Aug. 11, 1931. S. MATHEZ 1,818,637

WRIST WATCH

Filed Dec. 13, 1927

Fig. 1

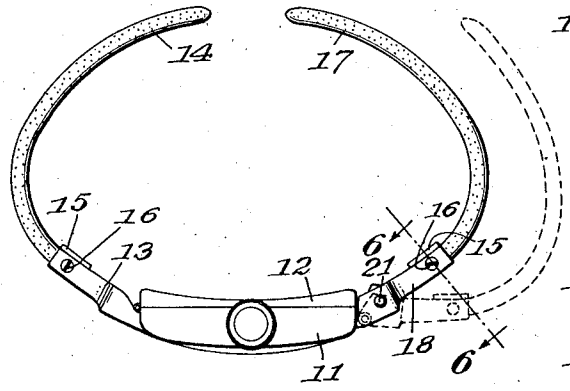


Fig. 5

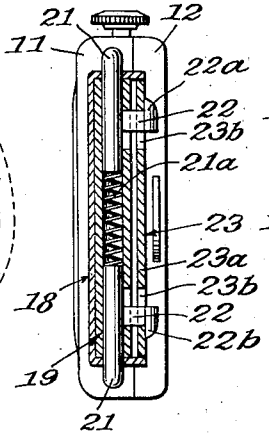


Fig. 6

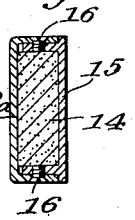


Fig. 2

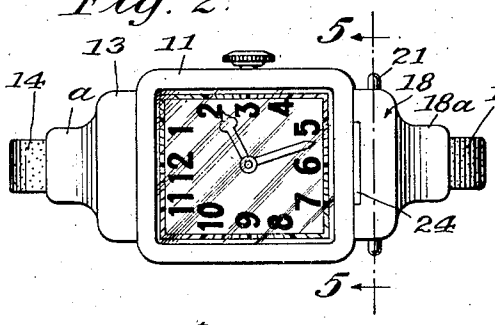


Fig. 7

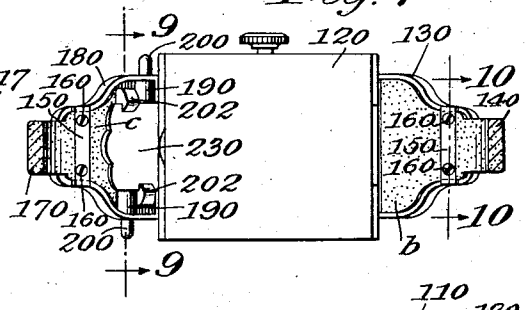


Fig. 3

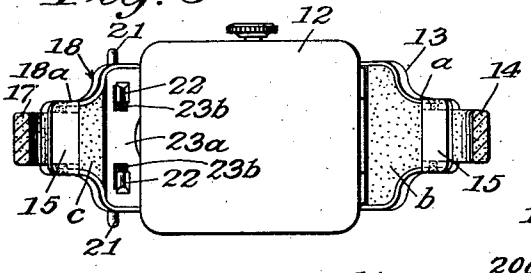


Fig. 8

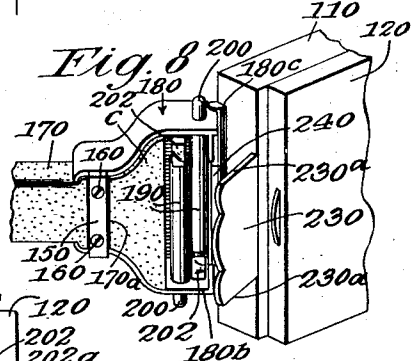


Fig. 4

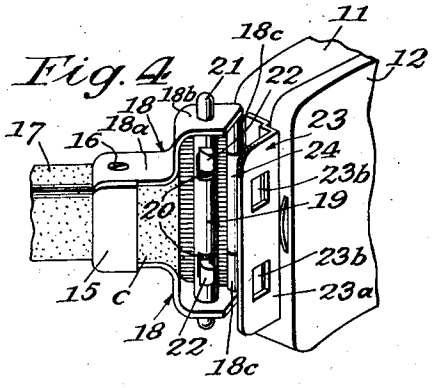


Fig. 9

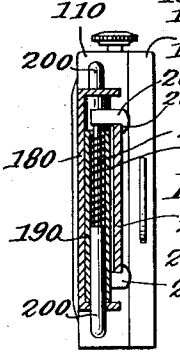
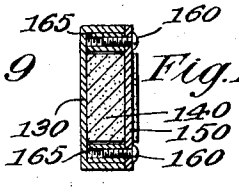


Fig. 10



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Attorneys.

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UNITED STATES PATENT OFFICE

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WRIST WATCH

Application filed December 13, 1927. Serial No. 239,772.

