F. R. THEURER.

Watch Stem Winder and Setter.

No. 107,736. Patented Sept. 27, 1870.

Fig: 1.

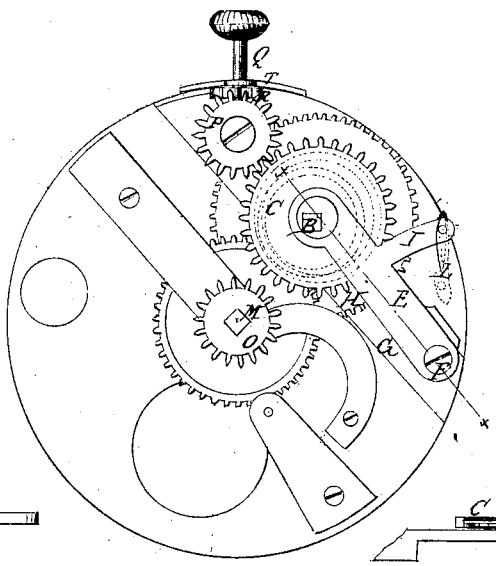


Fig: 4.

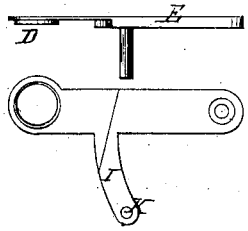


Fig: 3.

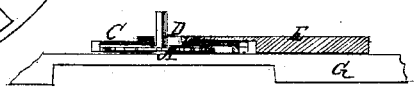
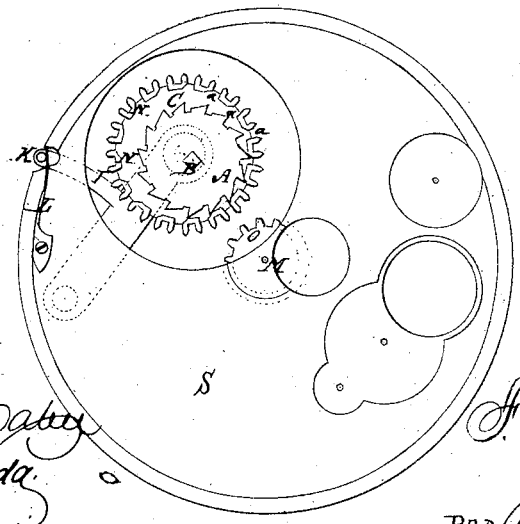


Fig: 2.



Witnesses:

G. J. Mabey

Chas. Neda.

Inventor:

F. R. Theurer

Per Munn & Co

Attorneys.

United States Patent Office.

FRITZ ROBERT THEURER, OF CHAUX DE FOND, SWITZERLAND.

Letters Patent No. 107,736, dated September 27, 1870.

IMPROVEMENT IN STEM-WINDING AND SETTING ATTACHMENTS TO 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, FRITZ ROBERT THEURER, of Chaux de Fond, in Switzerland, have invented a new and useful Improvement in Stem-winding Attachments for Watches; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to improvements in attachments to watches, for winding and setting them by turning the stem, and consists in an improved arrangement of means, as will be hereinafter described, having for its object, mainly, to provide an arrangement which may be applied to watches already made, as well as to those being made.

Figure 1 is a plan of one of the plates, and part of the running-gear of a watch, with my improved attachment applied to it;

Figure 2 is a plan of fig. 1 reversed;

Figure 3 is a section of fig. 1, on the line *x x*; and

Figure 4 is an edge view and plan of the vibrating and shifting-bar, and used for supporting and shifting the gear-wheel, used for turning either the chain-drum or the center-post.

Similar letters of reference indicate corresponding parts.

A is the ratchet-wheel, placed on the post B of the chain-drum or barrel, so as to be capable of turning it; and

C is a larger wheel or disk, mounted above wheel A, and supported by the short tubular stud D of a bar, E, which is pivoted at F to the plate G, which bridges over the large train-wheel H, and supports the upper end of the stud B.

This bar has a large hole through it, coinciding with the hole of the stud D, both of which are near the end opposite the one by which it is pivoted at F, through which hole the post B rises, and the said bar is provided with an arm, I, projecting from one side to the outer edge of the movement-supporting plates, or it may project through the case.

At or near the outer end of this arm is a stud, K, perpendicular to it, against which the free end of a spring, L, attached to the frame, bears, the said spring pressing the bar E toward the edge of the case, and away from the center-post M.

The wheel C has a flange, N, projecting from the lower face, and spur cog-teeth on the periphery.

This flange is notched or toothed, as shown at *a*, so that if the wheel C be shifted to one side of the center-stud B, on which the ratchet-wheel A is mounted, the teeth of the latter will engage in the said notches *a*.

O is a small gear-wheel, placed on the center-stud M, to gear with wheel C, when shifted into the proper position.

P is a small wheel mounted on a stud-pin in the bar G, and arranged to communicate motion from the stem Q, and wheel R thereon, to the wheel C.

The plate S is notched in the edge, to provide space for the wheel R, and a curved plate, T, or support for the stem, is attached to the edge behind the wheel, as shown.

In practice, the case of the watch may serve for this support, or the said support may be used, as preferred.

The inner end of the stem may be supported inside of the wheel R, in any suitable way.

It will be seen that the wheel C will always be turned by the turning of the stem, and when the wheel C is subject to the action of the spring L, it will be forced outward, so that the notched flange N will engage the teeth of the ratchet-wheel A, which will be turned by it, and will turn the chain-drum to wind it; but if the bar E be pressed inward by the thumb placed on the end of arm I or stud K, the wheel A will not be engaged, and, if pressed in far enough, the wheel C will engage with wheel O, and then the hands will be turned for setting.

It will further be seen that all these parts may be readily attached to a watch already made, without requiring any material or difficult changes to be made.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

The combination, with the post B, of the chain-drum, the gear-wheel on the center-post, and the revolving stem of the wheels A, C, and P, the bar E, and spring L, when arranged for operation, substantially in the manner described.

The above specification of my invention signed by me this 16th day of June, 1870.

FRITZ ROBERT THEURER.

Witnesses:

CHARLES ECKMANN,

JOSEF SCHEIDAGGER.