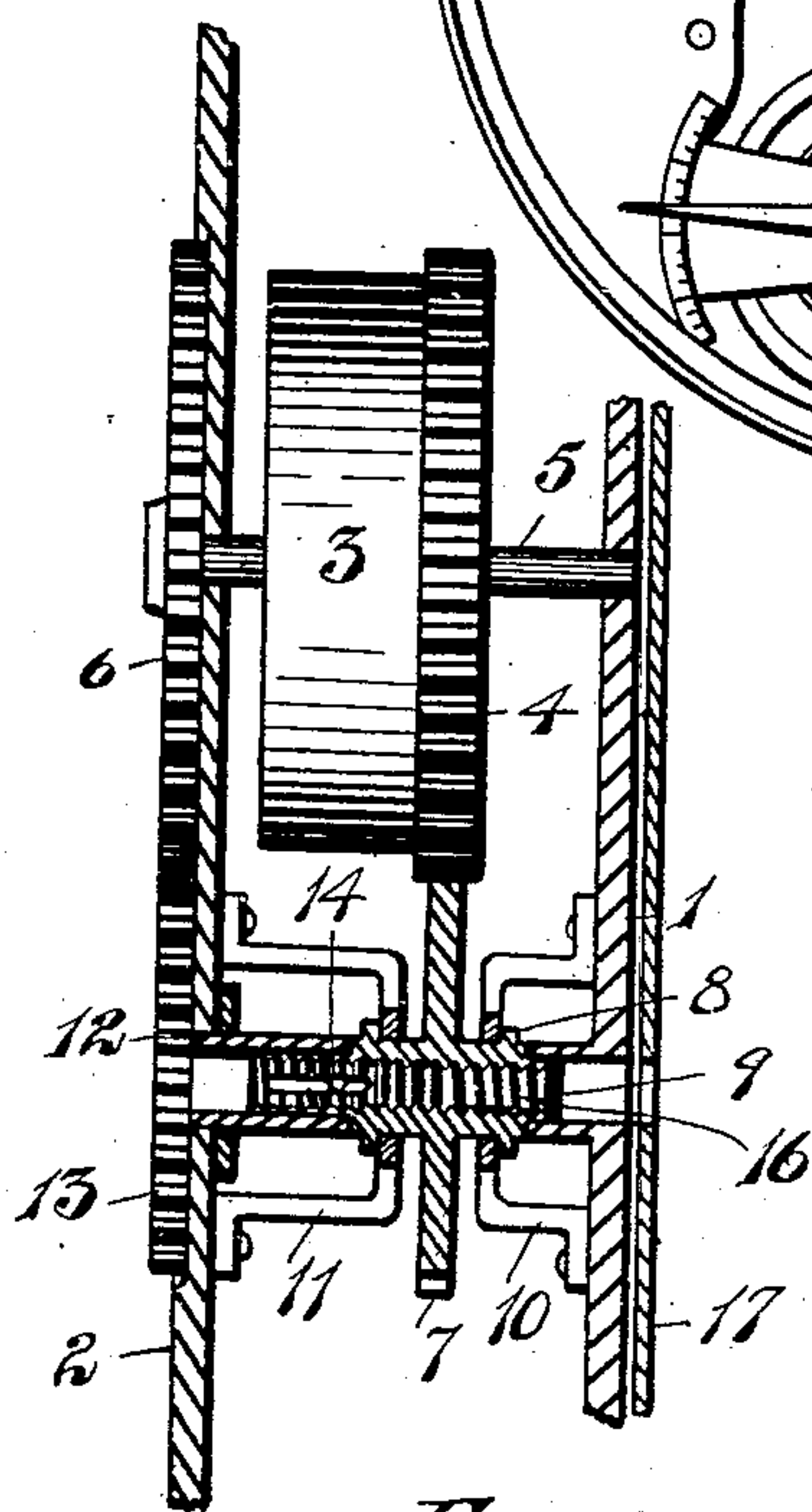


Fig. 2.

