

C. L. KIDDER & F. A. JONES.
STEM WINDING AND HAND SETTING WATCH.

No. 104,856.

Patented June 28, 1870.

Fig. 1.

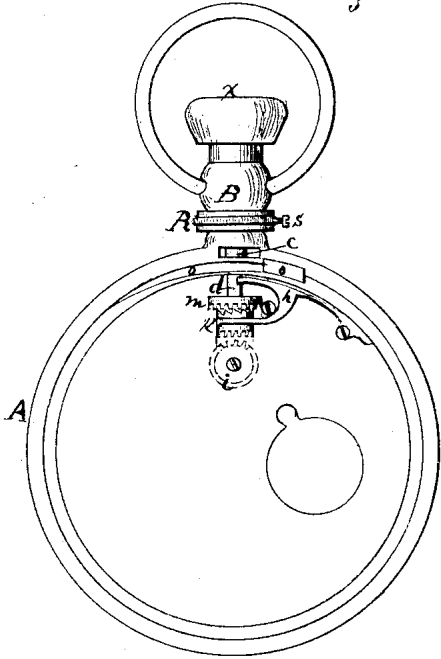


Fig. 2.

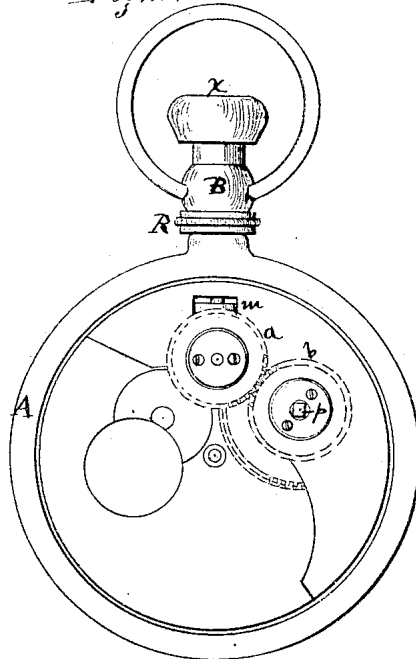


Fig. 3.

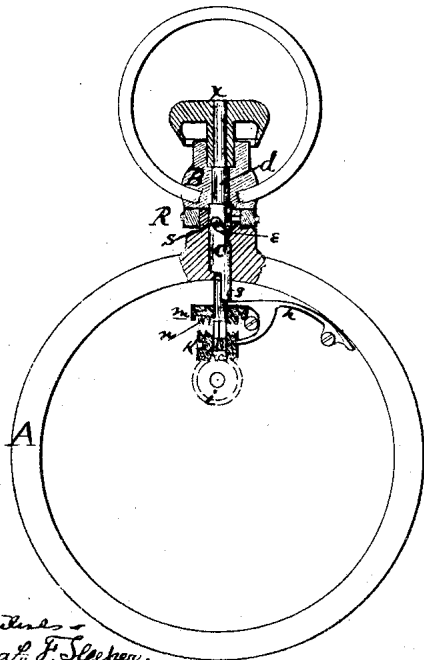
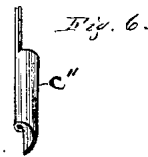
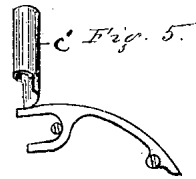
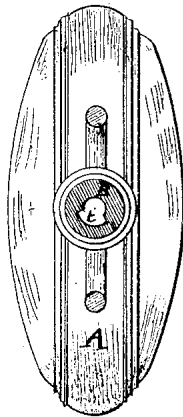


Fig. 4.



Witnesses
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United States Patent Office.

CHARLES L. KIDDER AND FLORENTINE A. JONES, OF BOSTON, MASSACHUSETTS; SAID KIDDER ASSIGNS HIS RIGHT TO SAID JONES.

Letters Patent No. 104,856, dated June 28, 1870; antedated June 16, 1870.

IMPROVEMENT IN STEM-WINDING AND HAND-SETTING WATCH.

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

To all whom it may concern:

Be it known that we, CHARLES L. KIDDER and FLORENTINE A. JONES, both of Boston, county of Suffolk and State of Massachusetts, but at present residing at Schaffhausen, in Switzerland, have invented certain Improvements in Operating the Hand-setting Mechanism of Watches; and do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, in which—

Figure 1 is a face plan view of our invention.

Figure 2 is a back plan view.

Figure 3 is a sectional view, showing mechanism of our invention.

Figure 4 shows inside construction of pendant.

Figures 5 and 6 show modifications of cam-cylinders or connecting-rods.

The object of our invention is to produce more convenient, and at the same time ornamental means of connecting and disconnecting the hand-setting mechanism of a watch with the system of gear-wheels connecting with the cannon-pinion and hands, than in ordinary use, while we do not impair the strength and durability of the different parts.

