

(No Model.)

E. A. MARSH.
STEM SETTING DEVICE.

No. 324,570.

Patented Aug. 18, 1885.

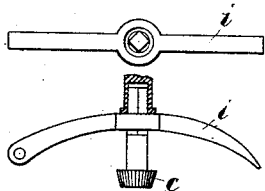


Fig. 2.

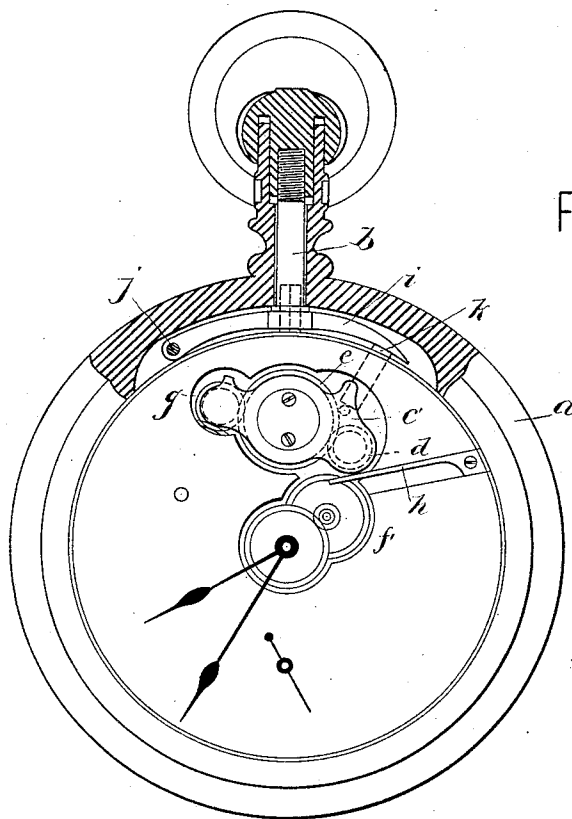


Fig. 1.

WITNESSES
A. C. Rawlins
W. Stearns

INVENTOR
E. A. Marsh
by Migh & Brown
Atty.

UNITED STATES PATENT OFFICE.

EDWARD A. MARSH, OF NEWTON, MASSACHUSETTS.

STEM-SETTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 324,570, dated August 13, 1885.

Application filed May 6, 1885. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. MARSH, of Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Watch-Cases, of which the following is a specification.

In the form of pocket time-pieces known as "keyless" or stem-winding watches, in which the winding is performed by means of an arbor or stem passing through the axis of the case-pendant, in connection with suitable mechanism which constitutes a part of the watch-movement, it is necessary to also provide means for moving and setting the hands whenever desired. This provision is commonly made in the form of a lever or cam, which, for the purpose of protection, is covered by the cover or bezel of the case. This fact necessitates the partial opening of the case to gain access to the lever when required for use, and in an open-face case exposes the delicate hands to danger of injury and makes liable the admission of particles of dust to the movement itself. Moreover, in a case in which the glass bezel is tightly fitted, the opening or removal of it is a matter of no little difficulty, especially by persons unaccustomed to such manipulations, which is the case with the large majority of watch-users.

To obviate the necessity for opening or removing the bezel, cases have been made which were provided with a slide or push piece projecting through the edge of the case, to be operated by the pressure of the thumb or finger; but this method of construction necessarily involves the serious objection of an opening through which dust can enter, besides being objectionable for other reasons. Cases have also been made in which the hand-setting mechanism is brought into engagement by pulling or drawing out the winding stem or arbor a short distance, the case having a rocking lever engaged with said arbor at one end and turned on its fulcrum by the outward movement of the arbor, so as to cause its other end to move inwardly and thereby move the yoke so as to make the hand-setting train operative. If the watch-movement is designed and constructed to be so operated, it is not objectionable; but otherwise the swinging or rocking lever required to secure

the needful movements is inconvenient and troublesome to operate, beside being a very serious obstacle to the insertion of the movement in the case and its removal from the case, and also requires a special form of winding-arbor.

My invention has for its object to overcome the objections above recited; and it consists in the combination, with the winding-stem, of a lever pivoted within the case at one side of the stem and extending across the latter so that an inward movement of the stem will move the free end of the lever inwardly and cause said end to move the yoke sufficiently to make the hand-setting train operative, the lever requiring no positive connection with the stem, and being entirely contained in a recess in the case, so that it does not interfere with the application and removal of the movement.

The invention also consists in the combination, with the lever and yoke, of a sliding piece interposed between the free end of the lever and the yoke, and communicating motion from the lever to the yoke, all of which I will now proceed to describe.

Of the accompanying drawings, Figure 1 represents a front view of a watch-case center partly in section, and a movement inclosed therein, the dial being removed. Fig. 2 represents two views of the lever detached and the winding-pinion.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents the case-center; *b*, the winding-stem; and *c*, Fig. 2, the winding-pinion, which is rotated by said stem, the pinion having a square shank which enters a square socket in the end of the winding-arbor, although the socket may be in the shank of the winding-pinion and may receive a square end on the stem *b*.

e represents the swinging yoke, which carries the wheel *d*, which communicates motion from the crown-wheel *e* to the dial-train *f* and the wheel *g*, which communicates motion from the crown-wheel to the mainspring wheel or barrel. A spring, *h*, normally holds the yoke *e* in the position shown in Fig. 1, with the wheel *g* in engagement with the mainspring-barrel, so that the yoke is normally in position for winding.

i represents a lever which is hinged at *j* to the case-center at one side of the winding-stem, and extends across said stem, its central portion being enlarged and provided with an orifice through which the shank of the winding-pinion passes. The inner end of the winding-stem bears on the enlarged portion of the lever *i*. The swinging end of the lever bears against the outer end of a slide, *k*, which bears at its inner end against a stud or pin on the yoke *c*'.

It will be seen that an inward pressure on the winding-stem will move the swinging end of the lever *i* inwardly, and thus through the slide *k* move the yoke so as to engage the wheel *d* with the dial-train and disengage the wheel *g* from the mainspring-barrel, so that the hands may be set by rotating the winding-stem when it is thus pressed inwardly. When the stem is released, the spring *h* restores the yoke to its normal position.

The lever *i* is located in a recess in the case-center and does not project into the space occupied by the movement. There is no positive connection between the lever and the winding stem, the inner end of the latter bearing loosely against the outer side of the former. The lever, therefore, does not interfere with the insertion or removal of the movement, the shank of the winding-pinion being easily inserted in the orifice in the lever in inserting the movement, while the winding-stem is applied in the usual manner. If de-

sired, the lever may be applied to a movement-holding ring or band placed within the case-center.

I claim—

1. A watch-case having a longitudinally-movable winding-stem and a lever connected at one end to the case at one side of the winding-stem and extending across the inner end of said stem without engagement therewith, so that it will be moved only by an inward movement of said stem, as set forth.

2. In a stem winding and setting watch, the combination of the yoke having the setting-wheel *d*, a spring whereby the yoke is normally held in position to make said wheel inoperative, the longitudinal winding-stem, a lever connected at one end to the case and extending across the inner end of the winding-stem without a positive connection therewith, and a connection, substantially as described, between the swinging end of said lever and the yoke, whereby an inward movement of the winding-stem is caused to move the yoke against the pressure of its spring into hand-setting position, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 5th day of May, 1885.

EDWARD A. MARSH.

Witnesses:

E. C. FITCH,
C. F. BROWN.