(No Model.)

C. F. MORRILL.

WATCH CASE.

No. 347,252. Patented Aug. 10, 1886.

Fig: 1.

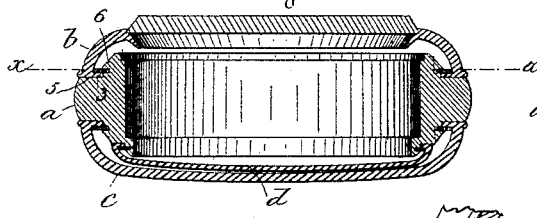


Fig: 2.

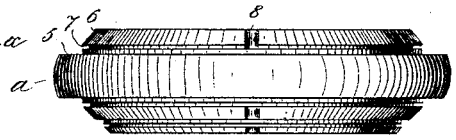


Fig: 2a.

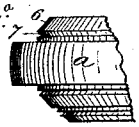


Fig: 5a.

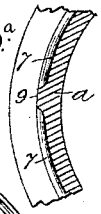


Fig: 5.

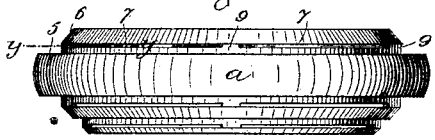


Fig: 4.

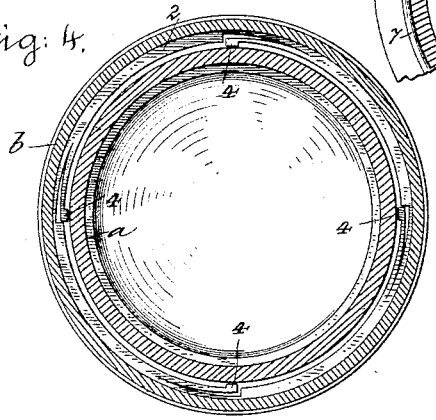


Fig: 3.

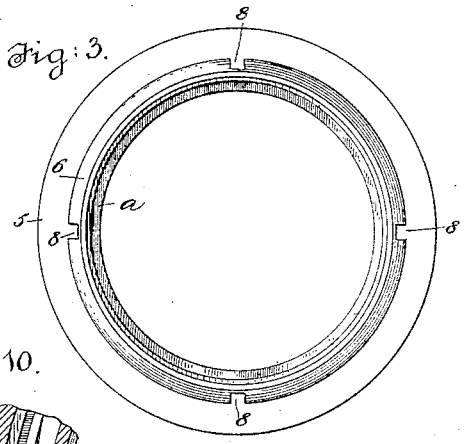


Fig: 7.

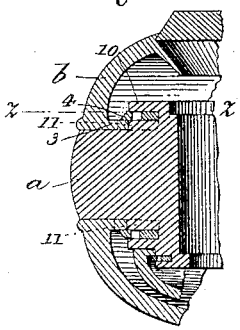


Fig: 9.

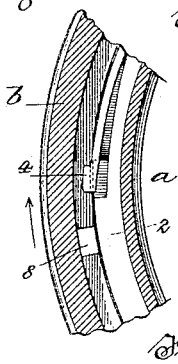


Fig: 10.

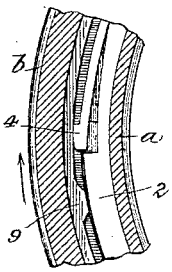


Fig: 6.

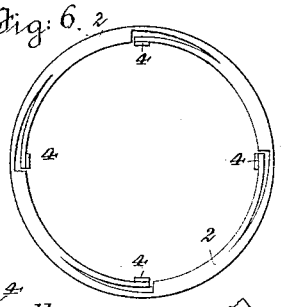


Fig: 8.

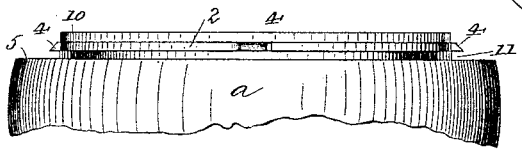
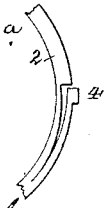


Fig: 6a.



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H. Brown

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C. F. Morrill
Per: Wright Brown Quinby
his Attys.

UNITED STATES PATENT OFFICE.

CHARLES F. MORRILL, OF BOSTON, MASSACHUSETTS.

WATCH-CASE.

SPECIFICATION forming part of Letters Patent No. 347,252, dated August 10, 1886.

