

(No Model.)

O. A. DRINKWATER.

WATCH CASE HINGE.

No. 344,727.

Patented June 29, 1886.

Fig. 1.

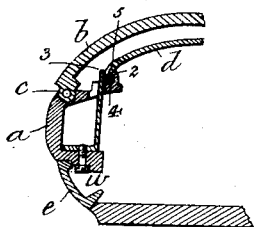


Fig. 2.

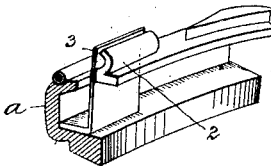


Fig. 3.

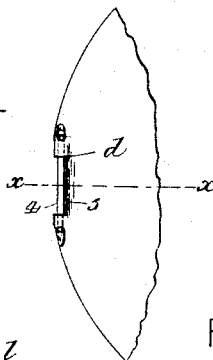


Fig. 4.

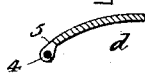


Fig. 5.



Fig. 6.

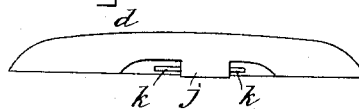


Fig. 7.

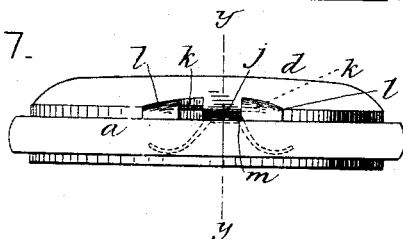
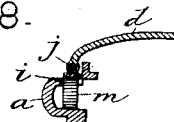


Fig. 8.



WITNESSES:

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UNITED STATES PATENT OFFICE.

OAKES A. DRINKWATER, OF BOSTON, MASSACHUSETTS.

WATCH-CASE HINGE.

SPECIFICATION forming part of Letters Patent No. 344,727, dated June 29, 1886.

Application filed April 10, 1886. Serial No. 198,412. (No model.)

To all whom it may concern:

Be it known that I, OAKES A. DRINKWATER, 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 enable the inner cap, which is hinged to a watch-case center and is covered by the back or outer cap of the case, to be readily applied to and detached from the case-center, so that dealers in selling a case can supply it with an inner cap of the same quality of metal as the main portion of the case or of a cheaper metal.

It is customary for manufacturers of watch-cases to make a line of cases in which the inner caps are of the same quality of metal as the main portion of the case, and another line in which the inner cap is of a cheaper or baser metal or alloy, the cases of the line last mentioned being cheaper than the others on account of the difference between the value of the inner caps.

Heretofore the hinge connection between the inner cap and the case has been permanent, the members of the hinge or joint being incapable of separation, excepting by a skilled workman and at considerable trouble and expense, so that dealers have been obliged to keep in stock both of the lines of cases above mentioned.

My improvement, which obviates this necessity and enables a dealer to readily fit a case with an inner cap of any quality, consists in the combination of a case-center and an inner cap provided, respectively, with the members of a separable hinge or joint, whereby the cap can be readily connected to and disconnected from the case-center without the use of tools or the necessity of skilled labor, and a spring bearing with a yielding pressure against the hinge member of the cap, and preventing the accidental separation of the cap from the case-center, as I will now proceed to describe.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents an enlarged sectional view of a portion of a watch-case having my improvement. Fig. 2 represents a perspective view of a portion of the case-center shown in Fig. 1. Fig. 3 rep-

resents a top view of a portion of the inner cap shown in Fig. 1. Fig. 4 represents a section on line $x x$, Fig. 3. Fig. 5 represents an edge view of a case-center and a cap connected thereto by devices differing from those shown in the preceding figures. Fig. 6 represents an edge view of the cap shown in Fig. 5 detached from the case-center. Fig. 7 represents a view similar to Fig. 5, but showing different devices for connecting the cap to the case-center. Fig. 8 represents a section on line $y y$, Fig. 7.

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

In the drawings, a represents a watch-case center; b , the back or cover hinged thereto at c ; and e , Fig. 1, the lunette or bezel, the case shown in Fig. 1 being open-faced.

d represents the cap, which is hinged or jointed to the case-center and is covered by the back b , said cap snapping onto a shoulder on the case-center as usual.

