Dec. 10, 1940. H. AARON 2,224,421

COMBINED WATCH AND WATCHCASE

Filed June 14, 1937

Fig. 1.

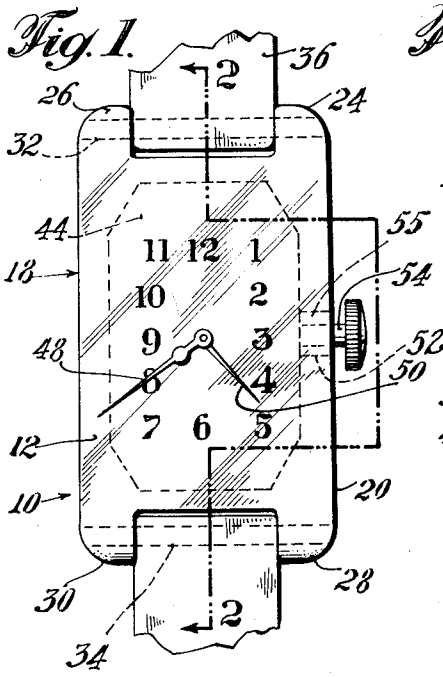


Fig. 2.

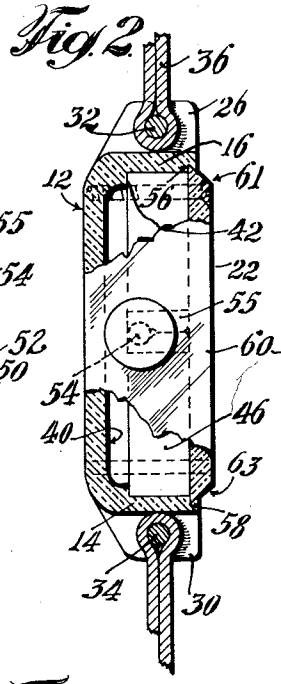


Fig. 3.

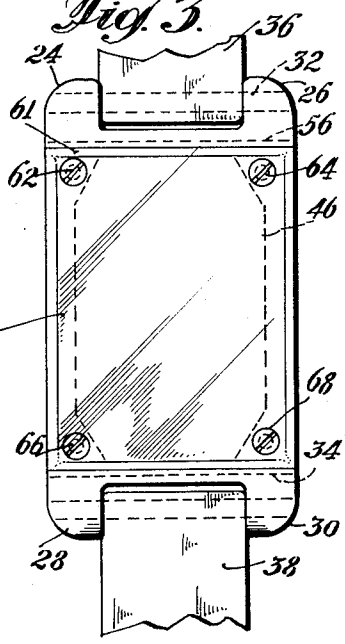


Fig. 4.

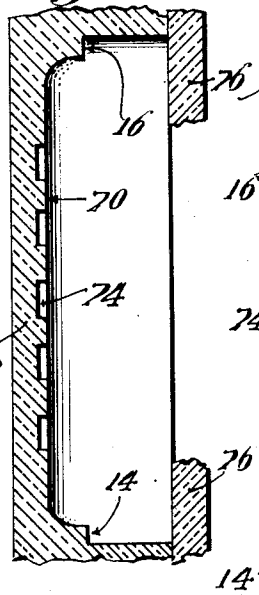


Fig. 5.

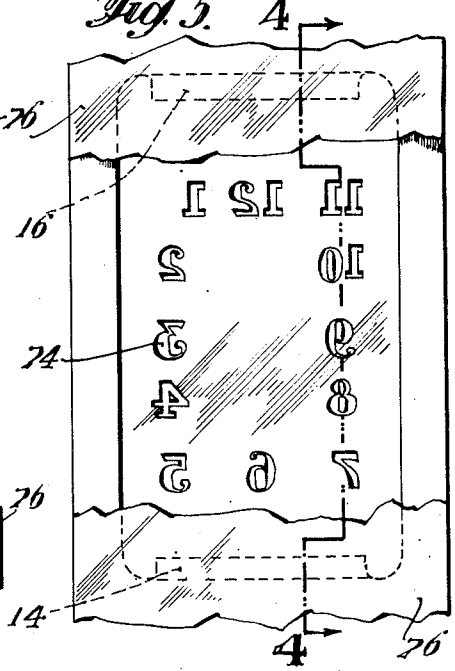


Fig. 7.

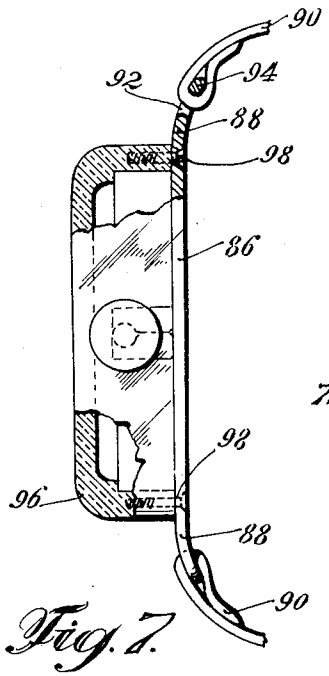
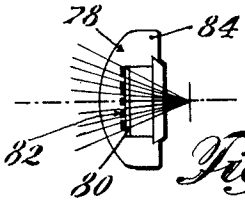


Fig. 6.



