(Model.)

A. HUMBERT.

WATCH CASE SPRING.

No. 374,535. Patented Dec. 6, 1887.

FIG. 1.

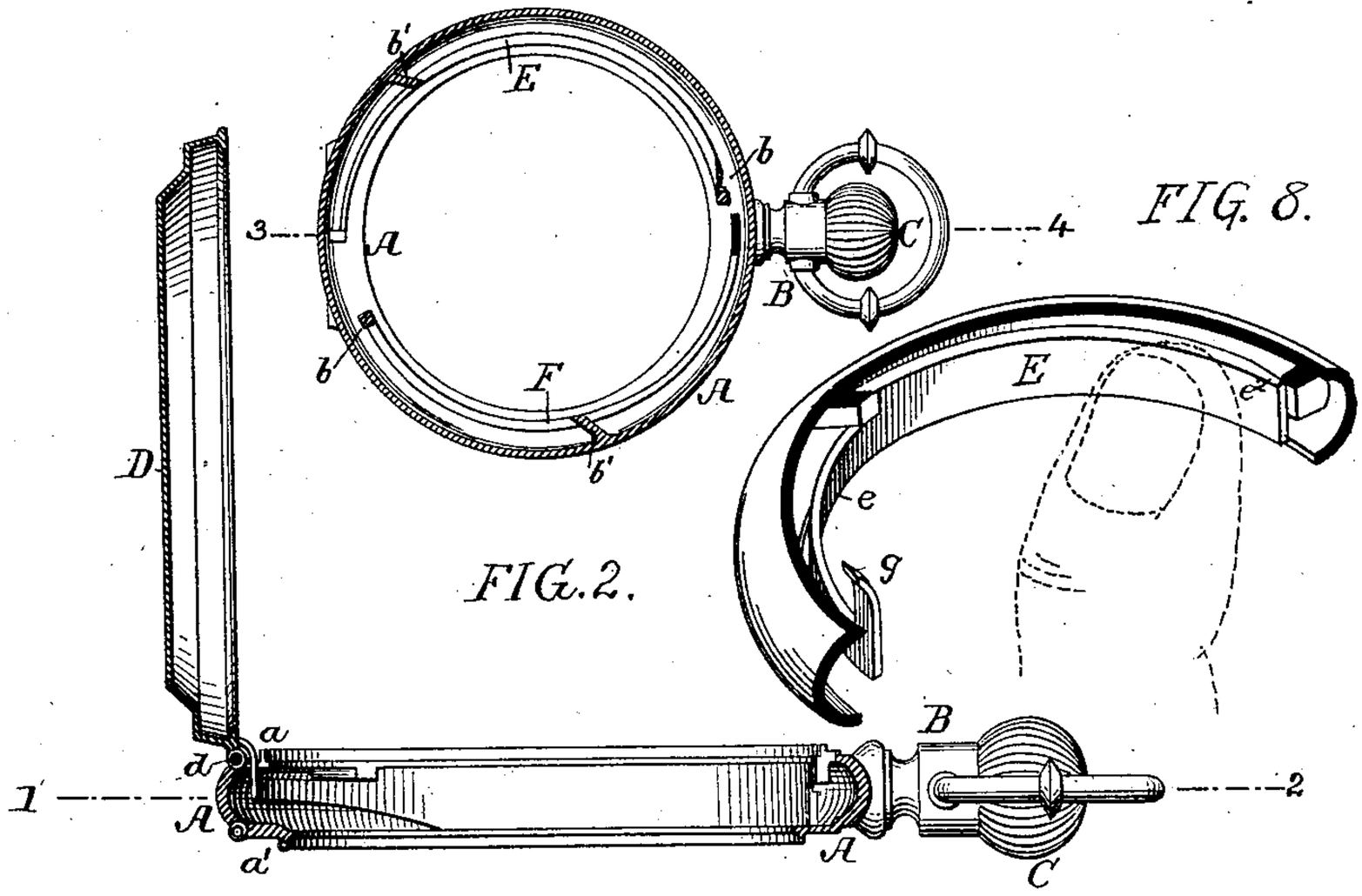


FIG. 8.

FIG. 2.

FIG. 3.

