

(No Model.)

E. E. ELLIS.
SETTING MECHANISM FOR TIMEPIECES.

No. 478,321.

Patented July 5, 1892.

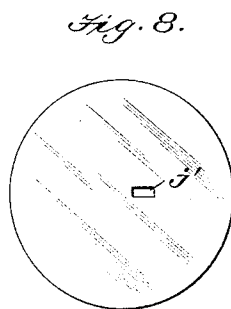
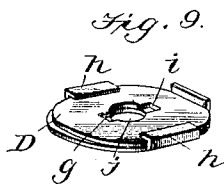
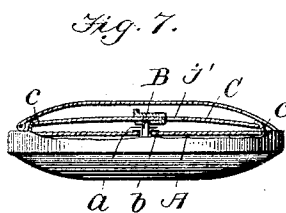
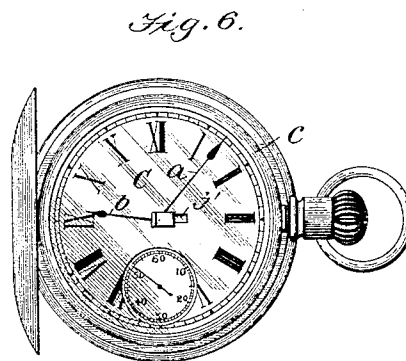
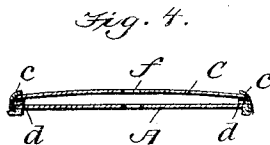
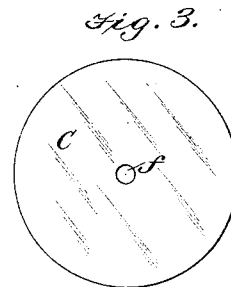
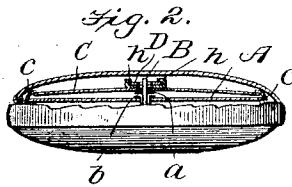
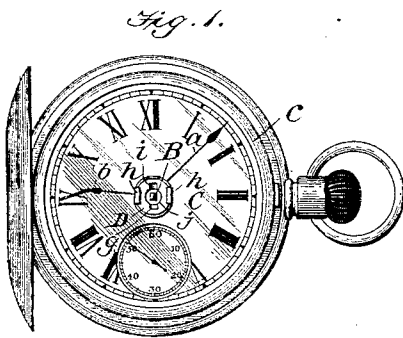


Fig. 10.



Witnesses

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UNITED STATES PATENT OFFICE.

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SETTING MECHANISM FOR TIMEPIECES.

SPECIFICATION forming part of Letters Patent No. 478,321, dated July 5, 1892.

Application filed March 16, 1892. Serial No. 425,155. (No model.)

To all whom it may concern:

Be it known that I, EDWARD EVERETT ELLIS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Time-Setting Crystals for Watches and Clocks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in time-setting devices for watches and clocks; and it consists, substantially, in such novel features thereof as will hereinafter be more particularly described and claimed.

The object of the invention, generically stated, is to provide for the setting or moving of the hands of a watch or clock by means of the usual crystal or glass front placed over or upon the dial or face thereof, thereby dispensing with all former modes of time-setting, substantially as will more fully hereinafter appear, when taken in connection with the accompanying drawings, in which—

Figure 1 represents a top plan view of a watch having my improvements embodied in connection therewith; and Fig. 2 is a transverse sectional view thereof, taken centrally through the hand-post and movable slide which engages the same. Fig. 3 is a top or plan view of the movable or revolving crystal. Fig. 4 is a sectional elevation taken through the crystal, its ring, and the spring or elastic devices for holding the crystal against accidental displacement or movement. Fig. 5 is a view in perspective of one of the springs used in connection with the crystal and its ring. Fig. 6 is a view similar to Fig. 1, representing a modification. Fig. 7 is a view similar to Fig. 2, representing, also, said modifications. Fig. 8 is a view of the modified form of crystal, similar to that shown in Fig. 3. Fig. 9 is a detail view representing the disk with its guides and the slide which moves thereon. Fig. 10 is a similar view of the modified form of slide.

In carrying my invention into effect I provide the dial or face of the watch or clock

with a crystal or front that is capable of revolving or being moved in its holding-ring by simply pressing on the same slightly with the thumb or finger and giving a turn thereto, and for the purpose of maintaining said crystal or front against accidental displacement while the watch is being carried in the pocket I provide suitable elastic or spring devices for pressing upwardly against said crystal with sufficient force to hold it in place. Centrally of the said crystal a circular or other shaped opening is formed concentric with the center post upon which the hands of the watch or clock are fixed or placed, and connected or otherwise attached to the crystal is a small thin steel or other metallic plate having an opening coinciding with the central opening of the crystal. The said plate is made as small as practicable and is formed or provided to opposite sides of its opening with parallel guides to receive and admit of the working back and forth of a small slide or key arranged therein. Instead of these guides being formed with the plate they may be formed separately and then attached to the said plate in any suitable secure manner. The movable slide or key is also made as small as practicable, so as not to conceal from view at any time any more of the hands of the watch or clock than possible, and said slide or key is cut out or so shaped on its inner end as to embrace the hand-post when moved inwardly, and thus by moving said slide inwardly so as to engage or embrace said post and then pressing slightly upon the crystal and turning the latter the hands of the watch or clock will be correspondingly turned and the said hands accurately set or moved to indicate any hour and minute of time desired. This much is sufficient to indicate the practicability of my invention; but it will of course be understood that many other ways could be resorted to for accomplishing the desired object by the use of the same principle, and consequently I do not wish to be understood as limiting myself to this precise detail of construction and arrangement. For instance, instead of the central opening in the crystal I could form an oblong slot therein to intersect with the center thereof, and then I would employ a slide