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Patented Dec. 10, 1940 2,224,421

UNITED STATES PATENT OFFICE

2,224,421

COMBINED WATCH AND WATCHCASE

Harry Aaron, New York, N. Y.

Application June 14, 1937, Serial No. 148,003

8 Claims. (Cl. 58—88)

This invention relates to a timepiece casing and more particularly to a transparent, unitary casing enclosing a watch mechanism whereby all parts thereof are exposed to view to thereby eliminate the necessity of a crystal.

In the timepieces or watches heretofore found in the art, a separate crystal is arranged on a bezel, from which, because of excessive or rough usage by the wearer, it may be easily displaced, and if made from glass, broken. Such incidents necessitate frequent repair or replacement, involving extra expense in the ultimate cost of the watch.

In addition, since the crystal and rim or bezel are separate pieces, they are subject to unequal expansion and separation thereby permitting passage of dust onto the dial and into the watch mechanism, thereby necessitating extra expense in cleaning and adjustment.

In addition, such timepieces or watches are made frequently of base metal and are plated with a corrosion resistant metal which in time wears away subjecting the timepiece or watch to tarnishing. Such tarnish appearing on the user's arm or hand, particularly with a wrist watch, often causes embarrassment and distress.

In view of the foregoing disadvantages, my invention contemplates the provision, therefore, of a transparent casing made of synthetic resinous moldable material to accommodate a watch mechanism which will form a tight fit therein resistant to loosening or falling out therefrom and from which the crystal and rim are eliminated.

The present invention further contemplates the provision of a unitary, simply constructed relatively inexpensive casing for a timepiece which will be substantially impervious to moisture and dust and which will not become tarnished or affect the skin of the wearer.

The invention still further contemplates the provision of a lustrous and neat appearing unitary casing for a timepiece, the front face of which is provided with numerals recessed therein, substituting a watch dial and which requires no external crystal adjustment.

The invention still further contemplates the provision of a transparent unitary casing for a timepiece and having a convex exposed surface for magnifying the numerals and time hands of the dial, thereby permitting the use of relatively small timepiece mechanism.

With the above and other objects in view, my invention contemplates a cast or molded transparent material preferably of synthetic resin forming a unitary casing into which a timepiece is fixed and retained therein by a suitable back plate preferably adapted for wrist wear.

In the accompanyling drawing:

Fig. 1 is a front elevation of an embodiment of my invention.

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a rear elevation of the embodiment illustrated in Fig. 1.

Fig. 4 is a fragmentary section taken on line 4—4 of Fig. 5.

Fig. 5 is a fragmentary rear elevation of a modification of my novel casing showing numerals recessed in the face thereof, and

Fig. 6 is a sectional view of another modification in which the embodiment has a convex frontispiece outline for magnifying the hour members and the hands of the timepiece.

Fig. 7 is a partial cross section of still another modification of my watch mechanism casing.

Similar reference numerals relate to like parts throughout the several views in the drawing.

Referring particularly to Figures 1, 2 and 3 of the drawing, a casing 10 is made of a transparent synthetic resinous material which can be readily cut, carved, cast or molded into suitable shape, such as "Lucite," "Tenite," or the like, and is provided in which the conventional watch mechanism 46 may be arranged and which need not be described in detail for an understanding of the invention. The material which I have found suitable for my purpose is that commonly known in the art of plastics and synthetic resin as "Lucite," which is a methyl acrylate ester. "Lucite," as it is commonly known in the field of synthetic resins, can be molded or cast to any desired form or shape. It possesses many of the optical properties of quartz glass and is resistant to acids. Its freedom from color permits fabrication of a watch casing of any desired tint.

The casing 10 is of the conventional form used for wrist watches, although it will be understood that the present invention may be applied to any form of timepiece, having a preferably flat outer face 12, integral with top and bottom walls 14 and 16, respectively, and opposed side walls 18 and 20, respectively, thereby forming a recess 22.

The face 12 as shown is preferably rounded, meeting top and bottom walls 14 and 16, and is also provided with opposed spaced terminal extensions 24, 26, 28 and 30. Said extensions are arranged in pairs, and form a recess, each pair accommodating a pin member 32 and 34 respec-

tively for holding the ends of wrist straps 36 and 38 respectively.

The recess 22 of the casing 10 is provided with a round edged inner face 40 and a partly extended portion forming a ledge 42. Said ledge 42 permits the dial 44 of a watch mechanism 46 to rest thereagainst. With said watch mechanism set in position in the hollow, a space is provided between the dial 44 and inner face 40 to permit unrestricted movement of hands 48 and 50.

