C. E. Jacot.

Winding Watch.

No. 71389 Patented Nov. 26, 1867.

Fig. 1.

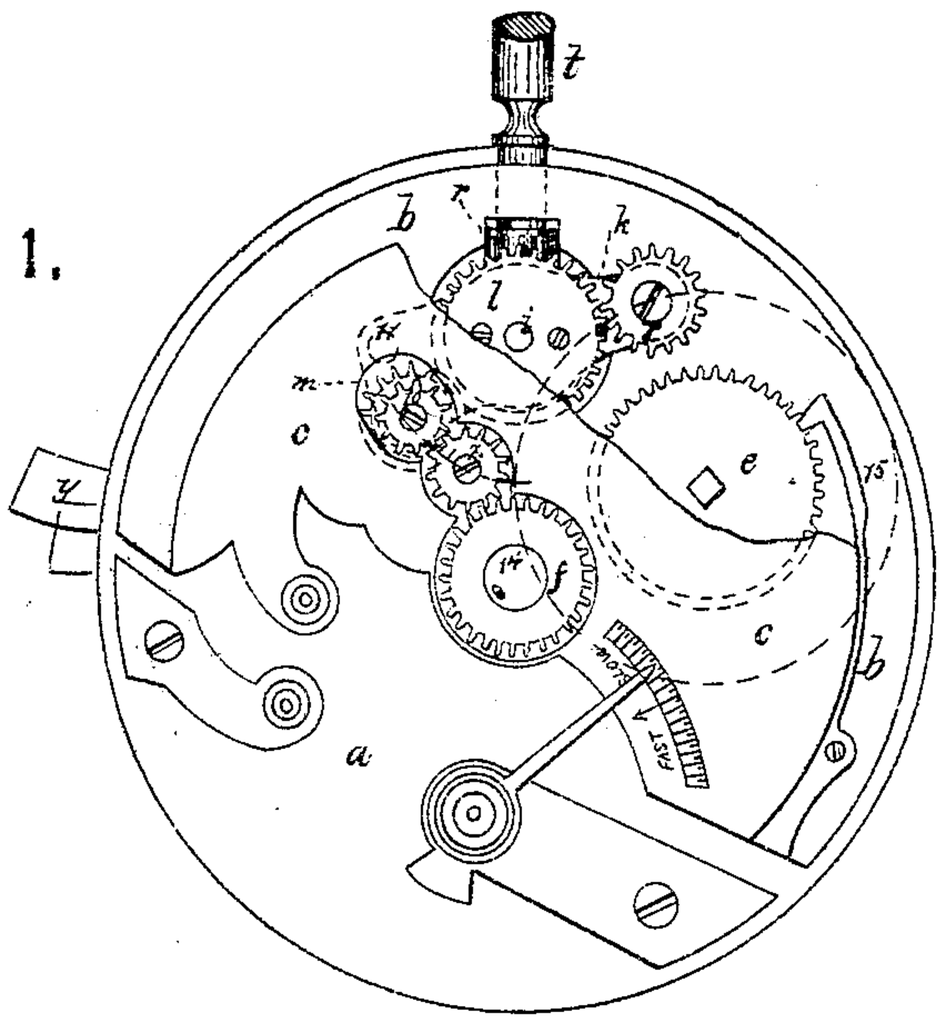


Fig. 3.

