

(No Model.)

J. RAUSCHENBACH.
STEM WINDING WATCH.

No. 420,919.

Patented Feb. 4, 1890.

Fig. 2.

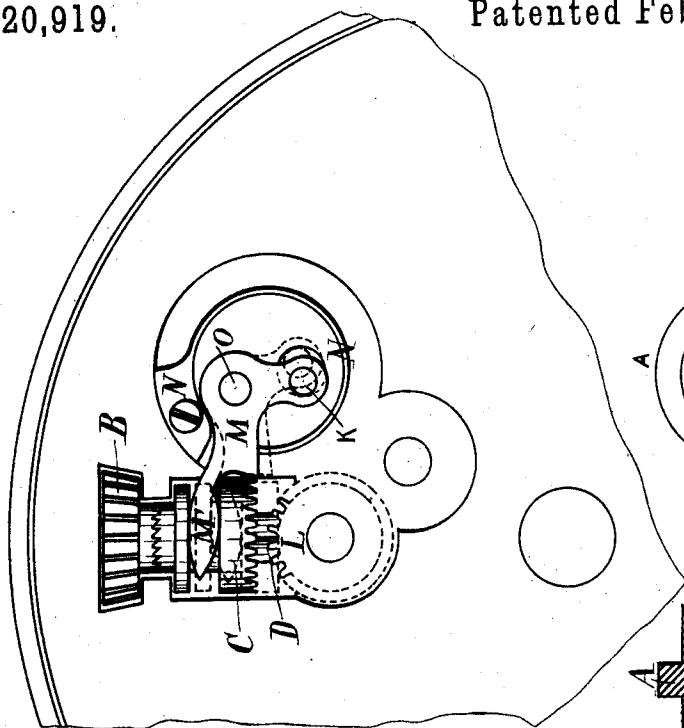


Fig. 1.

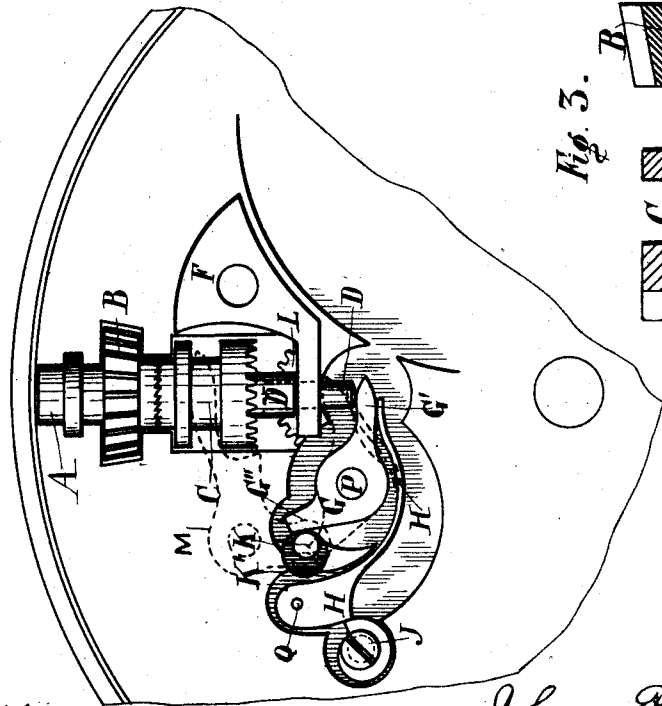


Fig. 3.

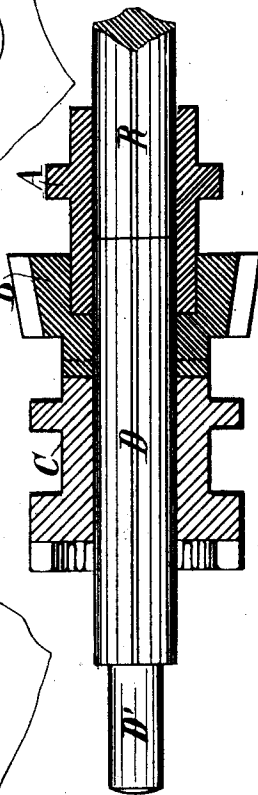
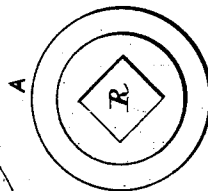


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE

JOHANN RAUSCHENBACH, OF SCHAFFHAUSEN, SWITZERLAND, ASSIGNOR
TO THE INTERNATIONAL WATCH COMPANY OF J. RAUSCHENBACH, OF
SAME PLACE.

STEM-WINDING WATCH.

