

(No Model.)

E. C. FITCH.
Stem Winding Watch Key.

No. 237,377.

Patented Feb. 8, 1881.

FIG. 1.

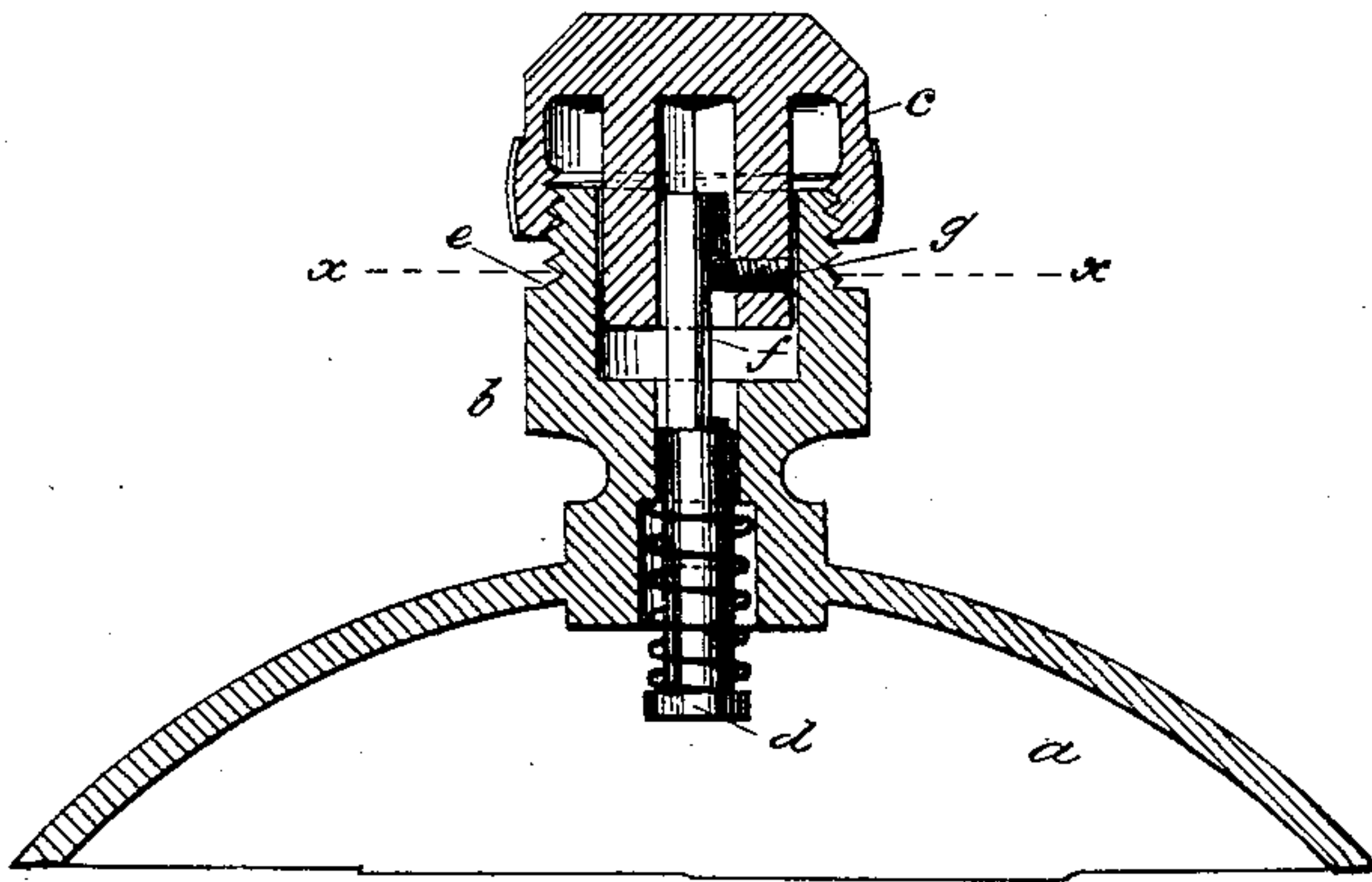


FIG. 2.