In order to permit insertion and retention of watch mechanism 46 in casing 10, the side wall 20 has a groove 52 for a watch stem 54. Arranged in the said groove 52 and enclosing the stem 54, I provide a washer 55 of suitable material such as felt or rubber for preventing dust and the like from entering the casing.

The back of the casing has a pair of opposed spaced top and bottom preferably V-shaped grooved edges 56 and 58 respectively for permitting a back plate member 60 to be inserted thereinto. It is to be noted that the sliding edges of plate member 60 are beveled at 61 and 63 to thereby provide a tight dustproof joint or union. Said plate member is retained in fixed position on the casing 10 preferably by means of suitable countersunk cap screws 62, 64, 66 and 68 passing therethrough at the corners of the plate member and into the casing.

It will be understood that the said back plate may, if desired, be constructed from other material than the transparent synthetic resinous material such as metal, wood or the like.

In the modification shown in Figs. 4 and 5, the inner face 70 of the casing 72 is provided with regularly arranged recesses 74, each in the form of the respective conventional hour markings thereby forming the watch dial integral with the casing. Said recessed numerals may either be engraved, carved or embossed in the recesses.

If desired, gold foil, silver foil, luminous paint or the like may be inlaid in the recesses to thereby intensify the decorative effect of the dial face of the casing.

If desired, the hour markings may on the other hand be raised in relief on either the outer or inner surface of the casing face to provide an attractive appearance.

A back plate 76 for closing the casing with the watch mechanism therein is provided and may be retained by the usual means, not shown.

In Fig. 6, I show a modification in which the outer face 78 is of convex shape, while the inner face 80 is straight. Said outer face 78 of casing 84, being transparent and in the form of a magnifying lens, magnifies the numerals inside the casing and permits insertion of a relatively small watch mechanism in the casing.

In the modification shown in Fig. 7, the back plate 86 may be made of either plastic material, metal or other suitable substance and is curved at its ends 88 to conform to the ordinary human wrist. Straps 90 are arranged in suitable apertures 92 and enclose the lugs 94 to provide means for securing the timepiece on the wrist of the wearer. The back plate 86 is secured to the casing 96 in any suitable manner as by the screws 98.

From the foregoing description of the various modifications of my invention taken in connection with the accompanying drawing, it will be noted that I have provided a unitary watch casing of transparent synthetic material, possessing the optical qualities of quartz glass, and a closure member therefor, for retaining a watch mechanism and with which the heretofore required bezel rim and crystal are eliminated. In my invention, the casing is resistant to tarnishing, wear and tear, breakage, corrosion and removal or loss of crystals, thereby eliminating the cost of replacement parts. The casing being transparent is adapted for use as a dial with the inner face thereof having the numerals which may be luminous if desired. Furthermore, the casing is molded or cast, forming a tight fit with a watch mechanism inserted therein.

While preferred forms of my invention have been described and shown, various modifications as to form, appearance, outline, use of materials, arrangement of parts and the structure thereof may be made without departing from the spirit and scope of my invention, as contained in the appended claims.

I claim:

1. A casing for a watch movement, the face, end and side walls of said casing being formed entirely of one piece, said face and side walls forming an inner recess for receiving the watch movement and a removable back plate closure member, said casing and member being made entirely of a transparent organic plastic material infrangible in ordinary use.

2. A casing for a watch movement, the face, end and side walls of said casing being formed entirely of one piece and a removable back plate closure member, said casing and member being made entirely of a transparent organic plastic material infrangible in ordinary usage.

3. A casing for a watch movement having time-indicating hands arranged thereon, the face, end and side walls of said casing being formed entirely of one piece, said face, end and side walls forming an inner recess for receiving the watch movement whereby the time-indicating hands are disposed adjacent the underside of the face, means on the casing adjacent the inner recess for resting the watch movement thereagainst, the underside of the face being concave to provide a space between the watch movement and the inner surface of the face wherein said hands may move unrestrictedly and a removable back plate closure member, said casing and member being made entirely of a transparent organic plastic material infrangible in ordinary usage.

4. A casing according to claim 1, wherein the casing face is provided with time-indicating symbols recessed in the underside thereof.

5. A casing according to claim 2, wherein the casing face is provided with time-indicating symbols recessed in the underside thereof.

6. A casing according to claim 3, wherein the casing face is provided with time-indicating symbols recessed in the underside thereof.

7. A casing for a wrist watch, the face, end and side walls and strap members of said casing being formed entirely of one piece and a removable back plate closure member, said casing and closure member being made entirely of a transparent organic plastic material infrangible in ordinary usage.

8. A casing according to claim 7 wherein the casing face is provided with time-indicating symbols recessed in the underside thereof.

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