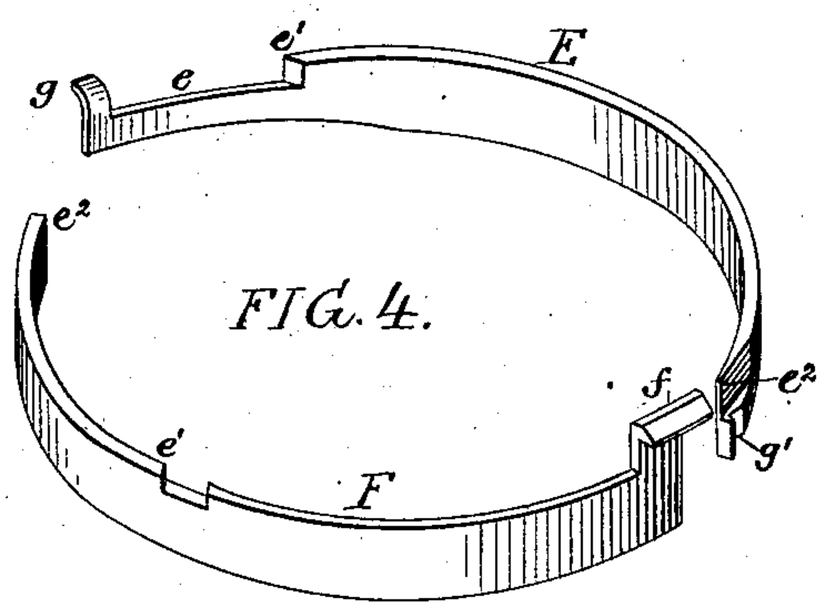
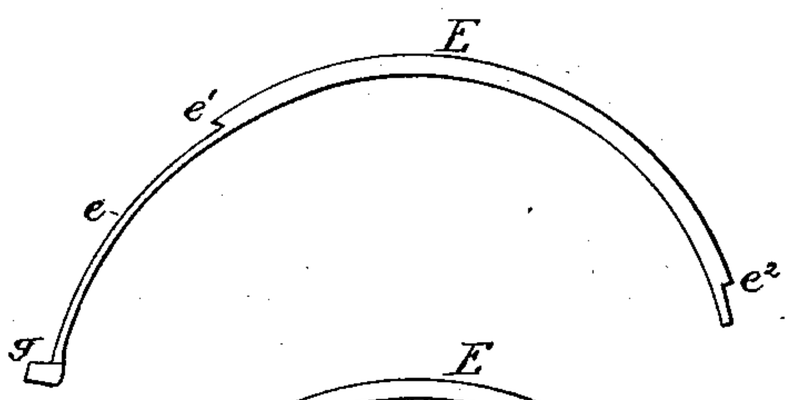


FIG. 4.

FIG. 5.



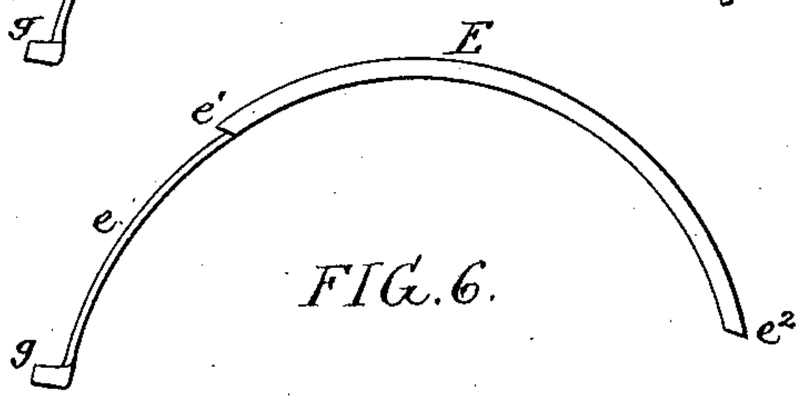


FIG. 6.

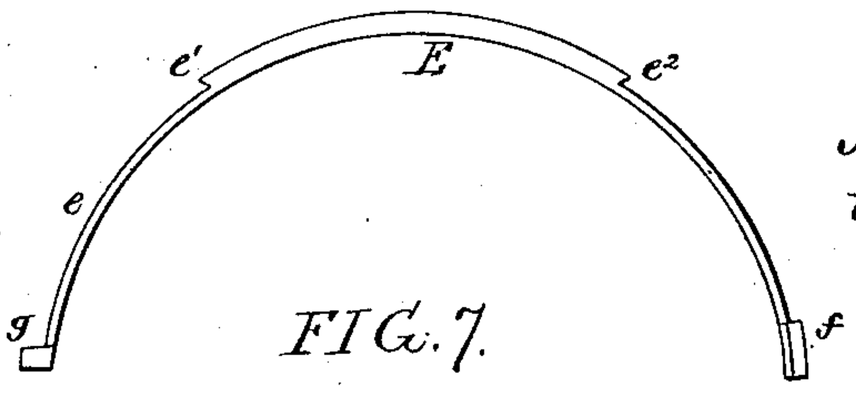


FIG. 7.