The nature of our invention consists in the employment of a ring or annulus fitted to the pendant of a watch-case, in such a manner as to move freely. This ring has a screw passing its rim, and through a slot in the pendant, and the point of this screw travels in a cam-groove of a cylinder or connecting-rod within the pendant, so that, by a movement of the ring the cam-cylinder is raised or lowered, thus connecting or disconnecting the hand-setting mechanism of the watch with the cannon-pinion, while the mechanism is actuated or the watch wound by the spindle through the pendant.

We also employ a cylinder, to which the ring is fixed by pins, so that, when the ring is turned upon the pendant, the cylinder within is turned, and by its cam end acting upon a lever-spring, engages or disengages the proper wheels for setting the hands or winding the watch.

In the drawing—

A is a watch-case.

B is the pendant.

Passing through the pendant is spindle *d*, whose office it is to serve as the shaft for operating the mechanism for winding the watch and for setting the hands, and also for depressing the case-spring *o*.

X is a knob upon the outer end of spindle *d*.

R is a ring upon pendant B, and turns upon it.

In one side of ring R is screw S. This screw passes through ring R and through a slot cut in pendant B horizontally, occupying one-third more or less of the

circumference, according to the angle of the cam of the cylinder *c* or amount of throw required to connect the hand-setting mechanism with the cannon-pinion.

c is a cylinder upon spindle *d*. This cylinder is provided with cam-slot *e* and projection *g*. Modifications of cylinder are shown in figs. 5 and 6.

Upon the lower end of spindle *d*, and turning with it, are clutch and pinion K, in one piece. This is movable up and down on the spindle *d*, but upon the square part of it, so that K always turns with *d*.

Above K, loose upon the spindle *d*, are toothed wheel *m* and a clutch, *n*.

h is a forked spring, the inner fork bearing upon clutch and pinion K, and the outer fork bearing against projection *g* of sleeve *c*.

i is a gear-wheel which connects with the hand-wheels, and *a b* the system of wheels connected with the winding of the watch.

t is a recess within the case-spring *o*, for admitting the projection *g* of cylinder *c*, and prevents the turning of the cylinder.

Upon the spindle *d*, where it passes through the case-spring *o*, is a shoulder, which depresses case-spring when the knob *x* is pressed. This is done without interfering in the least with the operation of the parts constituting our particular invention.

The operation of our invention is as follows:

First, to wind the watch, see that the ring R is turned so that screw S is nearly at one side of the pendant, as seen in fig. 1, and, as the point of screw S travels in cam *e* in cylinder *c*, through a slot in the pendant, when the screw is in position shown in fig. 1, the cylinder is raised, and the projection *g* being removed from the outer fork of spring *h*, the force of spring *h* brings the clutch of pinion K into connection with clutch *n* of the toothed wheel *m*. Thus, by turning spindle *d* to the right, the toothed wheel *m* is actuated by pinion K, and the wheel *m* actuates the system of wheels *a b*, being in connection with them. This turns the post *p*, and winds the watch. No harm is done if the spindle *d* is turned to the left, as the pinion K, being movable upon spindle *d*, the clutch would readily pass, being held up by spring *h*.

Second, to set the hands, turn the ring R so that the screw S will be to the front, as shown in fig. 3, by the point of screw traveling in cam *e*. This movement would bring the cylinder *c* down, and the projection *g*, pressing upon the outer fork of spring *h*, the inner fork receives same motion, and carries pinion K down upon spindle *d*, engaging the toothed or lower side of pinion K with the geared wheel *i*. At the same time the clutch of pinion K is disengaged from clutch of toothed wheel *m*. Now, by turning the spindle *d* by means of knob *x*, the pinion K is

made to actuate wheel *i*, which connects with the hand-wheels, thus securing the required movement of the hands.

It will be seen from the above that the cylinder *c* does not turn; but it may be so constructed, as shown in fig. 6, and fastened by pins to the ring *R*, as to turn, and, by its cam end acting upon the spring *h*, accomplish the object desired, or the form shown in fig. 6 can be employed, and avoid the slot *e* in cylinder *c*. In this case the action would be the same as that of cylinder *c*, already described.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination of ring *R*, having screw or pin *S*, pendant *B*, and cylinder *c*, or equivalent cylinder, substantially as shown.

2. The ring *R*, provided with the pin *S*, and combined with the slotted cylinder *c*, spindle *d*, spring *h*, and toothed wheels *m k a b*, in the manner described, and for the purpose of winding watches.

3. The ring *R*, provided with the pin *S*, and combined with the slotted cylinder *c*, spindle *d*, spring *h*, and toothed wheels *m k i*, in the manner described, and for the purpose of setting watch-hands.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

CHAS. L. KIDDER.
FLORENTINE A. JONES.

Witnesses:

J. BAUR,
F. FOERSTER.