W. T. MALONEY.

DIAL AND DIAL FASTENER.

APPLICATION FILED JUNE 21, 1918.

1,338,745. Patented May 4, 1920.

Fig. 1.

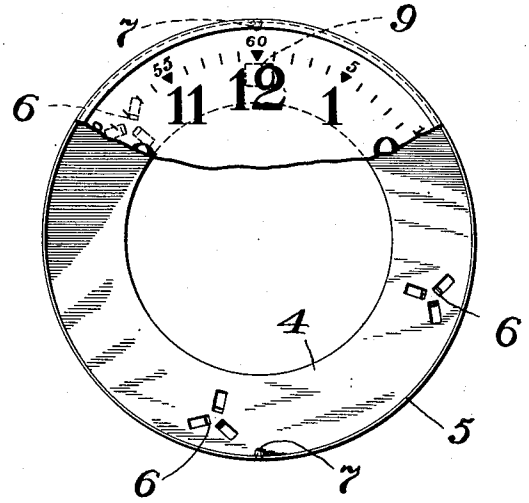
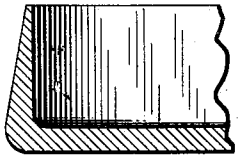


Fig. 2.

Fig. 5.



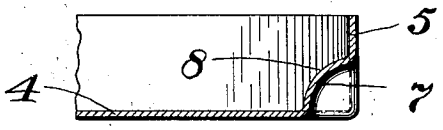


Fig. 6.

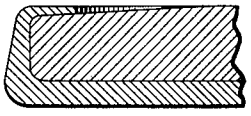


Fig. 3.

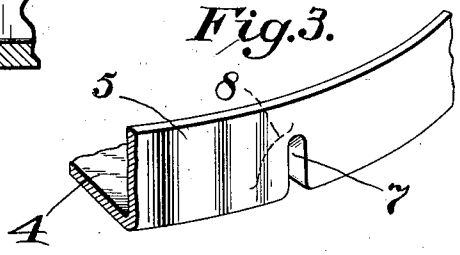
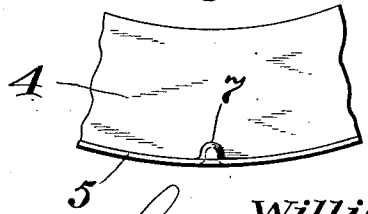


Fig. 4.



Inventor.

William T. Maloney,

by Spear, Middleton, Donaldson & Spear

Atty's.

UNITED STATES PATENT OFFICE.

WILLIAM T. MALONEY, OF WATERBURY, CONNECTICUT, ASSIGNOR TO ROBERT H. INGERSOLL & BROS., OF NEW YORK, N. Y., A JOINT-STOCK ASSOCIATION.

DIAL AND DIAL-FASTENER.

1,338,745. Specification of Letters Patent. Patented May 4, 1920.

Application filed June 21, 1918. Serial No. 241,184.

To all whom it may concern:

Be it known that I, WILLIAM T. MALONEY, a citizen of the United States, and resident of Waterbury, Connecticut, have invented certain new and useful Improvements in Dials and Dial-Fasteners, of which the following is a specification.

My invention is a fastener device for securing the dials of watches to the movement plate, and consists in the features hereinafter described and particularly pointed out in the claims.

In the accompanying drawings;

Figure 1 is a plan view of a dial with the fastener combined therewith, the dial being broken away.

Fig. 2 is a sectional view of a portion of the fastener, and,

Fig. 3 is a perspective view of a portion of the fastener.

Fig. 4 is a plan view of a portion of the fastener.

Fig. 5 is a sectional view of a fastener enlarged.

Fig. 6 shows the fastener spun onto the dial.

The fastener is made of sheet metal in the form of a ring 4 having an upstanding flange 5 to receive within it the dial. The fastener is made of thin material and the upstanding flange 5 is adapted to be pressed inwardly to engage and hold the dial in place, which may be in porcelain, metal, composition, paper or other material.

