

(Model.)

F. RAPP.  
WATCH CASE HINGE.

No. 344,859.

Patented July 6, 1886.

Fig. 1.

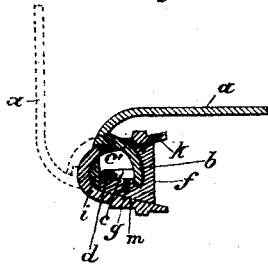


Fig. 2.

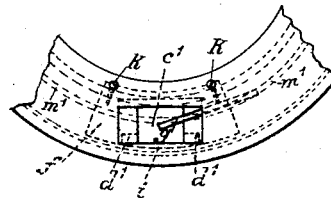


Fig. 3.

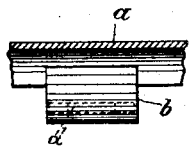


Fig. 4.

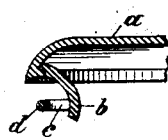


Fig. 5.

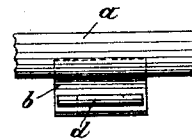


Fig. 6.

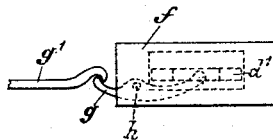


Fig. 7.

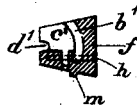


Fig. 8.

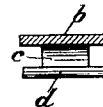
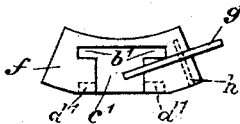


Fig. 9.



Witnesses:

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# UNITED STATES PATENT OFFICE.

FREDERICK RAPP, OF CHICAGO, ILLINOIS.

## WATCH-CASE HINGE.

SPECIFICATION forming part of Letters Patent No. 344,859, dated July 6, 1886.

Application filed March 1, 1886. Serial No. 193,596. (Model.)

*To all whom it may concern:*

Be it known that I, FREDERICK RAPP, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Watch-Case Hinges, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part hereof, and in which—

Figure 1 shows a vertical sectional view of one side of a watch-case provided with my improved hinge. Fig. 2 shows a plan view of a portion of a watch-case, showing the opening in the case through which my hinge works and the parts hidden under the case in dotted outlines. Fig. 3 shows in elevation a portion of a watch-case lid provided with part of my hinge as seen when looking toward the hinge from the center of the watch. Fig. 4 shows a side view of Fig. 3. Fig. 5 shows Fig. 3 viewed from the opposite direction, or as seen on the same line as Fig. 3, but from the outside of the watch. Fig. 6 shows a rear or outside view of the block *f*, with lever and spring to open lid and the openings of the block in dotted outline. Fig. 7 shows a transverse vertical section, through its longitudinal center, of the block *f*, together with end view of the lever *g*. Fig. 8 shows the parts *c* and *d* of Figs. 3, 4, and 5 raised into a vertical position and turned quarter-way round, so as to be in the plane of the paper. Fig. 9 is a plan view of Fig. 6.

Like letters refer to like parts of the figures. The object of my invention is to improve the construction of my former patents, Nos. 301,156, 313,448, and 313,449; also the construction shown in Reissue Patent No. 10,517.

My improvement over said construction lies in the greater simplicity, practicability, strength, efficiency, and cheapness, all of which are attained by the following construction.

To the inner edge of the cover *a* is soldered a quadrant or curved arm, *b*, forming the arc of a circle of which the radial arm *c* forms the radius, and which lies in a plane parallel with that of the cover *a*. The said parts *b* and *c* are joined into one piece, as shown in Figs. 1 and 4, forming with the end projecting beyond the arm *c* slightly more than a quarter

of a circle. The free end of said arm *c* is formed into a round bar, *d*, of a length about equal to the width of the arm *b*, and forms the pintle or pivot of the hinge upon which the cover *a* turns. The said pintle *d* is held in its place by a strip of metal, *i*, placed upon the inside of the watch-case center of the watch-case, against which it rests, and it is held from the opposite or inner side of the case by a block, *f*, which has a cavity, *b'*, cut out of it for the curved arm to play in freely, and it also has a cavity, *c'*, for the part or arm *c* to move in, and in its outer edge, along the longitudinal center of its face, it has a rounded groove, *d'*, in which the pin or pintle *d* plays. The said block is held in its place by means of a small ridge, *m*, across the longitudinal face of one of its flat sides, corresponding in the radius of its curve with that of the groove *m'* in one of the sides of the watch-case center; or said part *m* may be in the form of points or warts fitting into corresponding indentures in the watch-case center. A hole is cut through the watch-case center high enough to admit the arm *c* and wide enough to pass the arm *b* down through it into the watch-case center. A slot is also cut into the cavity *c'*, into which is placed the lever *g*, fulcrumed on the pin *h*, which rests against the under side of the arm *c* with its longer or inner end, and is operated by means of a spring, *g'*, fastened in the watch-case center in the usual way, for the purpose of throwing the lid open, a portion of the free end only of the spring *g'* being shown.

To unite the parts, pass the arm *c* through the hole in the watch-case center to the inside of the case, so as to bring the pin *d* in position. Then place the block *f* in position by pressing until it snaps into place, the sides of the case-ring having sufficient spring to admit such motion. Two small screws, *k*, passing through the ring give additional security. The outer end of the curved arm *b* extends beyond the radial arm *c*, so as to form a shoulder, against which the lever *g* rests when the lid is open, and by means of which the said lever or a spring directly are held in place and enabled to operate properly. The filing *i* is only necessary when the case-ring is cut out too much.

It will be observed that when the block *f* is

in place the case is absolutely dust-proof at the hinge.

What I claim is—

1. A watch-case hinge formed of the quadrant-arm *b*, attached to the lid, and arm *c*, in a plane parallel with that of the lid, and having at its outer end a pin, *d*, in combination with a block, *f*, having the cavities *b' c' d'*, and watch-case center, substantially as specified.

2. A watch-case hinge formed of the quadrant-arm *b*, attached to the lid, and arm *c*, in a plane parallel with that of the lid, and having at its outer end a pin, *d*, in combination with a watch-case center having groove *m'*, block *f*,

having the cavities *b' c' d'*, and projection *m*, substantially as specified.

3. In combination with a watch-case hinge formed of the curved arm *b*, attached to the lid, and arm *c*, attached to arm *b* in a plane parallel to that of the lid, and having pin *d* and block *f*, wherein the parts *b c d* operate, the lever *g*, fulcrumed at *h*, and spring *g'*, substantially as specified.

FREDERICK RAPP.

Witnesses:

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