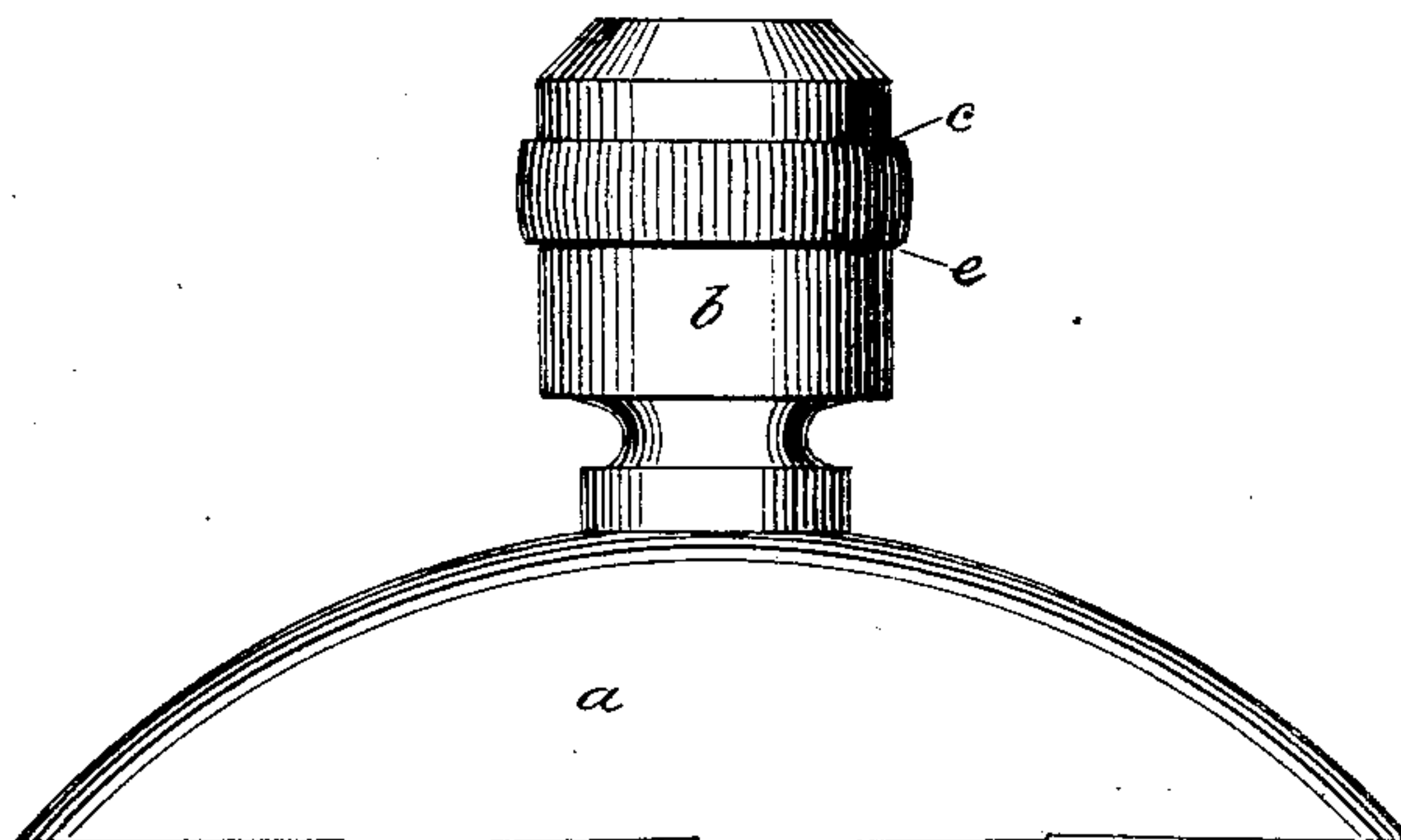
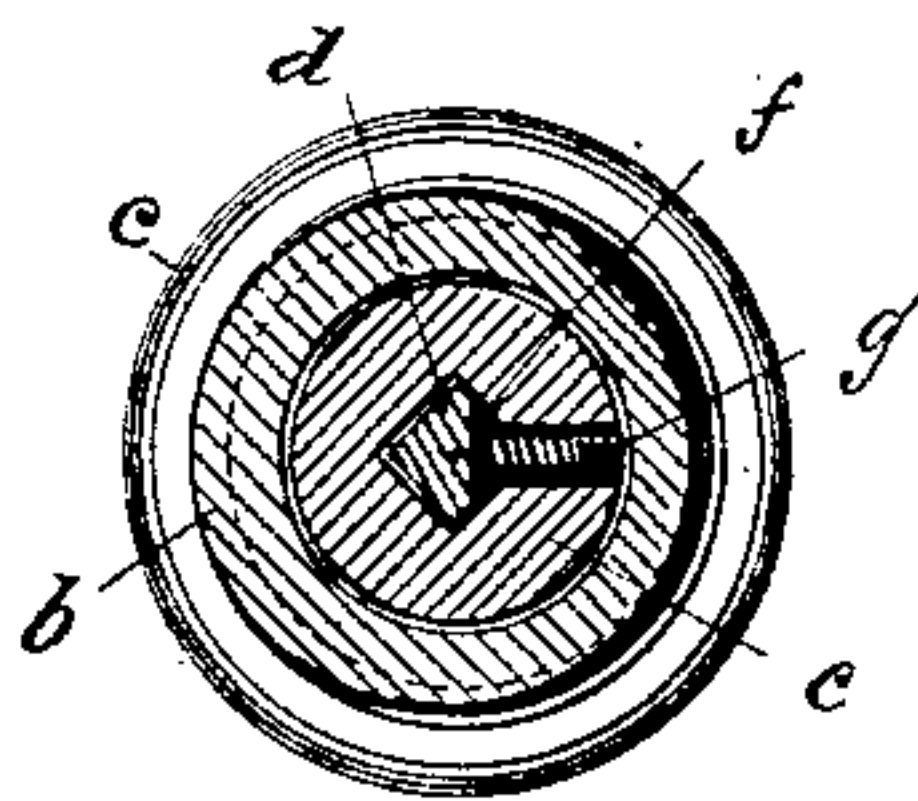


FIG. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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

STEM-WINDING-WATCH KEY.

