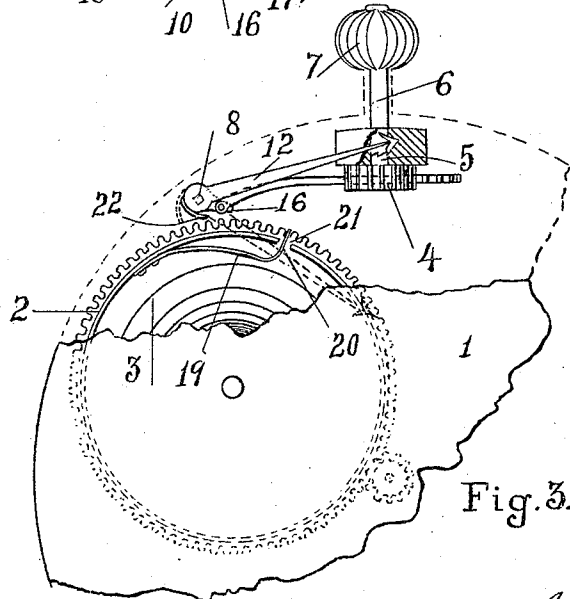
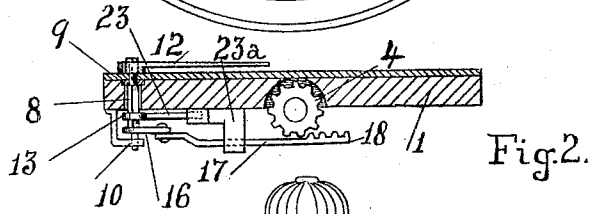
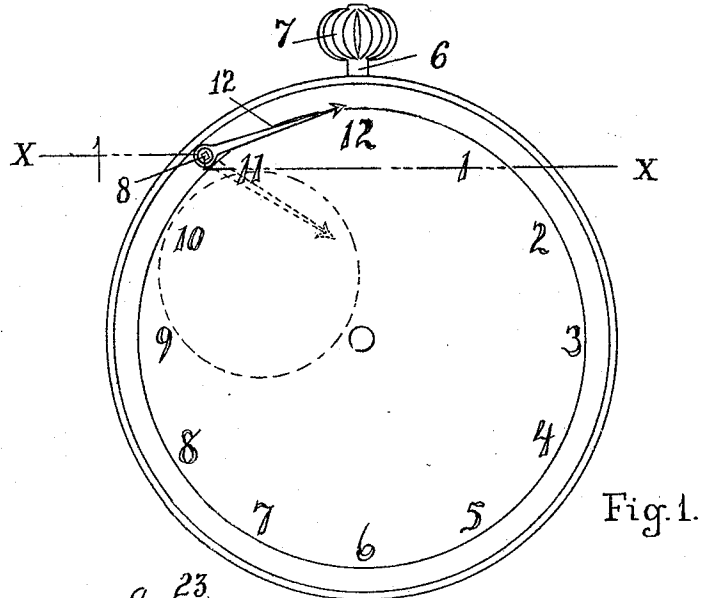


J. C. HAWKINS.
WINDING INDICATOR.
APPLICATION FILED MAY 3, 1909.

941,143.

Patented Nov. 23, 1909.
2 SHEETS—SHEET 1.



Witnesses:

Kathryn Nelson.

H. P. Richards

Inventor:

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By Atty' N. D. Bois.

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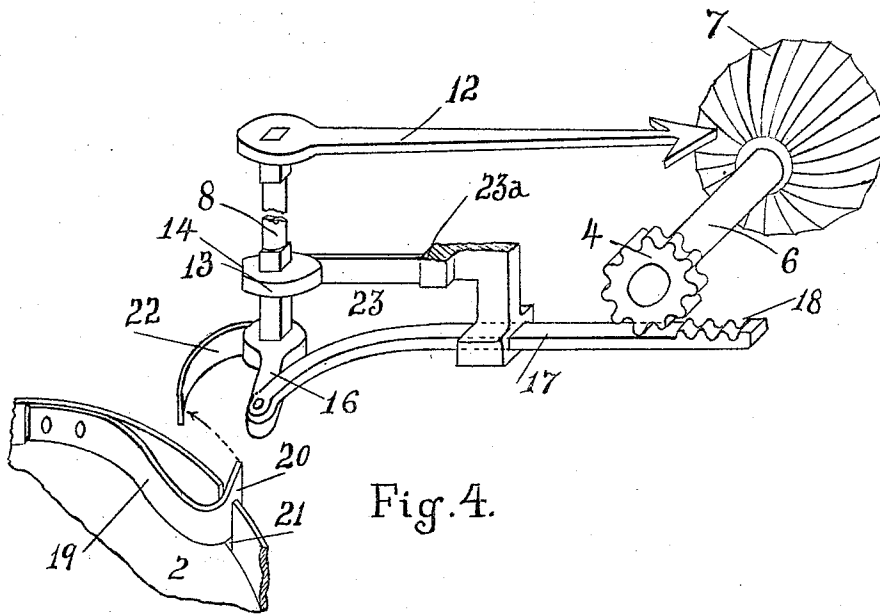