For securing the fastener to the movement plate it is provided with feet stamped from the body of the ring shaped base, these feet being arranged in groups of three, as indicated at 6. These feet are adapted to enter openings in the movement plate and their lower ends are slightly curved and rounded, so that slight shoulders are provided in gripping the wall of the opening of the movement plate. By these feet the fastening ring is secured in the exact predetermined relation to the watch movement and in order to determine the position of the dial in relation to the fastening ring and thus locate the dial in the exact prescribed relation to the movement of the watch means are provided on the sheet metal dial fastener for centering the dial in relation thereto. For this purpose the dial is provided at substantially opposite points with notches and these are preferably in the same diametrical line that passes through the figure 12 and the position of the figure 6. These notches are engaged by tongues or projections pressed in from the sheet metal fastener and for providing these tongues the sheet metal is pressed inwardly at the corner where the upstanding flange connects with the base ring. The upper edge of the flange is left intact, so that it may be bent in not only at the points intermediate the projections or tongues but at the points overlying these tongues, so that a symmetrical construction is provided around the entire periphery of the dial, by the bending in of the continuous upper edge of the upstanding flange. The tongues or projections are indicated at 7 and they are of hollow form presenting rounded surfaces and smooth surfaces to engage with the notches of the dial. The projections on their inner faces at 8 incline upwardly and outwardly from the base ring and merge into the upstanding flange at a point below the upper edge of the same.

The inner faces of the projections are rounded both laterally and in a lengthwise direction, and this facilitates the entrance of the projections into the notches of the dial.

The function of these projections is to center the dial in relation to the fastening ring, so that the numbers on the dial will come in a definite predetermined position relative to the fastener and because the fastener is secured in its predetermined position relative to the movement plate, the dial will be positioned relative to the movement of the watch, so that for instance the figures 12 and 6 will be in the exact position desired in respect to the position of the winding and setting stem.

An opening is provided at 9 for receiving a part of the winding train and the open center of the fastener ring provides space for a part of the movement, thus contributing to the building of a watch of thin model.

By pressing the centering projection in from the metal of the fastener below the upper edge of the flange it may be formed hollow and thus being of arched shape it will have the necessary strength to resist displacement, notwithstanding the fact that it is made of very thin sheet metal.

I show in Figs. 5 and 6 greatly enlarged

a tapered form of upstanding flange which provides a very thin upper edge, which may be readily spun over onto the upper face of the dial near its edge. This thinned flange is of advantage for two reasons. It adds practically no thickness to the watch and thus it lends itself to the production of a thin model watch, particularly as shown in Fig. 6 where the thinned portion of the flange lies on the inclined face of the dial. The other advantage is that the liability of cracking the enamel of the dial is practically avoided, because only slight pressure is necessary to spin the thinned edge over onto the dial.

It will be understood of course that the centering projection 8 is used with the tapered form of flange shown in Figs. 5 and 6.

In assembling the dial with the fastener it is placed within the upstanding flange, and if the notches therein are not in position at once to register with the centering points the dial will rest on said points and then by turning it to ride on said points the points and notches will be made to register and the dial will snap into place.

The fastener is especially useful in the making of a thin model watch, for it will be noticed that it has no centering means overlying any part of the dial face, and the crystal may be positioned close to the dial face without coming into contact with any overlying centering parts, and the construction also contributes to durability in that there is no liability of the crystal being broken, as would be the case were the holding or registering tongues made to overlie the face of the dial.

What I claim is:

1. A dial fastener consisting of a sheet metal piece having an upstanding flange to receive the dial within it, and having a centering projection to engage a notch in the dial, said centering projection consisting of a portion of the metal pressed in from the corner where the upstanding flange connects with the base of the fastener, the upper edge of the flange being left intact at the point where the projection is provided, substantially as described.

2. A fastener for watch dials comprising a sheet metal piece having an upstanding flange, and a projection pressed in from the flange at a point below the upper edge, leaving said edge intact, said projection being hollow and presenting an unbroken wall continuous with the flange, substantially as described.

3. A dial fastener of sheet metal having an upstanding flange to receive the dial within it and a hollow centering projection pressed in from the corner where the flange connects with the base of the fastener, leaving the upper edge of the flange intact, said projection inclining upwardly and outwardly from the base to the flange, and presenting an unbroken wall continuous with the flange, substantially as described.

4. A dial fastener of sheet metal having an upstanding flange to receive the dial within it and a hollow centering projection pressed in from the corner where the flange connects with the base of the fastener, leaving the upper edge of the flange intact, said projection inclining upwardly and outwardly from the base to the flange, and rounded laterally, and presenting an unbroken wall continuous with the flange, substantially as described.

5. A dial fastener of sheet metal having an upstanding flange to receive the dial within it, said fastener having a projection pressed in from said upstanding flange at a point below the upper edge thereof leaving said upper edge intact at the point above said projection, said projection being adapted to form a rest within the fastener for the dial while being adjusted and to enter a notch in the dial when the same is brought into registry therewith, substantially as described.

In testimony whereof I affix my signature.

WILLIAM T. MALONEY.

Witnesses:
GEO. F. EBERHARD,
FRANK J. HUDNER.