My present invention has to do with wrist watches of a novel type, in which there are two open ended arms secured to the watch case or body, and intended to surround the wrist of the wearer but preferably not in contact with each other on the inside of the wrist. One or both of these arms is hinged to the watch-case and the hinge is provided with locking means so that when in position on the wrist, the arm is held positively against movement about the axis of the hinge. The arms are also preferably made of some material which can be shaped to fit the wrist of the wearer, the most suitable being celluloid or some other material which will soften under heat so that it may be shaped to fit the wrist of the wearer. A wrist watch of the type just described is not my invention and my present invention is an improvement thereon. The object of the present invention is to provide a more satisfactory hinge lock in combination with the other essential parts of a watch case of the foregoing character.

The invention will be more fully understood from the following description when taken in connection with the accompanying drawings and the novel features thereof will be pointed out and clearly defined in the claims at the close of this specification.

Fig. 1 is a plan view of a watch and case embodying my invention, the movable arm being shown in its open position in dotted lines.

Fig. 2 is a front elevation of the parts shown in Fig. 1.

Fig. 3 is a rear elevation.

Fig. 4 is a perspective showing the hinge opened.

Fig. 5 is a section on line 5—5 of Fig. 2, looking in the direction of the arrows.

Fig. 6 is a section on line 6—6 of Fig. 1, looking in the direction of the arrows.

Fig. 7 is an inside view similar to Fig. 3, and shows my invention in a modified form.

Fig. 8 shows this hinge opened.

Fig. 9 is a section on line 9—9 of Fig. 7, looking in the direction of the arrows.

Fig. 10 is a section on line 10—10 of Fig. 7, looking in the direction of the arrows.

Referring now to the drawings, at 11 is shown the body of the watch-case and at 12 the rear cover. At 13 is shown preferably a fixed arm extension, this being formed integral with the case 11 or integrally secured thereto. This arm member is preferably narrowed, as shown at *a*, and is channel-shaped in cross section, see Fig. 6, to receive the inner end of the arm 14, preferably made of celluloid. The inner end of the celluloid arm is widened, as shown at *b*, to fit the contour of the interior of this portion of the member 13, and is secured in place by a channel-shaped clip 15 and screws 16—16 which enter from the sides of the arm. It will therefore be seen that by loosening the two screws 16—16 the clip 15 may be taken off and the arm 14 taken out of the arm member 13, when it is desired for any reason to replace the celluloid arm member 14 by another. In practice it is found desirable to supply celluloid arms of different colors or shapes, and the construction described forms a convenient means of accomplishing this. The movable arm 17 is secured to the movable hinge member 18 in the same way.

At 17 is shown the movable arm extension which is connected with the watch case body 11 through the medium of a movable hinge member or housing 18 which is preferably channel-shaped in cross section having a narrowed portion 18*a* adapted to receive and support the enlarged portion *c* of the arm 17. The member 18 is provided with an outwardly flared or enlarged portion 18*b* at its inner end carrying hinge eye members 18*c* and a latch member or locking device preferably in the form of hooks shown as a whole at 19. The member 19 is preferably in the form of a split sleeve provided with spaced slots 20 in its outer wall, and houses a pair of pins 21, the outer ends of which project through the top and bottom flanges of the portion 18*b* and are urged outwardly to locking position by means of a spring 21*a* interposed between their opposed inner ends (Fig. 5). The pins 21 carry laterally disposed latch members or hook portions 22 which project through the slots 20 (Figs. 3 to 5).

In the form shown the watch-case body 11 is provided at the end adjacent the movable arm member 17 with a plate 23 secured to the case in any suitable manner. This plate has an integral substantially right angularly disposed flange or latch plate member 23*a* provided with slots or openings 23*b* and with a hinge eye member 24, the latter being alined with the eye members 18*c* and secured in such alinement by means of a pintle (not shown) to maintain the movable hinge member and the watch case together. The slots or holes 23*b* are positioned to register with the latch members 22 when the movable arm 17 is swung to a closed position as shown in full lines, Fig. 1.

The heads or hook ends of the latch members 22 are enlarged to provide lateral extensions or lips 22*a* having convex outer faces or cam surfaces, Fig. 5, adapted to engage the inner face of the flange or latch member 23*a* at the slots or openings 23*b*, ride over the plate at points adjacent the other ends of the slots, and engage the inner face of the member 23*a* at the edges of the slots 23*b*, when the parts are brought into register, thereby locking the movable arm extension and watch case against relative movement and preventing said arm member and hinge from swinging about the hinge pintle, which would release the watch from the wrist of the wearer. To release the latch members 22 from engagement with the flange 23 so as to swing the arm 17 to an open position so that the watch may be removed from the wrist, pressure must be applied to the ends of both of the pins 21 to cause the inward movement of these pins thereby releasing the lips 22*a* from engagement with the edges of the flange 23*a*. The depression of one of the pins 21 is insufficient to release the parts. It will be seen therefore that the parts are maintained in fixed relation against accidental release, the construction described eliminating the possibility of the movable arm swinging about its hinge pintle and permitting the watch to fall off the wrist of the wearer.