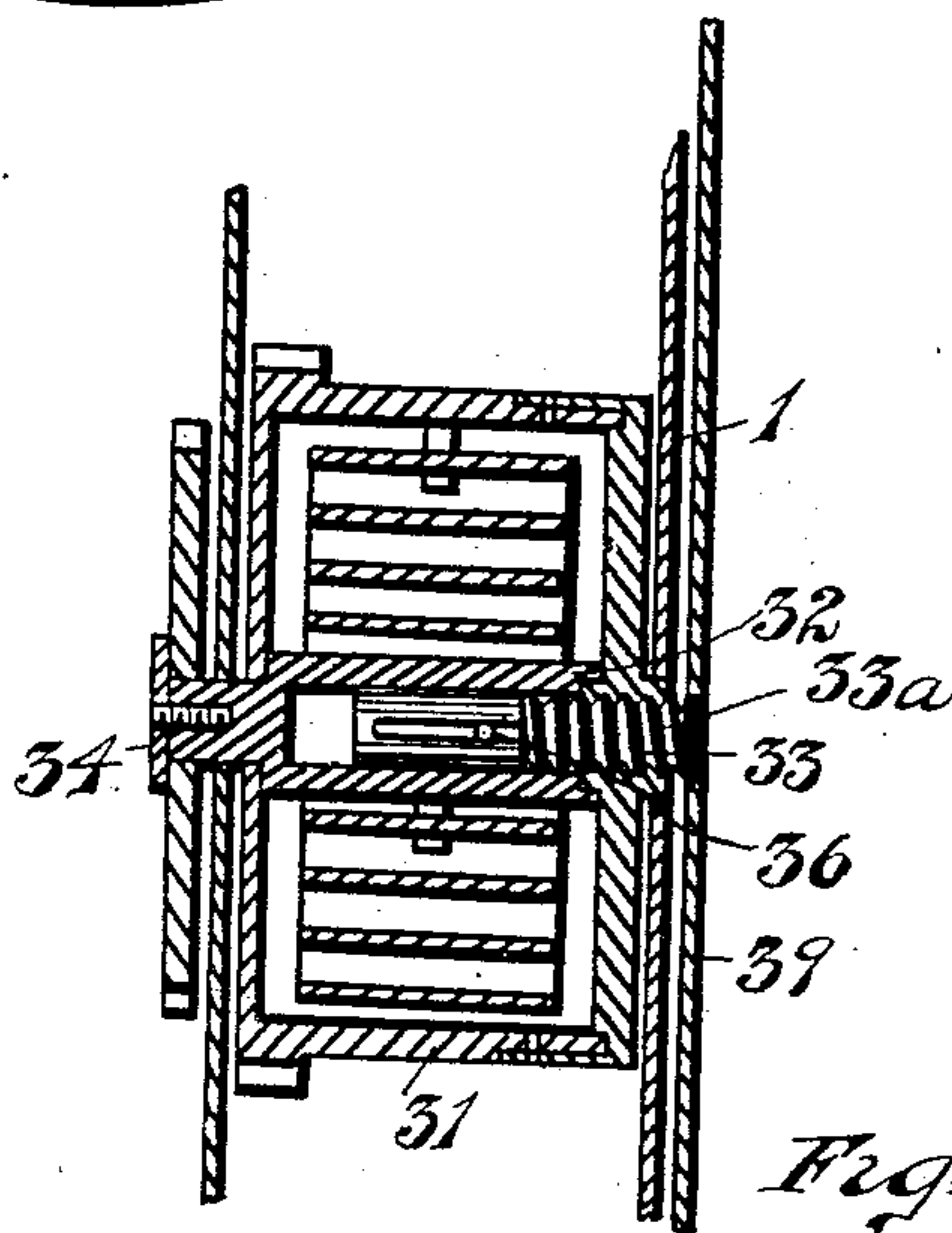


Fig. 3.

Witnesses

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# UNITED STATES PATENT OFFICE.

LESTER L. D. ELDERKIN, OF ROXBURY, MASSACHUSETTS.

## WINDING-INDICATOR FOR WATCHES.

No. 918,132.

Specification of Letters Patent.

Patented April 13, 1909.

Application filed November 19, 1908. Serial No. 463,355.

*To all whom it may concern:*

Be it known that I, LESTER L. D. ELDERKIN, a subject of the King of Great Britain, residing at Roxbury, county of Suffolk, State of Massachusetts, have invented a certain new and useful Improvement in Winding-Indicators for Watches, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to winding indicators for watches.

It has for its object an improved attachment to be used in connection with the main spring of a watch, or similar time piece, for the purpose of indicating when the spring of the watch is unwound, or relaxed, and in a condition to need rewinding.

In the drawings:—Figure 1, is a plan view, indicating the general location of the wheels of a watch, and indicating the general location of this attachment. Fig. 2, is a sectional elevation, showing the barrel, main driving wheel, and winding or ratchet wheel of a watch, and showing the indicator in operative connection therewith. Fig. 3, shows the index in direct connection with the winding shaft.