Fig. 4.

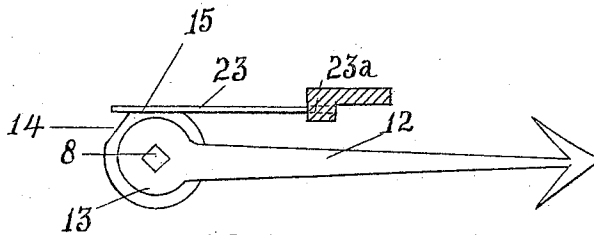


Fig. 5.

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UNITED STATES PATENT OFFICE.

JOHN C. HAWKINS, OF SPRINGFIELD, ILLINOIS.

WINDING-INDICATOR.

941,143.

Specification of Letters Patent.

Patented Nov. 23, 1909.

Application filed May 3, 1909. Serial No. 493,593.

To all whom it may concern:

Be it known that I, JOHN C. HAWKINS, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented a new and useful Winding-Indicator, of which the following is such a full, clear, and exact description as will enable others skilled in the art to which it appertains to make and use my said invention.

The general purpose of this invention is to provide means for indicating the fact that a watch is nearly run down and requires re-winding.

More specific purposes of the invention are to provide a pointer adapted to extend across the face of the dial of a watch to indicate to the user the necessity for winding the watch; to provide means actuated by the main spring of the watch and effective to move the indicator hand or pointer across the face of the watch; and to provide means operative by the winding mechanism of the watch and connected with the pointer so that the act of winding the watch will restore the pointer to its initial position.

With these ends in view my invention consists in the novel features of construction and combinations of parts shown in the annexed drawings, to which reference is hereby made, and hereinafter particularly described and finally recited in the claims.

In the drawings Figure 1 is an enlarged top plan of a watch equipped with the winding-indicator; Fig. 2 is an enlarged vertical section on the zig-zag line X. X. of Fig. 1; Fig. 3 is an enlarged top plan showing the indicator mechanism in place on the pillar plate of a watch, the pillar plate being shown as broken away to expose inclosed parts; Fig. 4 is an enlarged isometric projection of the mechanical elements of the indicator mechanism in operative relation to each other; and Fig. 5 is an enlarged top plan of the pointer, the flat-faced hub on the pointer-shaft and the spring acting on the flat faces of said hub.

Similar reference numerals and characters designate like parts in the several views.

The pillar plate 1, the spring barrel 2, the main spring 3, the winder-pinion 4, the clutch member 5, the winder-shaft 6 and the crown 7 may be of the usual, or any approved construction.

A vertical shaft 8 is mounted to oscillate freely in suitable bearings 9 and 10. A

pointer 12 is fixed on the upper end of the shaft 8. The shaft 8 has near its upper end an enlarged hub 13 having flat faces 14 and 15 at right angles to each other. An arm 16 fixed on the shaft 8 extends radially outward from the shaft.

A rack bar 17 is pivotally connected with the arm 16 and has at its outer end a rack 18 meshing with the teeth of the pinion 4 and so arranged that when the pointer 12 occupies the position shown in Fig. 1, the rack will be disengaged from the pinion and the pinion may be turned to wind the watch without moving the rack bar, and when the pointer is moved to the position indicated by dotted lines in Fig. 1 the turning of the shaft 8 to bring the pointer into said position will move the rack bar to the left (Fig. 2) to cause the teeth of the rack bar to engage with the teeth of the pinion and turn the pinion, and the parts will stop in such position that when the crown 7 is turned to wind the watch in the usual well known manner, the turning of the crown will cause the pinion to rotate and the pinion will operate the rack bar to pull on the arm 16 so as to restore the pointer to its normal position, which is chordal to the circumference of the dial as clearly shown in Fig. 1. When the pointer is turned to indicate that it is time to wind the watch the pointer will occupy a position approximately radial to the dial.