In carrying out my invention I provide the case-center and the cap, respectively, with members of a hinge or joint whereby the cap may be pivotally secured to the case-center, said members being so constructed as that by a movement of the cap in one direction they may be connected, and by a movement of the cap in the opposite direction they may be disconnected. The form and construction of said members may be variously modified.

In Figs. 1, 2, 3, and 4 the construction is as follows: To the case-center is secured a rigid ear or open socket, 2, constituting a hinge member, which is grooved in the outer side, and a spring, 3, the free end of which stands close to the grooved side of the ear 2 and co-operates therewith in grasping a pin, 4, attached to the cap d . The spring 3 passes through a hole, i , cut in the case-center between the joints connecting the cap d and the back b thereto, and is attached at its inner end to the case-center in any suitable way, preferably by a screw or screws, w , as shown in Fig. 1. The cap is cut away at its margin to form a recess, as shown in Fig. 3, and the pin 4 extends across said recess and is secured in the ordinary way at its ends to the cap at the ends of the recess, a slot, 5, being left between the pin 4 and the recessed edge of the cap d , said slot

being of sufficient size to receive the ear 2, as shown in Fig. 1. The pin 4, constituting one member of the joint, is engaged with the ear 2 and spring 3, constituting the other member of the joint, by being pressed between said spring and ear, the spring yielding to permit the introduction of the pin, and holding said pin against the grooved side of the ear. When the pin is thus in place between the spring and ear, it may be readily turned to permit the opening and closing of the cap, and is held with sufficient firmness to prevent the accidental removal or displacement of the cap. When the cap is to be removed, it is pulled outwardly with sufficient force to withdraw the pin 4 from between the spring and ear.

It will be observed that the spring 3 and ear 2 (shown in Figs. 1 and 2) constitute jaws which grasp the pin 4 and hold it with a yielding pressure. The ear 2 may be made either by soldering a piece to the case-center or by filing a notch for the reception of the pin 4 in the lip of the case-center. If desired, said ear may be yielding like the spring 3.

In Figs. 5 and 6 the cap is shown as provided with an ear, *j*, from the opposite ends of which project pins *k k*. Said pins enter sockets *l l*, secured to the case-center, Fig. 5. Said sockets are separated by a distance greater than the length of the ear *j*, so that when one pin is wholly inserted in its socket the other pin is entirely out of its socket, the engagement of the latter pin being effected by moving the ear *j* endwise to partly but not wholly withdraw the first-mentioned pin from its socket and insert the other pin a like distance into its socket. A spring, *m*, interposed between the ear *j* and the outer shoulder on the case-center, exerts sufficient friction on the ear to prevent it from being accidentally moved.

In Fig. 7 I have shown the same devices as in Figs. 5 and 6, excepting that the ends of the spring *m* bear on one of the inner surfaces of the case-center, as shown in dotted lines, a hole, *i*, being formed for the central portion of the spring between the joints of the cap and of the back or cover.

All of the devices above described permit the ready application and removal of the cap, as will be readily seen.

Various other modifications may be adopted without departing from the spirit of my invention.

I claim—

1. The combination of a watch-case center having one member of a hinge or joint, a cap therefor having the other member of said hinge, said members being constructed to be connected and separated solely by movements of the cap, and a spring supported by the case-center and bearing with a yielding pressure against the hinge member of the cap, as set forth.

2. As an improvement in watch-cases, a case-center and a cap therefor connected by a hinge or joint, the members of which may be connected by a movement of the cap in one direction and separated by a movement of the cap in the opposite direction, and a spring bearing with a yielding pressure against the hinge member on the cap, as set forth.

3. A watch-case cap having a pin combined with a case-center, having jaws or grasping devices which hold said pin with a yielding pressure, as set forth.

4. A watch-case cap having a pin combined with a case-center, having a fixed ear and a yielding spring co-operating therewith, said ear and spring being adapted to grasp the pin, as set forth.

5. A watch-case center having a hole, as *i*, between the joints that respectively connect the back and cap to the case-center, and a spring passing through said hole to the joint of the cap, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 3d day of April, 1886.

OAKES A. DRINKWATER.

Witnesses:

C. F. BROWN,
ARTHUR W. CROSSLEY.