

No. 865,672.

PATENTED SEPT. 10, 1907.

A. BAVIER.
 CONCEALED HINGE FOR WATCHES.
 APPLICATION FILED MAR. 5, 1906.

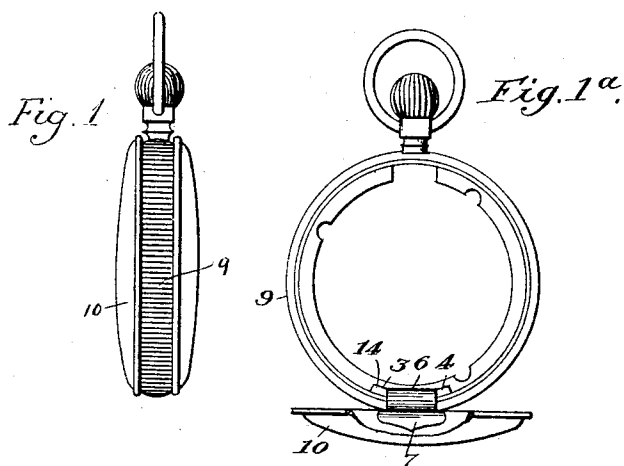


Fig. 2

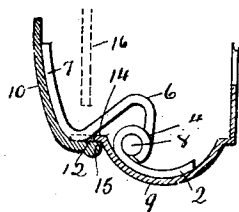


Fig. 3

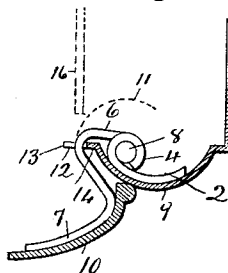


Fig. 5

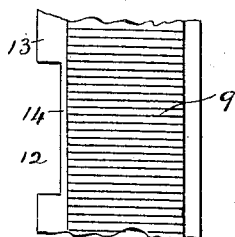
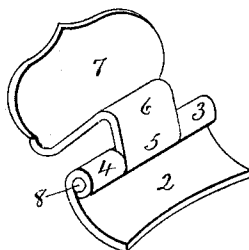


Fig. 4



Witnesses.
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UNITED STATES PATENT OFFICE.

ADOLPHUS BAVIER, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE WATERBURY CLOCK CO., OF WATERBURY, CONNECTICUT, A CORPORATION.

CONCEALED HINGE FOR WATCHES.

No. 865,672.

Specification of Letters Patent.

Patented Sept. 10, 1907.

Application filed March 5, 1906. Serial No. 304,193.

To all whom it may concern:

Be it known that I, ADOLPHUS BAVIER, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Concealed Hinges for Watchcases, &c.; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a view in side elevation of a watch furnished with my improved concealed hinge. Fig. 1^a a view in rear elevation of the watch with the back-cap open to show the alinement of the hinge with the pendant of the watch. Fig. 2 a broken sectional view of the watch on an enlarged scale, showing the hinge in its closed position, that is to say, with the back-cap of the watch in place. Fig. 3 a corresponding view with the back-cap shown in its open position. Fig. 4 a detached perspective view of the hinge. Fig. 5 an enlarged broken view of the center-ring of the case showing the slot formed in the back-cap flange for the clearance of the tongue of the hinge.

My invention relates to an improvement in concealed hinges for watch cases, lockets, bonbon boxes, and the like, the object being to produce at a low cost for manufacture a simple, strong and convenient concealed hinge constructed with particular reference to enhancing the appearance of the article to which it is applied and to render the same water proof, dust proof, &c.

With these ends in view my invention consists in a hinge having certain details of construction as will be hereinafter described and pointed out in the claims.

My invention further consists in a watch case provided with a concealed hinge having certain details of construction as will be hereinafter described and pointed out in the claims.

In carrying out my invention as herein shown, I have applied it to a watch case, but I would have it understood that I do not limit its use to watch cases as it may be used in other small articles of kindred nature like lockets, bonbon boxes, snuff boxes, &c.

As herein shown my improved hinge consists of an inner leaf 2 made of sheet metal and having knuckles 3 and 4 located at its opposite outer corners for the reception in the clearance space thus formed between them of a knuckle 5 formed at the inner end of an upwardly bent tongue 6 which constitutes an extension of a sheet metal outer leaf 7, the knuckles 3, 4 and 5 receiving a pintle 8. These leaves 2 and 7 are each formed from a single piece of sheet metal bent into the required shape in suitable dies. The leaf 2 is transversely and longitudinally bowed to adapt it to con-

form to the curvature of the concavo convex bead 9 of the center ring of the watch case to which bead 9 the leaf is secured by brazing or otherwise; while the leaf 7 is made substantially flat in form to adapt it to be brazed or otherwise secured to the inner face of the back-cap 10 of the watch case as clearly shown in Figs. 2 and 3.

When the back-cap 10 is in its closed position the tongue 6 stands up into the case as shown by Fig. 2 from which it appears that when the watch-case is closed no portion of the hinge is exposed upon the outer surface of the case, but, on the contrary, the hinge is entirely concealed. When the back-cap 10 is open the high point of the tongue swings outward on the broken line 11 of Fig. 3, the outer portion of the tongue moving through a clearance slot 12 in the back-cap flange 13 of the center ring. The inner edge of the back cap 10, owing to the bend in the tongue 6, travels over the outer surface of the bead 9 of the center ring of the watch case. In other words, the inwardly bent tongue permits the inner edge of one member to travel back and forth over the outer face of the other member in a circular path described about the pintle. The said slot 12 is located directly opposite the pendant 17 and close to and in registration with the clearance space between the knuckles 3 and 4 of the inner leaf 2.

It will be noticed by reference to Fig. 5 that the slot 12 falls somewhat short of cutting through to the bottom of the flange so as to leave a web 14 over which the edge of the back-cap fits as at 15 so as to form a joint which is water tight and dust tight, whereas both water and dust find their way into a watch-case through an exposed hinge. Under this construction also, the back movement-plate 16 does not have to be cut away to clear the hinge as the high point of the tongue 6 will swing under it, the adjacent edge of the plate being located further from the center of the pintle 8 than the highest point of the bend in the tongue.

My improved concealed hinge as applied to watches has the advantages over any exposed hinge that it avoids any wear on the lining of a watch pocket and presents a much neater appearance. Also a watch provided with it is much more convenient to handle, as for instance, in repairing, than watches provided with removable caps, which is now a very common construction in watches of cheaper grades.

It will be noted by reference to Fig. 1^a that the centers of the leaves 2 and 7 are in line with the axis of the pendant 17 of the watch case so that the strain imposed upon the case in opening it is equalized on opposite sides of the hinge which is thus protected from being broken or deformed, as well as the case. I may add that my improved hinge will always be located directly opposite the point at which it is designed the

pressure shall be applied to open the watch, locket or other article into the construction of which my improvement may enter.

I am aware that a concealed hinge is old and do not
5 claim such a construction broadly.

I am also aware that it is old to form one part or member of a coach hinge with a long bent arm or reach terminating in a knuckle, and do not therefore claim that idea as broadly new.

10 I claim:—

In a watch, a concavo-convex center ring having a back-cap flange extending therefrom, said flange having a slot

therein, a back-cap having an edge fitting over said flange, said cap hinged to said center ring with a hinge having a leaf attached to the back cap and having a tongue extending inwardly thence outwardly and fitting in said slot, whereby said edge of said back cap in opening may follow the curve of said center ring, and when closed form a dust-tight joint with said flange, substantially as described. 15

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses. 20

ADOLPHUS BAVIER.

Witnesses:

CLIFFORD H. HALL,
CLEMENT I. GRIGGS.