July 10, 1945. N. CALDARA 2,380,215

WATCH

Filed Sept. 26, 1944

Fig. 1.

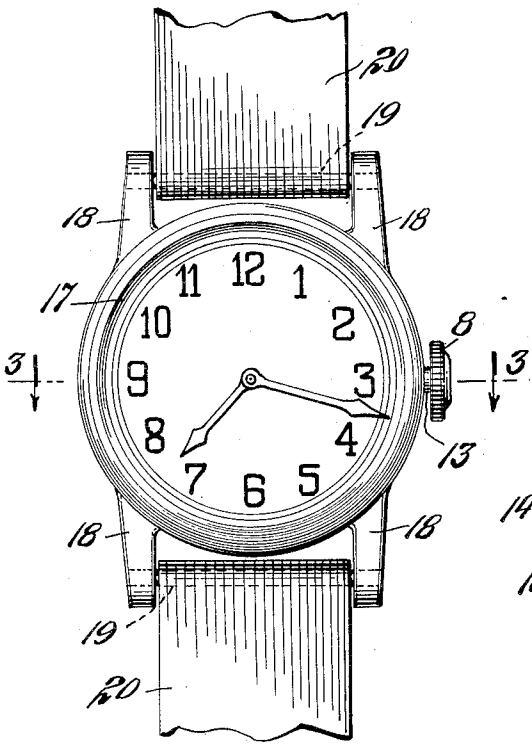


Fig. 2.

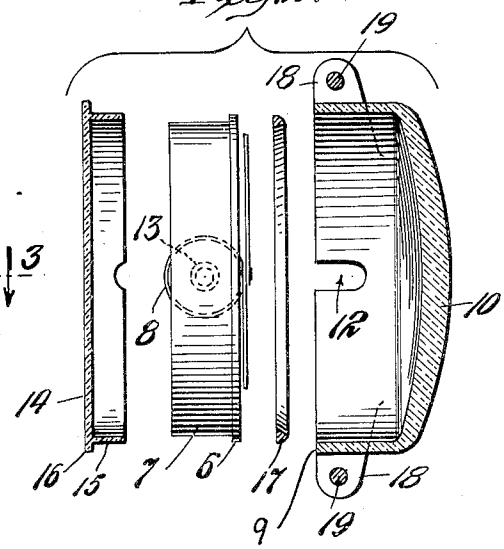
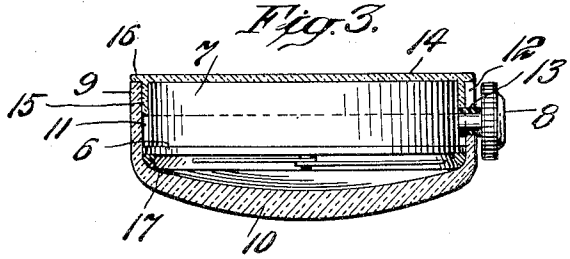


Fig. 3.



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WATCH

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1 Claim. (Cl. 58—90)

The invention here disclosed relates to watches, and more particularly to the case constructions.

Objects of the invention are to combine the crystal and the case in one light, strong and practically unbreakable transparent unit, adapted to receive the more or less standardized or conventional forms of watch movements and to hold them securely in dustproof and, if desired, waterproof relation by a single, simple assembly operation.

Other objects are to provide such construction in a simple, inexpensive but attractive form.

Other desirable objects and the novel features by which the purposes of the invention are attained are set forth or will appear in the course of the following specification.

The drawing accompanying and forming part of the specification illustrates a present practical embodiment of the invention but structure may be modified and changed, all within the true intent and broad scope of the invention as hereinafter defined and claimed.

Fig. 1 in the drawing is a face view showing the invention as embodied in a wrist watch;

Fig. 2 is an exploded view of the complete watch, with the movement appearing in elevation and the other parts in section; and

Fig. 3 is a cross section as on substantially the plane of line 3—3 of Fig. 1.

In the face view, a watch movement of conventional circular and generally cylindrical form is indicated, having a face or dial 6 of slightly larger diameter than the cylindrical body or barrel portion 7, and a winding and setting stem 8.

Movements of this type are relatively inexpensive and are available in various attractive styles, particularly as to design of the dials, the hands, the stems and other more or less ornamental features.

