

(No Model.)

A. TROLLER.

STEM SETTING MECHANISM FOR WATCHES.

No. 347,450.

Patented Aug. 17, 1886.

Fig. 1.

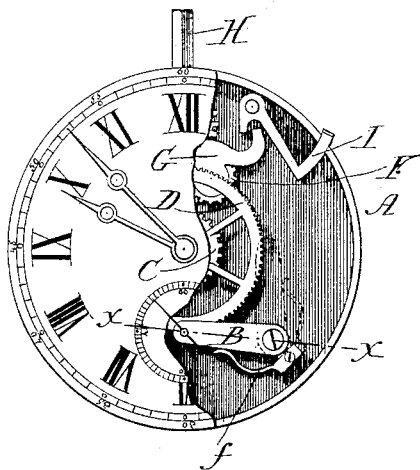


Fig. 2.

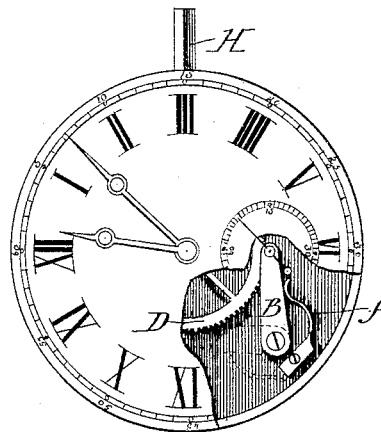


Fig. 3.

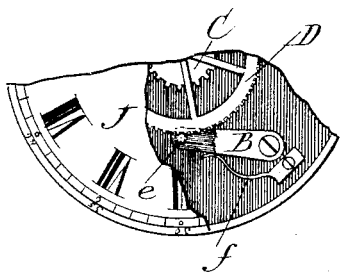
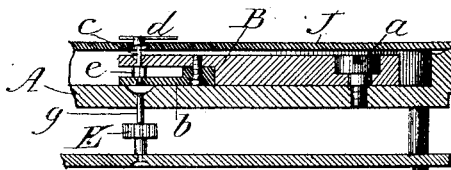


Fig. 4.



Witnesses:
Albert H. Adams.
Harry J. Jones.

Inventor:
Albert Troller
By West & Bond
Atty.

UNITED STATES PATENT OFFICE.

ALBERT TROLLER, OF ROCKFORD, ILLINOIS, ASSIGNOR TO THE ROCKFORD
WATCH COMPANY, OF SAME PLACE.

STEM-SETTING MECHANISM FOR WATCHES.

SPECIFICATION forming part of Letters Patent No. 347,450, dated August 17, 1886.

Application filed May 17, 1886. Serial No. 202,366. (No model.)

To all whom it may concern:

Be it known that I, ALBERT TROLLER, residing at Rockford, in the county of Winnebago and State of Illinois, and a citizen of the United States, have invented a new and useful Improvement in Watches, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a plan or front view, a portion of the dial being removed. Fig. 2 is also a plan or front view, a portion of the dial being cut away, some of the parts being shown in a different position from that shown in Fig. 1. Fig. 3 is a detail showing the wheel D engaged with the pinion *c*. Fig. 4 is an enlarged detail, being a section at line *x x* of Fig. 1.

As watches have heretofore been constructed the setting of the hands does not affect the second-hand, and hence when changes of the hands are made the second-hand does not correspond with the minute-hand, except when the minute-hand is set to some given minute.

The objects of my improvement are to provide devices by the use of which, when the hands are set, either in a stem-winding or a key-winding watch, the second-hand will be set to correspond with the minute-hand whether the minute-hand be set to any given minute or any fraction thereof; also, to adapt my said improvement to be used either in an open-faced case with the pendant in line with figure 12 or in a hunting-case with the pendant in line with the figure 3, which I accomplish as illustrated in the drawings and hereinafter described.

In the drawings, A represents the bottom plate, a portion of which is exposed by the cutting away of a part of the dial J.

B is an arm pivoted upon the shoulder screw or pivot *a*. As shown, this arm B is made in two parts, and the smaller part, *d*, is secured to the main portion by means of a screw. The free end of this arm is open or slotted to receive a pinion on the staff which carries the second-hand and permits the engagement of the wheel D therewith.

c is a staff which carries the second-hand *d*. This staff is pivoted in the free end of the arm B, and upon it is a pinion, *e*, which is located in the recess or opening in the end of the arm B.

C is the minute-pinion.

D is a center-wheel provided with fine teeth on its periphery and secured to the minute-pinion C, which pinion is held on the center-staff or arbor by friction, as usual. This center-wheel D engages with the pinion *e* on the staff which carries the second-hand. *f* is a spring arranged to bear against the arm B and hold it in engagement with the wheel D. It is important that the arm B be pivoted and that the spring *f* be used to hold the pinion *e* in engagement with the wheel D, because the teeth of this wheel are very fine, and if the arm were rigid and the spring not used there might be in some cases some inequality which would interfere with the operation.

E is the pinion ordinarily used upon the staff which carries the second-hand; but this pinion E is carried by a short staff, *g*, which has no connection with the staff which in my watch carries the second-hand. This staff which carries the second-hand has a pinion, *e*, but carries no wheel, and this hand receives its motion from the center-wheel D, the teeth upon the wheel D and pinion *e* being arranged to divide the minutes into seconds.

F is an intermediate wheel, such as is commonly used in stem-winding and stem-setting watches. It is pivoted to the yoke G in the usual manner.

H is the stem.

I is a lever, such as is commonly used to connect the intermediate wheel, F, with the minute-wheel D, and to disconnect the same therefrom.

In Fig. 1 the arm B and spring *d*, which holds the arm B in engagement with the wheel E, and the second-hand are in a position suitable for an open-faced case, the pendant being in line with figures 1 2.

In Fig. 2 the arm B, the spring *d*, and the second-hand are in a position suitable for a hunting-case, the dial having been moved one-quarter of the distance around, bringing Fig. 3 in line with the pendant, and the second-hand being at right angles with Fig. 3. It is common to make provision for this change of the position of the dial. By pivoting the arm B so that its position can be changed from that shown in Fig. 1 to that shown in Fig. 2, and by changing the position of the spring *d* from that shown in Fig. 1 to that shown in Fig. 2, it is

very easy to use this improvement either in a watch having a hunting-case or one having an open-face, because the staff which carries the second-hand is supported in the free end of the arm B and moves with it, and the pinion which carries the second-hand engages with the center-wheel D whether the arm be in the position shown in Fig. 1 or in that shown in Fig. 2.

10 By means of the described devices when the hands are set either by the pendant of a stem-winding and stem-setting watch or by means of a key applied to the center-square on the staff which carries the minute-wheel, the second-hand will be always set to correspond with the minute-hand whether the same be set to
15 any given minute or to any fraction thereof.

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

20 1. In a watch-movement, a center-wheel, D,

secured to the minute-pinion, in combination with a bar, B, a staff carrying the second-hand and pinion *e* and pivoted in the bar B, whereby when the minute-hands and hour-hands are set in the usual manner the second-hand
25 will be correspondingly set, substantially as set forth.

2. In a watch-movement, a center wheel, D, secured to the minute-pinion, in combination with a bar, B, pivoted at one end, a spring, *d*,
30 and a staff pivoted in the bar B and carrying the second-hand and the pinion *e*, whereby the bar B and second-hand can be changed from the position for open-face movements to that of hunting-case movements, substantially as
35 and for the purposes specified.

ALBERT TROLLER.

Witnesses:

WILLIAM LATHROP,
E. P. LATHROP.