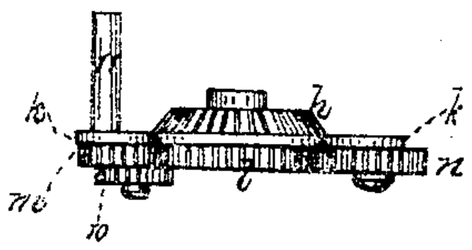
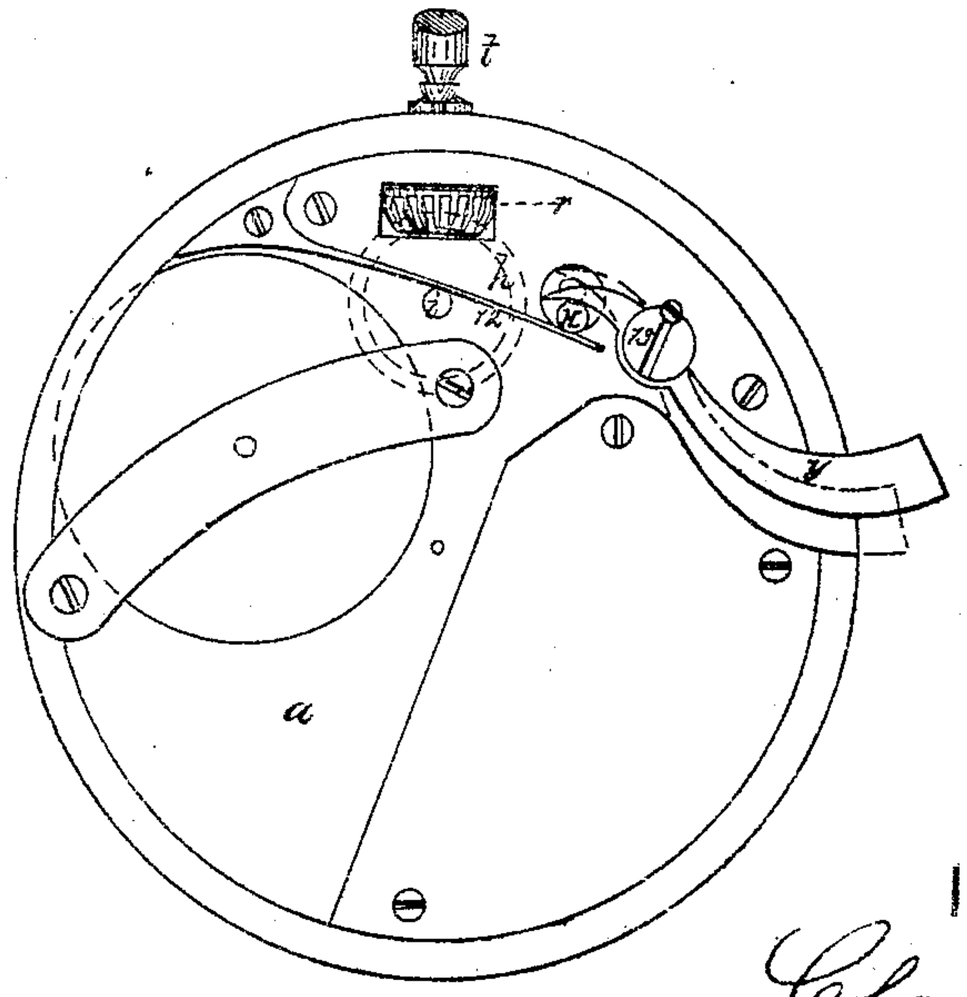


Fig. 2.



Witnesses.

Geo. L. Walker

Chas. H. Smith

Inventor.

Charles E. Jacot

per L. W. Serrell

Atty

United States Patent Office.

CHARLES E. JACOT, OF CHAUX-DE-FONDS, SWITZERLAND.

Letters Patent No. 71,389, *dated November* 26, 1867.

IMPROVEMENT IN WINDING WATCHES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, CHARLES E. JACOT, a citizen of the United States, now in Chaux-de-Fonds, Switzerland, have invented, made, and applied to use, a certain new and useful Improvement in Means for Winding and Setting Watches; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1 is a view of the watch-plates and winding and setting-apparatus.

Figure 2 is a view of the front plate of the watch with the face removed; and

Figure 3 is a detached view sidewise of the gear-carrier plate and gears thereon.

Similar marks of reference denote the same parts.

In Letters Patent granted September 27, 1864, for my improvement in winding and setting watches, the wheels that communicate from the stem to the spring-barrel, and to the hands, are set upon a carrier-plate that is rocked to bring the setting-wheels into gear, a pushing-pin from the outside of the case being employed to effect this rocking movement. I find, however, that in use, this pushing-pin sometimes is accidentally moved, and the hands are misplaced, and besides this, the wheels *m*, in said patent, swinging in the arc of a circle, come in contact with the wheel *x*, with a rolling motion as the teeth enter each other; hence the hands sometimes are moved, simply by the act of bringing the wheels suddenly into contact.