Witnesses
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UNITED STATES PATENT OFFICE.

ALFRED HUMBERT, OF PHILADELPHIA, PENNSYLVANIA.

WATCH-CASE SPRING.

SPECIFICATION forming part of Letters Patent No. 374,535, dated December 6, 1887.

Application filed June 3, 1887. Serial No. 240,169. (Model.)

To all whom it may concern:

Be it known that I, ALFRED HUMBERT, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Watch-Case Springs, of which the following is a specification.

The object of my invention is to so apply the lid lifting and retaining springs to watch-cases that the usual retaining-screws for the springs are dispensed with and the appearance improved, and that the spring can be securely and readily attached to and detached from the case, as fully described hereinafter.

In the accompanying drawings, Figure 1 is a sectional plan on the line 1 2, Fig. 2, with the springs in outside view. Fig. 2 is a longitudinal sectional view on the line 3 4, Fig. 1, but drawn to an enlarged scale. Fig. 3 is a detached perspective view of the lid-lifting spring. Fig. 4 is a detached perspective view of the lid-retaining catch-spring, and Figs. 5, 6, and 7 are views of different forms of springs. Fig. 8 is an enlarged diagram illustrating my invention.

Referring to Figs. 1 and 2, A is the case of a watch, having the usual pendant, B, with its push C and guard-ring.

D is the main lid, covering the dial of the watch, and is hinged to the case at *d*.

E is the lid-lifting spring, and F the lid-catching spring.

The case has an annular recess formed by the upper and lower flanges, *a a'*, and in this recess, and secured to the under side of the flange in the present instance, are my improved spring-retainers, consisting of sets of lugs *b b* and *b' b'*, one pair on one side of the case and the other on the opposite side. The acting faces of the lugs *b* are preferably on lines radiating from the center of the case; but the acting faces of the lugs *b'* are at such an angle, as shown in Fig. 1, as to form undercut edges.

E is the lid-lifting spring, and has a reduced portion, *e*, which is beveled on the same line as the undercut edge of its retaining-lug *b'*. The opposite end, e^2, is preferably reduced somewhat in thickness to allow for the ready insertion of the spring into the case. The extension *g* at the outer end of the spring bears against the lid D of the case directly above the hinge *d*, as usual.

The spring is placed into the case by first inserting the beveled shoulder *e'* back of the lug *b'*, then forcing the end e^2 into the recess, as shown in Fig. 8, it binding against the lug *b*, and thus holding the spring securely in position, so that it cannot be forced out by any movement at the point *g*. I slot the spring at *g'*, Fig. 3, in the rear of the end e^2, so that a suitable tool can be inserted back of the spring E at this point for the purpose of removing it when necessary.

The catch-spring F, for holding the lid closed onto the case, is retained in the case in precisely the same manner by duplicate lugs *b b'*.

When it is desired to hide the spring-retaining lugs *b' b'*, the spring shown in Fig. 5 may be used, the edges *e'* and e^2 being formed on a thickened portion of the spring, so that the spring itself conceals the lugs *b b'*.

In Fig. 6 I have shown the end e^2 of the spring cut on a bevel, as well as the end *e'*.

In Fig. 7 I have shown both springs combined in one double-ended spring, with retaining-dovetails *e' e²* on a thickened piece about the middle of the spring.

I claim as my invention—

1. The combination of a watch-case having retainers for the spring, one of said retainers being undercut, with a spring having a beveled portion adapted to the undercut portion of the case, substantially as described.

2. The combination of a watch-case having two undercut retainers with a spring having two beveled portions adapted to the undercut portions of the case, substantially as specified.

3. The combination of a watch-case having retainers for the spring with a spring having a portion at its rear which engages with the retainers, the spring concealing said retainers, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALFRED HUMBERT.

Witnesses:

HENRY HOWSON,

HARRY SMITH.