The case comprises an annular side wall 9 and integral front or "crystal" 10 of transparent plastic, such as "Lucite" or the like. The cylindrical side wall is relatively thin, as indicated in Figs. 2 and 3, providing a cylindrical cavity 11 preferably just large enough to snugly receive the dial 6.

At one side the annular wall may be notched, as indicated at 12, to admit the stem, so that the parts may be assembled by simply dropping the movement to a seated position against the back of the "crystal." If desired, a packing 13 of rubber or the like may be compressibly engaged in the notch about the stem.

The movement is firmly held in its seated position in the annular case by a cover disc or back 14, preferably of the same transparent plastic, said disc, as shown in Fig. 3, preferably extending out over the rim of the annular wall and having at the inside a projecting annular flange 15 fitting dust-tight in the annular wall and filling in the space between said wall and the barrel 7 of the movement. This dust-tight engagement of the cover flange in the annular wall of the case is ordinarily sufficient for holding the parts together in dustproof and practically water-tight condition. The projecting edge portion 16 of the disc, by covering the rim of the case at the back prevents entry of dust and moisture and particularly guards against seepage of moisture from the back of the wrist, where the invention is embodied in this type of watch.

The integral form of cylindrical case and crystal eliminates both the separate crystal and bezel for holding the same, but if the effect of a bezel is desired, that is accomplished in the present invention by the use of a triangular cross section or bevelled form of ring 17 of a size to closely fit in the movement cavity ahead of the dial. The assembly then merely requires that this small bezel ring be dropped in the case before the movement is slipped into position. Then when the back is applied, the movement is clamped the more securely in position between the bezel at the front and the cover disc at the back.

When made up as a wrist watch, the cylindrical case would ordinarily be formed with projecting lugs 18 carrying pins 19 for straps 20. The shape and size of these lugs may be varied for different kinds of straps, bracelets or the like, or for the mounting of the watch as a pendant or brooch, etc.

This new construction permits of the case being made only slightly larger than the movement itself. The transparent back disc, while affording full protection, enables inspection and observation of the working parts of the watch and, if necessary, instant removal of the movement by simply slipping this disc out of its seated position in the case. This instant removability and replaceability is of great advantage for replacement of watch movements or substitution of one kind of movement for another in the same case. The transparent plastic case is lighter in weight and more comfortable to the skin than metal cases and has certain resilient properties making it more or less shock proof. The symmetrically circular form provides desired strength, enabling the cylindrical wall to be made quite thin, and the back is a factor in the thin walled construction because of the reenforcement afforded

by the inwardly extending annular flange entering the cylindrical wall and the periphery of the disc overlying the rim of this wall.

While ordinarily the plastic case may be molded or pressed to shape, the cylindrical formation provides a structure which may be produced by ordinary turning or similar machining operations. This cylindrical case construction also has a greater field of use because of the large number of the more inexpensive watch movements made up in a generally cylindrical shape which can be used in such a constructed watch case. The symmetrical and cylindrical structure also is of advantage in enabling the two parts of the complete case, that is the body and the back, to be assembled and disassembled by an easy relative rotary movement of one part in respect to the other. In the friction type form of engagement illustrated, this possibility of relative rotary movement is of advantage in effecting the firm engagement of the one part in the other, particularly in starting the inwardly extending flange of the back into firmly seated position in the annular wall of the body.

What is claimed is:

A wrist watch comprising a case of transparent plastic open at the back and having integral front and side walls forming a movement chamber and integral, oppositely disposed strap lugs, said side wall having a notch in the edge of the same at a point between the oppositely disposed strap lugs, a watch movement of less diameter than said side wall and seated in said chamber against said front wall, said watch movement having a winding stem received in and projecting through the notch in the side wall and a back cover of transparent plastic having a thin annular flange projecting inwardly between said side wall and said watch movement, said flange having dust-tight holding engagement with said side wall for securing said back cover in place and engaging said watch movement at the inside to center and retain the watch movement in centered relation in said chamber and said back cover having a peripherally extending portion projecting radially beyond said flange substantially to the outer periphery of said side wall and covering the joint between said side wall and back cover to exclude and prevent seepage of moisture from the wrist.

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