1 indicates that portion of the main frame of the watch which is next adjacent to the face. 2 indicates that portion of the frame which is most removed from the face. Between these frame pieces 1 and 2 and the barrel 3 is located, and connected with the barrel 3 is the main driving wheel 4. Upon the post 5 is secured the main spring and on the projecting end of the post 5 is secured a ratchet wheel 6, which holds the spring against reverse action after it has been wound. As is well known, the driving wheel 4, and the ratchet wheel 6, always have the same movement in circular rotation, generally a right-hand movement. The key or other winding mechanism applied to the ratchet wheel 6 turns the ratchet wheel and shaft 5, and winds a spring which is included in the barrel 3. The spring is at this time held against rapid movement by the engagement of the driving wheel with the train of wheels which constitute the works of the watch. After the spring has been wound, and while it is held against reverse movement by the ratchet wheel 6, the driving

wheel 4 continues its steady circular movement, driving the train of wheels, and doing the work for which the time piece is designed. I connect with the driving wheel 4 an off-set wheel 7, whose hub 8 is hollow, internally threaded and engages over a traveling screw 9. The hub 8 is mounted in suitable bearings which are held by the main frame. These bearings are secured to the main frame comprising, as one bearing the bracket 10 and as another bearing the bracket 11, secured in any way to the main frame. The screw 9 engages in the shaft 12 of the second wheel 13, which is in engagement with the ratchet wheel 6. The shaft 12 is hollow, and the screw 9 is adapted to have longitudinal movement along the interior of the shaft 12, and is held to turn axially with the shaft 12. This may be accomplished in any well known way, as for example, by slotting the screw 9, and placing a pin 14 through the slot and through the walls of the hollow shaft 12. The end 16 of the screw 9 is provided with an indicator which may be in the form of a small disk, which terminates the end of the screw, and which should preferably have a distinguishing color from the face 17 of the watch.

In the ordinary watch, the ratchet wheel requires about five and one-half revolutions to completely wind the spring, and the drum makes about five and one-half revolutions in unwinding it, and this movement of either of the members will cause the screw to advance along the hollow shaft a distance that will be given to it by five and one-half turns of the thread; inasmuch as the screw is advanced or retracted because of the engagement with it of the hollow screw threaded hub 8. This movement may be made to equal one-eighth of an inch, or thereabouts, and if, when fully projected toward the face, the indicating tablet 16 is flush with the face, when fully retracted, the tablet will be retracted about one-eighth of an inch therefrom; the change of position is amply sufficient to indicate to the user that the watch is run down, or nearly run down.

In Fig. 3, is shown a form of the device which an index is applied directly to the winding shaft. The barrel 31 has a hollow hub 32, which is threaded and forms the nut for a screw 33 that runs into the hollow shaft 34 of the ratchet wheel 35. The shank of the screw 33 is slotted, and a pin 36 engaging through the slot is fixed to the hollow shaft



34. The screw 33 has a movement longitudinal of its axis and is driven out to bring the end 33<sup>a</sup> toward or to the surface of the face 39 of the watch, and the reverse movement  
5 of the screw along its axis is produced by the movement of the drum as it actuates the works of the watch.

In the arrangement shown in Fig. 2, the screw should have its thread cut with a left  
10 hand thread, and in the form shown in Fig. 3 the screw should be cut with a right thread; the indication have the same meaning in both forms, a retracted position of the screw indicating that the watch needs winding.

15 What I claim is:—

1. A winding indicator for watches, having in combination with the master wheel and ratchet wheel of a watch, a pair of wheels, a member longitudinally movable on its axis  
20 driven in such longitudinal movement by the movement of the wheels, substantially as described.

2. A winding indicator for watches, having in combination the master wheel and  
25 ratchet wheel of a watch, a wheel driven by the master wheel, a second wheel driven by the ratchet wheel, a longitudinally movable member having an indicating terminal, and means whereby the last mentioned wheels  
30 actuate the indicator, substantially as described.

3. A winding indicator for watches, hav-

ing in combination a winding and driving mechanism of a watch, and an indicator member having a gear connection therewith, 35 whereby rotative motion is imparted thereto, said motion causing a movement of said indicator longitudinally of its axis, substantially as described.

4. A winding indicator, having in com- 40 bination an internally threaded nut, a complementarily threaded indicator member engaging therethrough and capable of longitudinal movement along its axis, a hollow shaft into which the indicator member ex- 45 tends, means for securing the indicator member to the shaft, whereby it is caused to rotate therewith, and means for imparting rotative motion to the shaft, substantially as described. 50

5. A winding indicator for watches, having in combination an indicating member adapted to reciprocate along its axis of rotation, means whereby the said indicating member is reciprocated alternately longi- 55 tudinally of its axis by rotative movement imparted to it by the winding mechanism and the driving mechanism of said watch.

In testimony whereof, I sign this specification in the presence of two witnesses.

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Witnesses:

CHARLES F. BURTON,  
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