June 30, 1931. E. S. IRELAN 1,812,150

METHOD OF MAKING WATCHCASES

Filed Feb. 27, 1930

Fig. 1

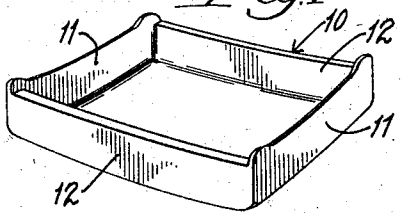


Fig. 2

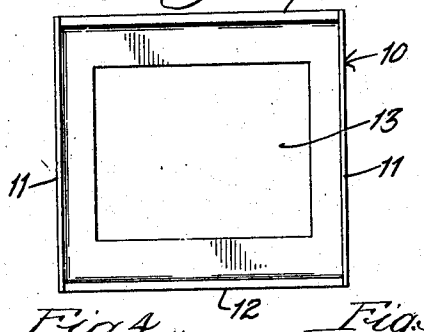


Fig. 3

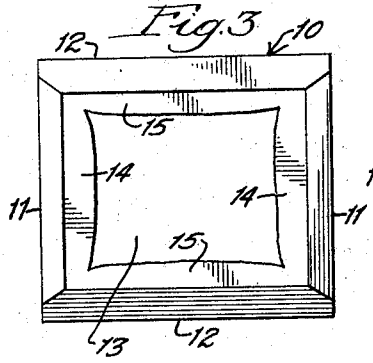


Fig. 4

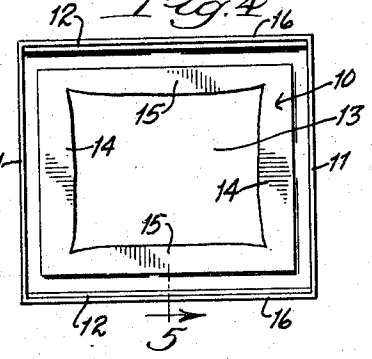


Fig. 5

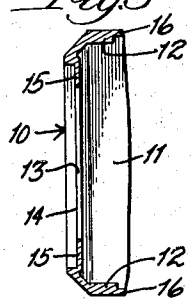


Fig. 6

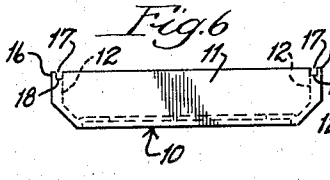


Fig. 7

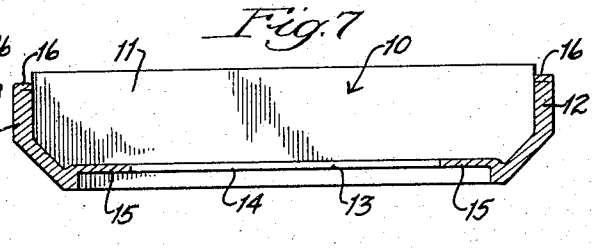
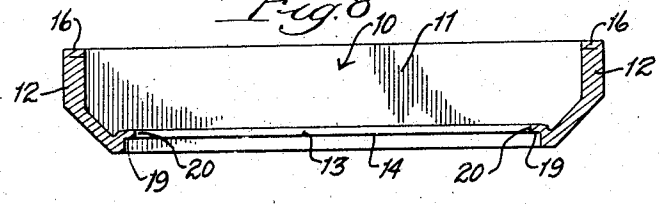


Fig. 8



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UNITED STATES PATENT OFFICE

ELLISON S. IRELAN, OF ELGIN, ILLINOIS, ASSIGNOR TO ILLINOIS WATCH CASE COMPANY, OF ELGIN, ILLINOIS, A CORPORATION OF ILLINOIS

METHOD OF MAKING WATCHCASES

Application filed February 27, 1930. Serial No. 431,709.

This invention relates to watch cases and methods of manufacturing same.

While the invention is particularly applicable to watch case bezels, and will be described in connection therewith, it is to be understood that it is not limited thereto since it is equally applicable to the backs of watches as well as other metal containers of like character.

The invention will be readily understood from the following description taken in conjunction with the accompanying drawings, in which—

Figure 1 is a perspective view on an enlarged scale of a bezel in an early stage of manufacture,

Fig. 2 is an inverted plan view of the bezel in the next stage of manufacture,

Fig. 3 is a plan view of the bezel in a subsequent stage of manufacture,

Fig. 4 is an inverted plan view of the bezel shown in Fig. 3,

Fig. 5 is a section on the line 5 of Fig. 4,

Fig. 6 is an end view of the bezel in a later stage of manufacture,

Fig. 7 is a section of the bezel in a still later stage of manufacture and on a still larger scale, and

Fig. 8 is a similar view of the finished bezel.