SPECIFICATION forming part of Letters Patent No. 237,377, dated February 8, 1881.

Application filed May 24, 1880. (No model.)

To all whom it may concern:

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

This invention aims to provide a key or crown for stem-winding watches by which the joint between the crown and stem may be closed air-tight to prevent the entrance of dust or moisture, and at the same time admit of winding the watch in an easy and perfect manner.

My present invention is partly related to former patents issued to me April 22 and October 2, 1879, the former of which shows a removable screw-cap screwing tightly upon the stem and inclosing the crown or winding-knob, while the latter shows a form of key similar to what I now employ. My present invention, however, is mainly distinguished by forming the crown or winding-knob to act as a screw-cap and to screw directly upon the stem, so that by turning the crown or knob in one way the knob may be screwed tightly to its seat, and by turning it in the opposite direction the watch may be wound, so that by this means the construction is simplified and the advantage of an air-tight stem is secured, while the watch may be wound as quickly and easily as is the case with the common stem-winding crown.

Figure 1 of the drawings annexed presents an enlarged sectional view of the stem portion of a watch embodying my invention with the winding-knob unscrewed into position for winding. Fig. 2 is an elevation thereof with the knob screwed down tight. Fig. 3 is a cross-section on *x x*.

In the drawings, *a* indicates the watch-case; *b*, the stem thereof; *c*, the winding-knob or crown, and *d* the winding-key. The winding-key is formed as shown in the previous patent last named—that is, it is terminated with a shoulder—while the spring which tends to constantly project the key into engagement with the movement is arranged between this shoulder and a shoulder in the stem. The key has, however, a novel connection with the stem, as hereinafter described. The stem is formed, as shown, with a shoulder or seat, *e*, on its outer end, and with a short neck of reduced size rising therefrom, while the knob *c* has a cavity,

into which said neck fits, and a flat edge to meet with the shoulder. Now, the cavity of the knob is tapped with a screw-thread, as illustrated in Fig. 1, and the neck of the stem is threaded correspondingly, so that the knob may screw upon the stem, like a cap-nut, and form a tight joint with the shoulder thereof, as shown in Fig. 2. Now, the direction of this screw-thread is left-handed, so that when the knob is turned in the direction to wind the watch the knob unscrews from the neck and freely permits the winding motion. To wind the watch, therefore, it is only necessary to unscrew the knob one or two turns, so as to allow the knob sufficient back play on the stem without bringing it to a seat on the shoulder, as seen in Fig. 1, and the winding of the movement may then be accomplished with the usual back-and-forth rotation of the knob in as quick and easy a manner as with the usual stem-winding crown. When the winding is completed the knob may be screwed tightly to its seat on the stem by a slight continuation of the back movement, as seen in Fig. 2, thus effectually preventing the entrance of dust or moisture through the stem. By this construction, as may be observed, a material improvement is made in stem-winding crowns, and the device is neat, simple, and efficient and adapted to all stem-winding watches.

The winding-key *d* is connected with the knob in a novel manner, as illustrated in Figs. 1 and 3—that is, the outer end of the key is square and the neck of the knob has a square bore, into which the key fits, thus forming a constant rotating connection between knob and key. The key, however, has a limited longitudinal play in the knob, so that when the knob is screwed to its seat the key can yield or be moved outward to allow the movement to swing into or out of the case. This is effected by filing a long notch, *f*, in the key, preferably on one of its corners, and of a length equal to the play required, and passing a small screw or pin, *g*, through the neck of the knob, so as to project into the notch and form a stop against each end of the notch, the action of which will be readily understood.

It may be further seen that the key may be withdrawn from engagement by the action of the hand, when required, by unscrewing the knob and pulling out the same as far as its

spring will admit, thus meeting all requirements of stem-winding watches.

The special construction of the described parts may, of course, be somewhat modified from that illustrated without departing from the essential features of my invention, which I claim to be as follows:

1. The combination, with a stem-winding-watch case, of a stem-winding knob or crown constructed to screw upon the stem and form a tight dust and water proof joint therewith, substantially as herein set forth.

2. A stem-winding-watch case having a stem formed with a jointing-shoulder, in combination with a winding-knob or crown moving on said stem and arranged to make a tight dust and water proof joint with said shoulder, substantially as herein set forth.

3. A stem-winding-watch case provided with a winding-knob formed to screw upon the stem, with a screw of such direction as to unscrew when rotated in the direction of winding and screw onto the stem when turned in the opposite direction, substantially as and for the purpose set forth.

4. The combination, with a stem-winding knob of substantially the described kind, of a winding-key having a rotating connection with said knob and a limited longitudinal play therein, substantially as and for the purpose set forth.

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Witnesses:

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