Application filed May 29, 1886. Serial No. 203,587. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. MORRILL, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Watch-Cases, of which the following is a specification.

This invention has for its object to provide improved means for separably connecting the bezel, back and inner cap, or either of them to the case-center of a watch-case, the connection being such that said parts can be entirely detached from the case-center, and have no permanent or hinge connection therewith.

The invention consists in the combination, with a watch-case center and a removable cap therefor, of a series of spring-catches secured either to the case-center or to the removable cap, and a corresponding shoulder or shoulders on the other part—viz., either the cap or the case-center—formed to engage and hold said catches when the cap comes to a bearing on its seat on the case-center, the arrangement being such that the spring-catches are displaced from their normal position by the act of applying the cap to the case-center, and engage automatically by their own resilience with the shoulder or shoulders with which they co-operate when the cap is seated on the case-center, so that no rotation of the cap is required after it is seated to lock it to the case-center.

By the word "cap," as used above, I mean to include the bezel, the outer back of the case, and the inner back or cap.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a sectional view of a complete watch-case embodying my invention. Fig. 2 represents an edge view of the case-center shown in Fig. 1. Fig. 2^a represents a modification. Fig. 3 represents a top view of the case-center shown in Fig. 2. Fig. 4 represents a section on line $x\,x$, Fig. 1. Fig. 5 represents an edge view of the case-center, showing a modification. Fig. 5^a represents a section on line $y\,y$, Fig. 5. Fig. 6 represents a plan view of the ring having the series of spring-catches, shown in Figs. 1 and 4, detached from the cap. Fig. 6^a represents a modification of said ring. Fig. 7 represents an enlarged section of a portion of the case, showing the spring-catches applied to the case-center. Fig. 8 represents an edge view of a portion of the case-center shown in Fig. 7. Fig. 9 represents a section on line $z\,z$, Fig. 7. Fig. 10 represents a similar section showing another modification.

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

In the drawings, a represents the case-center. b represents the bezel, of the form used with an open-faced case. c represents the back of the case, and d represents the inner back or cap.

As my invention relates solely to the means for detachably connecting the parts b, c, and d to the case-center, a description of the means for connecting one of said parts will be sufficient, it being understood that each may be connected to the case-center by devices which are duplicates of those used for connecting the other. For convenience, therefore, I will describe the bezel and the means for securing the same to the case-center, and will first describe the construction shown in Figs. 1 to 6, inclusive.

In carrying out my invention, as shown in the figures last referred to, I secure to the inside of the bezel a ring, 2. (Shown detached in Fig. 6.) Said ring is secured in place by turning inwardly, by any suitable means, a lip or flange, 3, forming a part of the bezel, said lip supporting the ring and confining it against the inclined inner surface of the bezel. The ring 2 is provided with two or more (preferably four) spring-catches, 4, which are preferably integral with the ring, although they may be formed separately and attached to it. These catches normally project inwardly into the space inclosed by the margin of the ring-supporting lip 3, and are adapted to yield or be crowded outwardly from the center of the case.

The case-center is provided with the usual seat, 5, for the bezel, and with an annular shoulder or wall raised above and surrounded by said seat, said wall corresponding in position to the usual snap-edge in an ordinary watch-case, and constituting the upper edge of the case-center. The outer surface of the wall has a beveled portion, 6, inclined outwardly from the upper edge of the case-center part way to the seat 5. Between said beveled portion and the seat 5 a groove, 7, is cut into the

wall, said groove being formed to receive the spring-catches 4 on the bezel, as hereinafter explained.

In applying the bezel to the case center the spring-catches 4 come in contact with the beveled portion 6, and are crowded outwardly thereby while the bezel is being pressed to its seat. When the bezel reaches its seat the catches 4 coincide with and spring into the groove 7, and thus lock the bezel securely to the case-center. The upper side of the groove 7 is preferably parallel with the seat 5, or formed without a bevel, as shown in Figs. 1 and 2, so that when the catches 4 are inserted in the groove they cannot be removed by simply lifting the bezel from its seat.

To enable the bezel to be disengaged and removed from the case-center, I provide a series of recesses, 8, in the beveled portion 6, said recesses corresponding in arrangement with the spring-catches, so that by rotating the bezel until said catches coincide with the recesses 8 (which coincidence may be indicated by suitable marks on the exposed outer surfaces of the bezel and case-center) the bezel may be lifted from its seat without resistance, the catches passing through the recesses 8. It will be observed that the inward pressure of the spring-catches against the walls of the groove 7, with which they are engaged, is sufficient to prevent accidental rotation of the bezel, so that there is no liability of the accidental disengagement of the bezel from the case-center while the watch is in the pocket.