moving in said slot and constructed on its under side or portion, so as to receive or embrace the hand-post in a similar manner on the under side of the crystal. In this instance the slide would of necessity have to consume a greater area of space than in the first instance; but in either case the device would be thoroughly operative in accomplishing the object or purpose intended. In either instance no other alteration in the watch is required than to simply make the hand-post extend up a little higher than is now done; but this can be very easily accomplished at a small cost. The construction resorted to in both of the instances recited is illustrated herein, and no difficulty will be experienced in understanding the same. It will also be seen that no material change in the crystal is made which would alter its function as such, and, still further, it will be seen that in the event of breakage of the crystal the same can be replaced at an expense that is very slight as compared with the cost of repairing many of the forms of time-setting devices for watches and clocks now in use. The several parts employed can be made very small and attractive, thereby detracting nothing whatever from the beauty or ornamental appearance of the watch or clock, which it is so desirable to maintain. Reference being had to the drawings by the letters marked thereon, A represents an ordinary clock or watch dial, and B the post upon which the indicating-hands *a* and *b* are placed and by which said hands are caused to move or turn by the action of the watch mechanism located within the case in the usual manner. As will be observed, the said post B is extended up slightly higher than ordinary, so as to project very slightly through the crystal and still not be in the way of the watch-case when the latter is closed.

C represents the movable or revolving crystal constructed in accordance with my invention, the same being seated in the usual manner in the ring *c*, provided therefor, and for the purpose of maintaining said crystal stationary or in place sufficiently tight, so as to be prevented from accidental turning while carrying the watch in the pocket or otherwise, I locate beneath the same two or more very fine yet sufficiently strong elastic cushions or springs *d*, which are curved in one direction, so as to conform to the shape of the holding-ring or the edge of the crystal, as well as being curved upwardly, as shown at *e*, so as to exert by their resiliency sufficient upward force to keep the crystal in place. The said crystal is formed with the central opening *f*, which is concentric with the hand-post of the watch, and surrounding said opening is a small thin plate or disk having a similar opening *j*, to opposite sides of which are the parallel guides *h h*. Working back and forth in said guides is a movable slide or key D, constructed with a central opening to permit passage of the post B and having a square or rectangular notch *i*, into which the correspondingly-shaped

post B is received when said slide is moved inwardly. The said slide is also preferably formed on its other end with a very slightly-upturned edge, so as to better enable the same to be moved back and forth by the aid of the finger. To provide against the slide becoming useless from the wear of the edges of the notch thereon, I also provide a similar notch *g* on the opposite side of the central opening in the slide, and thus can the latter be moved in either direction to have the same engage with the post. When the post is so engaged by the slide, it is obvious that by simply pressing lightly upon the crystal and turning the same the hands of the watch or clock will also be caused to turn, and thus can the time be accurately changed or set to any hour of the day.

In Figs. 6, 7, 8, and 10 I have shown the modification referred to, and wherein it will be seen that instead of the central opening in the crystal a simple oblong opening *j* is made, and in which the slide works. In this instance the opening *j* of course crosses or coincides in direction with the position of the hand-post, while the slide itself is constructed of an inner and outer portion, the former of which being constructed to embrace the post in the manner hereinbefore explained in connection with the preferred construction.

From the foregoing it will be seen that ample provision is made against any accidental movement or displacement of the crystal; but even though the provision did not exist it will be apparent that the hands of the watch could not ever be affected or accidentally moved by the slide while the same remains pushed back or out of contact or engagement with the post. Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In time-setting devices for watches and clocks, a movable or revolving crystal provided with means for engaging and disengaging the hand-post of a watch or clock, substantially as shown, and for the purpose described.

2. In time-setting devices for watches and clocks, a movable or revolving crystal having a central opening and provided with a slide for engaging the hand-post of a watch or clock, substantially as described.

3. In time-setting devices for watches and clocks, a movable or revolving crystal having a central opening, and a disk surrounding said opening and having parallel guides, and a slide moving in said guides having a notch for engaging or receiving the hand-post of a watch or clock, substantially as described.

4. In time-setting devices for watches and clocks, a movable or revolving crystal having a central opening surrounded by a disk formed with parallel guides, and a slide moving in said guides having its outer edge upturned slightly and formed with oppositely-arranged notches for engaging the hand-post of a watch or clock when said slide is moved

toward the same in either direction, substantially as and for the purpose described.

5 5. In time-setting devices for watches and clocks, the combination of a movable crystal having a central opening, springs or elastic devices for pressing said crystal outwardly, a disk surrounding said central opening and having parallel guides, and a slide moving in said guides having a notch for receiving the
10 hand-post of a watch or clock, substantially in the manner shown, and for the purpose described.

15 6. In time-setting devices for watches and clocks, a crystal having an opening therein and provided with a movable key or slide surrounding said opening for engaging and disengaging the hand-post of a watch or clock, substantially as described.

7. In time-setting devices for watches and

clocks, the key for engaging and disengaging 20 the hand-post of a watch or clock, the same consisting of a movable slide provided with a central opening intersected at opposite points by notches, substantially as described.

8. In time-setting devices for watches and 25 clocks, the combination of a movable or revolving crystal having an opening therein, the hand-post extending through said opening, and a movable key or slide for engaging and disengaging said hand-post, substantially 30 as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD EVERETT ELLIS.

Witnesses:

CURTIS LAMMOND,
M. DORIAN.