This present invention is an improvement upon the aforesaid patent, and consists in a lever applied to the winding and setting-mechanism, so as to swing the gear-carrier plate *k*. The end of said lever being within the case when shut, is protected from accidental motion. And I locate the wheel that communicates with the hand-wheels, so that it moves nearly in the arc of a circle described from the centre of the swinging plate to the first stationary wheel connecting with the hands, so that the hands themselves will not be moved simply by the act of connecting the setting-mechanism. I apply a spring-click to the wheel of the spring-barrel, said spring-click or pawl being made of one piece of metal, and the spring bent to the shape of the edge of the upper plate of the works, so that the tension upon said spring shall not draw it into a more nearly straight line; thereby the curved spring-pawl locks as securely as the straight spring-pawls or clicks heretofore employed.

In the drawing, *a* is the main plate of the watch; *b* is the secondary plate or rim, and *c* is the arbor or upper plate of the watch; *e* is the spring-barrel wheel; *f* is the wheel to the arbor of the minute-hand; *t* is the stem winder; *h* is a bevel-pinion on the stud *i*, taking the bevel-pinion *r* on the stem *t*; *k* is the rocking plate forming the gear-carrier, above which is the wheel *l*, connected to the bevel-pinion *h*, with the wheel *n* to the wheel *e* of the spring-barrel, all substantially the same as in the aforesaid Letters Patent. Part of the arbor-plate is shown as removed in fig. 1, to show the wheels below it. The wheel *m* connects with the wheel *l*, as in aforesaid patent, but it has a pinion, 10, above it, with fine teeth gearing into the teeth of the wheel *x*, and this in turn gears to the wheel *f*. By introducing this pinion 10, I am enabled to make the train of setting-wheels with finer teeth than before, and hence can set the hands with greater accuracy, and the risk of moving the hands by the simple act of connecting or disconnecting the wheels is avoided. Besides this, I place the pinion *x* in such a position to the pinion 10, that said pinion 10 will draw away without any rolling movement, the centre of the wheels 10 and *x* being about equidistant from the centre of the stud *i*, as illustrated by the red lines. The gear-carrier plate *k* has a stud, 11, passing through the plate *a*, and 12 is a spring that tends to swing the plate *k*, so as to keep the gears *n e* together, and *y* is a lever on a fulcrum, 13, the shortest end of which lever is against the stud 11, and the longer end is outside the edge of the plate *a*, but within the case of the watch, and stands near the edge of the glass bezel, so as to be easily moved by the nail to swing the plate *k* so as to connect the setting-wheels 10 and *x*, so that the hands can be set by the stem *t*. The wheel *f* has a pin projecting from its surface, entering a larger hole or elongated slot in a disk or flange, 14, of the arbor of the minute-hand. This allows the wheels *f* and *x* to be partially free from the minute-hand arbor, rendering it less likely that the hands will be in any manner influenced by the simple act of moving the wheel 10 into contact with the wheel *x*. The pawl 15 is made of one piece of metal, attached at one end to the plate *b*, and formed at the other end as a hook to take the teeth of the wheel *e*, the middle portion being a curved spring lying against the edge of the plate *c*; so that the strain of the spring-barrel shall not injure the curved spring by acting to draw it into a staight line, because it is supported by the edge of the plate *c*. By this construction a long curved spring-

pawl can be introduced with the spring and click in one piece, whereas heretofore the click has been separate when a curved spring has been employed.

What I claim, and desire to secure by Letters Patent, is—

1. The wheel 10, connected with the wheel *m*, and fitted so as to be moved into gear with the wheel *x*, in the manner and for the purposes set forth.

2. The pin on the wheel *f*, taking loosely into an opening in the flange or disk of the arbor of the minute-hand, for the purposes and as set forth.

3. The lever *y*, and spring 12, applied as set forth, in combination with the stud 11, and swinging-gear carrier-plate *k*, substantially as and for the purposes set forth.

4. The pawl 15, made in one piece of metal with its curved spring, in combination with the plate *c*, against the edge of which said curved spring lies, as and for the purposes set forth.

In witness whereof I have hereunto set my signature, this thirteenth day of May, A. D. 1867.

CHAS. E. JACOT.

Witnesses:

D. FER,

EMILE WARMBRODT.