Instead of providing the recesses 8, I may make the groove 7 in sections or parts separated by uncut portions 9 of the wall in which the groove is formed, as shown in Figs. 5 and 5*, in which case the catches 4 will be forced outwardly from the parts of the groove, when, by the rotation of the bezel, they are caused to coincide with said uncut portions 9, as will be readily seen. In this case some force will be required in turning the bezel to disengage the spring-catches from the parts of the groove. In some cases it may be advisable to bevel the upper side of the groove 7, as shown in Fig. 2*, so that the act of lifting the bezel from its seat will cause the beveled side of the groove to force the catches 4 outwardly, and thus permit the removal of the bezel without rotation. The inclination of the beveled side of the groove should not be such, however, as to permit the too easy removal of the bezel.

In Figs. 7, 8, 9, and 10 I have shown the spring-catches 4 applied to the case center and adapted to secure the bezel by springing out from the case-center over the edge of the lip 3 of the bezel when the latter is seated. In this modification the ring 2 is secured by turning outwardly a lip or flange, 10, integral with the case-center, said flange covering the ring 2, the catches projecting outside of the margin of the flange, as shown in Fig. 7. The ring rests on a shoulder, 11, as shown in Fig. 8, whereby the catches are raised sufficiently above the seat 5 to engage, as described, with the inwardly-projecting lip 3 of the bezel.

The bezel-lip 3 may have a series of recesses or openings, 8, one of which is shown in Fig. 9, to be brought into register with the catches 4 by the rotation of the bezel, and thus permit the removal of the bezel; or the upper side of said lip may have a series of projections, 9, one of which is shown in Fig. 10, to bear against the catches and push them inwardly when the bezel is rotated to the proper position. It will be seen that the engagement of the bezel with the case-center may be instantly effected and without rotation of the bezel, the engagement being in fact as quick as that effected by a snap-edge. The case-center is provided with beveled portions and grooves similar to those already described for the engagement of the back *c* and cap *d*, the last-named parts having spring-catches secured to them in the same manner as to the bezel, as shown in Fig. 1; or the back and cap may be secured in the same manner that the bezel shown in Fig. 7 is secured, as shown in said figure.

I claim—

1. In a watch-case, the combination of a case-center, a bezel or its equivalent, as specified, a series of spring-catches applied to one of said parts, and a shoulder on the other part with which said catches automatically engage when the bezel or its equivalent is seated on the case-center, as set forth.

2. In a watch-case, the combination of a case-center, a bezel or its equivalent, a series of spring-catches applied to one of said parts, a shoulder on the other part with which said catches automatically engage when the bezel is seated on the case-center, and means for displacing said catches while the bezel is being applied to the case-center, as set forth.

3. In a watch-case, the combination of a case-center, a bezel or its equivalent, a series of spring-catches applied to one of said parts, a shoulder on the other part with which said catches automatically engage when the bezel is seated on the case, and means, substantially as described, whereby upon the rotation of the bezel said catches may be disengaged from said shoulder to permit the unobstructed removal of the bezel from the case-center, as set forth.

4. In a watch-case, a case-center having a seat, as 5, a wall surrounded by said seat and having a beveled portion and a groove, combined with a bezel or its equivalent having a series of spring-catches normally projecting inwardly from its bearing-surface, and adapted to be pressed outwardly by said beveled portion of the case-center, as set forth.

5. In a watch-case, a case-center having a seat, as 5, a wall surrounded by said seat and having a beveled portion, 6, a groove, 7, between said beveled portion and seat, and a series of recesses, 8, or their specified equivalents, combined with a bezel or cap having a series of spring-catches adapted to be dis-

placed by said beveled portion and to spring into said groove, said catches corresponding in arrangement to said recesses 8, so that the catches may be caused by a rotary movement of the bezel to coincide with the recesses, as set forth.

6. A watch-case bezel, or back, or cap having a ring, 2, provided with a series of spring-catches, as set forth.

7. A watch-case having its bezel, back, and cap each secured to the case-center by a series of spring-catches for each part, and a corresponding shoulder with which said catches engage, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 27th day of May, 1886.

CHARLES F. MORRILL.

Witnesses:
C. F. BROWN,
A. D. HARRISON.