SPECIFICATION forming part of Letters Patent No. 420,919, dated February 4, 1890.

Application filed August 22, 1889. Serial No. 321,655. (No model.)

To all whom it may concern:

Be it known that I, JOHANN RAUSCHENBACH, manufacturer, of Schaffhausen, in Switzerland, have invented an Improved Hand-Setting Device for Watches, of which the following is a specification.

The invention consists of a hand-setting device for watches, allowing the withdrawing of the work out of its case without withdrawing the stem and crown out of the pendant, said device being specially combined for watches having the pendant provided with a setting device intended to allow the stem to be moved axially and affixed in two different positions, one of which causes the winding of the watch by turning the crown, the other one of which sets the hands in turning up the crown.

In the drawings, Figure 1 is an elevation of the device ready for winding up the watch. Fig. 2 is a back view of the same. Fig. 3 shows the combined stem and sliding pinion in larger size, and Fig. 4 is an end view of the same.

A is a hollow axis, in the squared hole of which is received one end of the square axis D, having its pivot D' in a bridge F and on the other side the square stem R, which belongs to the winding-crown. The axis A carries the wheel B and is between the plate and the spring-barrel bridge.

C is a sliding pinion which slides on the axis D, and the purpose of which is to transmit the rotation of the axis D and stem R to the hand-setting wheel L when thrown into gear with it by means of the oscillating lever M.

The lever G is upon a pivot P. One of its arms G' is acted upon by a spring H and presses upon the end of the pivot D'. The other arm G'' of the lever G bears against a stud or pin K, which is affixed to one arm of the lever M and passes through a suitable opening of the plate.

J is a snail-cam, the purpose of which is to adjust at will the power of the spring H in putting the hand-setting mechanism out of action.

Fig. 2 shows the position of the lever M pivoted at O, and which carries at its shorter

arm the stud or pin K, that bears against the arm G'' of the lever G. The other arm M' of the lever M is within the groove of the sliding pinion C.

N is a spring acting upon the oscillating lever M, so as to cause the inclined teeth of the pinion C to engage the inclined teeth of the wheel B.

The mechanism works as follows: When the parts are secured in the case and the crown and stem at rest—that is to say, pressed down—the hand-setting mechanism takes the position shown by full lines in the drawings, the pivot D' pressing the lever-arm G' downward, and the arm G'' does not act upon the pin K, and consequently the lever M, acted upon by the spring N', causes the inclined teeth of the pinion C to gear with the inclined teeth of the wheel B and the parts are in position for winding the watch. If one draws now the crown and stem R outward into their raised position, which position is determined by means of a well-known mechanism, (not shown herein,) the pressure of the stem R upon the stem D is relaxed, and the spring H throws the lever G into the position shown by dotted lines in Fig. 1, whereby the arm G'' moves the pin K into the position K', causing the lever M to oscillate into the position shown by dotted lines in Fig. 2, and sliding the pinion C and disengaging it from the wheel B and putting it into gear with the hand-setting wheel L.

To replace the whole mechanism into its first position—that is to say, into the winding-up position—the stem R must be pressed inward so as to move the lever-arm G', the axis D, and pivot D' until the stud K escapes from the top of the arm G'', allowing the spring N to throw the lever M and connect the pinion C with the wheel B.

When the works are taken out of the case, the stem R remaining, as indicated above, in the pendant, the axis D will be moved endwise by the lever G, and the lever M will throw the pinion C into gear with the wheel L, stopping thereby the watch-movement. To avoid this the spring H may be released by turning the snail-cam J.

The bending and relaxing of the spring H

may be produced by any suitable means, and the described mechanism may be used if the stem R is made of one piece with the axis D. I claim as my invention—

5 1. The combination, with the winding and hand-setting wheels, of the square stem and axis having a pivot at the end and capable of receiving an end movement from the crown, the lever G, acted upon by the pivot end of
10 the axis, the lever M and stud K projecting therefrom, the sliding pinion C on the axis for connecting the winding or hand-setting mechanism, and the springs for acting on the levers G M, substantially as set forth.

15 2. The combination, with the winding and hand-setting wheels, of the square stem R, and axis D, made in two parts and acted upon

by the crown, the pinion C, sliding on the axis and connecting with either the winding or setting wheels, the lever M, and its spring 20 for moving the pinion C, and having the stud K passing through an opening in the watch-plate, the lever G, acted upon by the pivot of the axis and moving the stud K, lever M, and pinion C, a spring for moving the lever C, and 25 mechanism for adjusting the force of the spring, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHANN RAUSCHENBACH. [L. S.]

Witnesses:

H. ZABHART,

H. C. CHOMANN.