A flexible spring 19 has one end secured in any suitable manner within the barrel 2 and has at its free end a finger 20 projecting through a slot 21 in the circumferential wall of the spring barrel.

A curved springy pin 22 preferably of the form shown in Fig. 4, is fixed on the hub of the arm 16, in the same plane with the finger 20 of the spring 19 and in such relation thereto that upon the turning of the spring barrel the finger 20 will engage with and move the pin 22 so as to partially rotate the shaft 8.

The spring 19 is so located within the barrel 2 that when the main spring 3 un-winds as the watch runs down the main spring will, in unwinding, push against the spring 19 and move it outwardly so as to cause the finger 20 to project through the slot 21 and engage with the pin 22 a little while before the main spring is completely unwound and the watch stops; and as the spring barrel revolves the finger 20 pulling on the pin

22 will partially rotate the shaft 8 to cause the pointer 12 to assume the position indicated by dotted lines in Figs. 1 and 3; so that the user upon looking at his watch will be apprised that it is time to wind the watch.

It is desirable to provide means to prevent accidental displacement of the pointer 12 when it occupies either of the positions shown in Fig. 1. For this purpose I provide a horizontal flat spring 23 having one end fixed on any suitable support 23^a and having its free end in position to engage with the flat faces 14 and 15 of the hub 13, so that when the pointer is in its normal position, the spring 23 bearing on the face 15 will keep it in that position; and when the pointer is in its changed position the spring 23 will bear on the face 14 and keep the pointer in its changed position.

The pin 22 is springy in order that it may yield slightly to permit the finger 20 to pass the pin in case the spring barrel 1 continues to revolve after the setting of the pointer to cause the finger 20 to engage a second time with the pin 22 and permit the finger 20 to pass the pin 22 without injury to or displacement of the other parts.

Having fully described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a winding indicator, the combination of a revoluble spring barrel, a main spring within said spring barrel un-winding to rotate the spring barrel, a spring mounted within the spring barrel and having a finger adapted to project outwardly through the wall of the spring barrel and acted upon by the un-winding main spring, an oscillative shaft provided with a pin adapted to be engaged by the finger of said last named spring and a pointer fixed on said shaft.

2. In a winding-indicator, the combination of a revoluble spring barrel, a main spring un-winding to rotate said spring barrel, a finger spring within the spring barrel compressible by contact with the un-winding main spring to project the finger of said finger-spring, and a pointer connected to be operated by the projecting finger of said finger spring.

3. In a winding-indicator, the combina-

tion of an oscillative shaft, a pointer connected with said shaft, a rack bar connected to oscillate said shaft, a pin fixed on said shaft, and a revoluble spring barrel equipped with a projectile finger adapted to engage said pin on said shaft to partially rotate the shaft; said pinion and rack bar being so arranged that longitudinal movement of the rack bar in one direction will rotate said pinion and contrariwise the rotation of said pinion will move said rack bar in the opposite direction.

4. In a winding-indicator, the combination of a revoluble spring barrel equipped with a projectile finger, a shaft adapted to be partially rotated by said projectile finger, a pointer connected with said shaft and means determining the extent of rotation of said shaft.

5. In a winding-indicator, the combination of an oscillative shaft, a pointer connected with said shaft, a revoluble spring barrel, a finger on said spring barrel acting to turn said shaft in one direction, and stem winding mechanism connected to turn said shaft in the opposite direction.

6. In a winding-indicator, the combination of an oscillative shaft, a pointer connected with said shaft, a revoluble spring barrel, a finger on said spring barrel acting to turn said shaft in one direction, stem winding mechanism connected to turn said shaft in the opposite direction and a spring acting to limit the rotation of said shaft in either direction.

7. In a winding-indicator, the combination of an oscillative shaft, a yielding pin connected with said shaft, a pointer connected with said shaft, a revoluble spring barrel, and a projectile finger on said spring barrel adapted to engage with said yielding pin to cause it to yield sufficiently for said finger to pass said pin.

In witness whereof, I have hereunto signed my name at Springfield, Illinois, this 29th day of March, 1909.

JOHN C. HAWKINS.

Witnesses:

KATHRYN NELSON,
EARL C. WILLEY.