E. C. FITCH.
Watch-Case.

No. 214,642. Patented April 22, 1879.

Fig. 1.

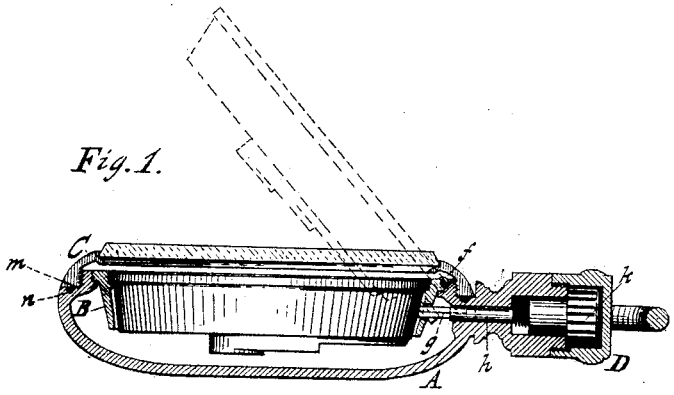
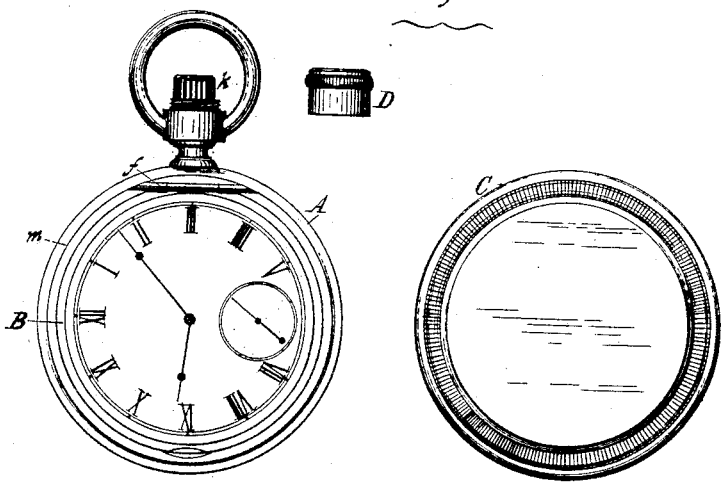


Fig. 2.



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EZRA C. FITCH, OF NEW YORK, N. Y.

IMPROVEMENT IN WATCH-CASES.

Specification forming part of Letters Patent No. **214,642**, dated April 22, 1879; application filed January 4, 1879.

To all whom it may concern:

Be it known that I, EZRA C. FITCH, of New York city, have invented certain new and useful Improvements in Watch-Cases, of which the following is a specification.

My invention applies more especially to the class of open-face stem-winding watches now coming into extensive use; and my improvements aim to simplify and cheapen the construction of the case, and at the same time render it impervious to the entrance of dust, to which ends the invention embodies a number of novel features, as hereinafter set forth.

The drawings annexed present, in Figure 1, a diametric section of my improved watch-case on the line of the stem, and on an enlarged scale. Fig. 2 is a face view, with the bezel and stem-cap removed, both of which embody novel features.

As illustrated, A indicates the main body of the watch-case, which is formed, as shown, in one seamless piece in the shape of a concave shell, and open in the front to receive the movement. This continuous or seamless construction of the body of the case, avoiding the use of any lids or caps, thus greatly conduces to simplicity and cheapness, as may be observed, and constitutes one feature of my invention.

The movement of the watch is held in a sustaining-ring, B, which is hinged to the case A on the front edge of the aperture thereof, as shown at *f*, in such manner that when the bezel is removed the ring with its contained movement may be swung outward, as indicated by dotted lines in Fig. 1, thus rendering the movement readily accessible and obviating the necessity of a back cap or lid, which hence enables the case A to be formed in one seamless piece, as before described, and constitutes another feature of the invention.

The movement is held in the ring B in the manner usual in American watches, and this ring is hinged to the rim of the case A just at the base of the stem, as shown, the movement being so arranged therein that the winding-stud *g* of the movement comes in line with the winding-key *h* of the stem, and properly engages therewith, as shown in Fig. 1. When the movement is to be swung out, however, the stem-winding knob *k* may be pulled partly out, as usual, so as to draw the key *h* out of engagement with the stud *g*, and thus permit the outswing of the movement, as will be understood, the parts *g h* becoming readily engaged when the movement is again swung into the case.

The bezel C, which holds the crystal, is attached to the case by screwing it thereon, as shown in Fig. 1, the rim of the bezel being formed with an internal screw-thread, which meshes with a corresponding thread on a shouldered rim, *m*, on the face of the case, as shown, and as the bezel is thus screwed tightly down the level edge of the rim forms a tight joint with the shouldered rim of the case, which is proof against the entrance of dust or moisture, as will be appreciated.

By making the screw-thread on the interior of the bezel, so as to fit a corresponding thread on the interior of the case, I am enabled to construct a watch with only one division in the case, and thus the entrance of dust or moisture to the works is lessened by half as compared with those cases in which there is an opening at both back and front.

A small groove may be turned in the face of the shoulder on the case to receive a fine packing-ring, *n*, of pure rubber or other suitable material, to make the tightness of the joint more secure and certain, if found necessary. The face of the bezel is formed with a marginal circle of milling, as shown in Fig. 2, which affords sufficient frictional grasp to enable the bezel to be readily screwed on or off.

Another feature of the invention consists in the removable stem-cap D, which is adapted to tightly fit upon the top of the stem and inclose the winding-knob *k*, so as to prevent the entrance of any dust or other foreign matter at that part. The stem-cap is preferably attached to the stem by screwing it thereon in the manner of the bezel, as shown in Fig. 1, and may be readily unscrewed when it is desired to wind the watch, as will be understood.

The cap D is preferably of similar diameter with the body of the stem, which latter is formed, as shown, with a short threaded neck, which screws into the threaded bore of the cap, the level edge of the cap being screwed down tightly on the smooth shoulder of the neck, so as to form a perfectly tight joint, which effectually prevents the infiltration of any dust or

moisture thereat. Any other suitable mode of attaching the cap to the stem may be employed; but the screw-connection shown, meeting in a tight shoulder-joint, is considered preferable. A packing-ring may also be used on the shouldered neck of the stem, similar to that of the bezel, if found desirable.

These combined features of construction thus form a watch which, while being cheap, simple, and complete, has the great advantage of being impervious to the entrance of dust or wet. This latter quality is found to be of great importance to that class who most use this class of watches, such as railroad men, travelers, and others who have to make frequent reference to the watch, and who are almost constantly exposed to the influence of dust or wet.

What I claim as my invention is—

1. An open-face stem-winding-watch case formed in one seamless concave shell, open in front to receive the movement, substantially as herein shown and described.

2. In combination with an inclosing watch-case, the outswinging ring B, adapted to contain the movement, and hinged to the margin of the inclosing-case, substantially as shown and described.

3. In combination with an inclosing watch-case, the outswinging ring B, hinged to the case at the base of the stem, and adapted to contain a stem-winding movement, with its winding-stud arranged in line with the winding-key of the stem, substantially as and for the purpose set forth.

4. The combination, with an inclosing watch-case having the margin of its face provided with a threaded and shouldered rim, of the bezel C, having its rim formed with an internal thread and a corresponding level edge or shoulder to screw upon that of the case and form a tight joint therewith, substantially as and for the purpose set forth.

5. In a watch-case, the combination of the removable cap D, adapted to be tightly fitted over the stem of the case to inclose the winding knob or other operative device thereon, substantially as and for the purpose set forth.

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