Referring to the drawings, the bezel 10 is formed into a cup from a blank by a suitable die pressing operation which draws the ends 11 leaving the sides 12 of the thickness of the original stock as shown in Fig. 1. The stock of the ends 11 may, for example, be drawn from 0.038 to 0.015 inch. The stock may suitably be filled gold, the gold side being on the exterior of the cup.

An opening 13 is next stamped in the face of the bezel 10 as shown in Fig. 2. By subsequent die operations the face of the bezel is pressed into desired exterior form as shown in Figs. 3, 4 and 5. Any desired ornamentation may be impressed thereon in known manner, if desired. These operations also result in the formation of a seat 14 for the reception of a crystal, and the formation and drawing of the reflector 15 to engage the rear face of the crystal at its edges. At the same time, pressure is applied to the edges of the sides 12 to cause the metal to flow so as to thicken same. Thus, for example, the sides 12 may be successively increased from 0.038 to 0.045 and to 0.050 inch in successive pressings. This pressure is principally applied to the inner portion of the edge of the sides 12 so that the gold filled exterior surface is substantially unchanged and forms an upstanding edge 16.

The ends 11 and sides 12 are now trimmed even, and grooves 17 are milled through the ends 11, which cut away the inner edges of the sides 12 as shown in Fig. 6, accurately machining the inner side of the upstanding edge 16 and forming machined shoulders 18 on the inner portions of the edges.

The upstanding edges 16 are bent inwardly over the shoulders 18 to bring their exterior gold surface over the edges of the sides 12 as shown in Fig. 7. These sides 12 are subjected to pressure to solidify their edges. The edges of the ends 11 are trimmed and the seat 14 is trimmed as shown in Fig. 8, leaving a small horizontal face 19 adapted to engage the rear edge of the crystal and a vertical face 20.

The bezel thus produced possesses stout sides 12, the edges of which are covered with gold or other coating carried by the exterior of the bezel. The bezel may be secured to a watch back in such a manner that the edges of the sides 12 are exposed to view without detracting from the pleasing appearance of the watch.

The ends 11 are thin and springy so that they are adapted to maintain the resilient connection to the watch back.

It will be understood that the lugs or other means for attachment of a bracelet or strap may be secured to the bezel 10 in any known or suitable way and that it may be ornamented or finished in any desired way.

While the invention has been disclosed in connection with the details of a specific embodiment thereof, it must be understood that such details are not intended to be limitative of the invention except insofar as included in the accompanying claims.

I claim:

1. The method of producing watch case

members which consists in forming a blank into a cup shape, drawing the ends thereof, and setting the sides to increased thickness and forcing surface metal over the ends of said sides.

2. The method of producing watch case members which consists in forming a blank into a cup shape, drawing the ends thereof and setting the sides to increased thickness, removing metal from the inner portions of the edges of said sides, and bending the exterior surface metal thereover.

3. The method of producing watch case members which consists in forming a blank into a cup shape, drawing the ends thereof and subjecting the sides to pressure to increase the thickness thereof, said pressure being applied principally upon the inner portions of the edges of said sides so that the exterior surface metal projects above the inner portions of the edges, and forcing exterior surface metal thereover.

4. The method of producing watch case members which consists in forming a blank into a cup shape, drawing the ends thereof and setting the sides thereof to increase the thickness thereof, milling through the ends and along the inner sides of the edges of the sides and forcing the surface metal of the edges of the sides over the milled portions thereof.

5. The method of producing watch case members which consists in forming a blank into a cup shape, drawing the ends and setting the sides to increased thickness, trimming the edges of the sides and ends, milling through the ends and along the inner sides of the edges of the sides, and bending the exterior surface metal over said edges.

6. The method of producing watch case members which consists in forming a blank into a cup shape, drawing the ends thereof and subjecting the sides to pressure to increase the thickness thereof, said pressure being applied principally upon the inner portions of the edges of said sides so that the exterior surface metal projects above the inner portions of the edges, machining the inner portions of said edges and forcing the exterior surface metal thereover.

7. The method of producing watch case members which consists in forming a blank into a cup shape, subjecting the sides thereof to pressure to increase the thickness thereof, said pressure being applied principally upon the inner portions of the edges of said sides so that the exterior surface metal projects above said inner portions, and forcing the exterior surface metal thereover.

In testimony whereof, I have hereunto set my hand this 24 day of February, 1930.

ELLISON S. IRELAN.