When the parts are closed as shown in Fig. 3, it will be seen that the member 18 and the latch plate 23 serve to completely conceal the member 19, the only parts of the locking or latch mechanism showing being the hook ends or projections 22 and the outer ends of the pins 21.

In Figs. 7 to 10 inclusive I have shown a modified form of hinge member and lock. In these figures, the fixed arm extension 130 carrying the arm 140 is substantially like the corresponding member 13 of the preceding figures, the arm extension being formed integral with the case 110 or integrally secured thereto. The enlarged inner end *b* of the arm 140 is preferably secured in position in the hinge member 130 by means of a plate 150 adapted to be held in position upon the inner face of the hinge member 130 through the medium of screws 160 threaded into fixed sleeves 165 carried by the hinge member.

At 180, I have shown a movable hinge member or housing generally like that of the preceding figures. This hinge member receives and supports the inner enlarged end *c* of the arm 170 and is provided with an enlarged portion 180*b*, a pair of hinge eye members 180*c*, and a pair of parallel sleeve members or tubes 190 secured to or integral with the inner face of the portion 180*b* adjacent its opposed flanges. Each member 190 houses a latch member or hook in the form of a pin 200 having a reduced shank portion 201 having at its inner end a lateral projecting portion or nose 202*a* provided with a convex outer face. A coil spring 203 within the sleeve 190 surrounds the shank 201. One end of this spring engages the end wall of the sleeve, the opposite end engaging the shoulder of the pin 200 so as to normally project the end of the pin 200 outwardly through one of the flanges of the hinge member 180. It will be noted that by providing a pair of parallel members 190 each adjacent one of the flanges of the member 180, a pin 200 will project through an opening in each of the flanges so as to provide means on opposite sides of the member 180 for actuating the latch members 202.

The end of the watch case body 110 to which the hinge member 180 is connected is provided with a fixed hinge eye 240 adapted to be alined with the hinge eyes 180*c* and receive a pintle for maintaining the parts together. The case is also provided at this end with a preferably centrally disposed projecting latch plate or extension 230, the upper and lower edges 230*a* of which are caused to engage the convex outer faces of the latch members or hooks 202 when the arm 170 is swung inwardly toward the plate 230, causing the noses 202*a* to ride over the plate edges until the parts are locked in which position they are shown in Figs. 7 and 9, with the ends or noses 202*a* engaging the outer face of the plate or extension 230 at its edges. The latch members are maintained in normally locking position through the medium of the springs 203.

The latch plate 230 together with the member 180 serve as a housing or casing to conceal a part of the locking or latch mechanism carried by the hinge member 180 to give a neater appearance to that part of the watch and also to prevent an uncomfortableness to the wearer. The thickness of the hinge member and plate however is less than that of the watch case and cover. To release the arm and permit it to swing about its hinge pintle, it is necessary to apply pressure to the ends of both of the

pins 200. The depression of one pin only is insufficient to release the arm. By providing such a construction the accidental release of the parts is prevented. In both forms of the invention the hooks 22 and 202 are adapted to engage the inner face of the plates 23*a* and 230, respectively, when the parts are locked together.

I claim:

1. In a wrist watch, a watch case, a fixed arm extension connected with said case, a movable arm extension having a hinge member connected with said case, a slotted plate connected with the watch case adjacent said hinge member, and latch members carried by said hinge member having portions adapted to engage the slotted plate when the parts are together to lock the movable arm extension.

2. In a wrist watch, a watch case, a pair of arms adapted to fit the wrist, a hinge connecting one arm to the case, a plate projecting from the case and having alined slots therein, and oppositely movable spring actuated hooks carried by the hinged arm adapted to engage the edges of said slots, said spring actuated hooks being in a line with each other.

3. A wrist watch comprising a watch case, a pair of open arms shaped to clasp the wrist, a casing comprising substantially enclosing walls carried in part by said case and in part by an arm, a hinge for hinging the arm to the case and a device for locking the arm, said hinge and device both extending into said casing.

4. A wrist watch comprising a watch case, a pair of open arms shaped to clasp the wrist, a casing comprising substantially enclosing walls carried in part by said case and in part by an arm, a hinge for hinging the arm to the case, and a device extending into said casing for locking the arm.

5. A wrist watch comprising a watch case, a pair of open arms shaped to clasp the wrist, a housing carried by the arm and having an opening at the back side of the case, a plate carried by the case and normally extending over said opening, means for hinging the housing to the case, and means for releasably locking the housing to said plate.

6. In a wrist watch, a watch case, a pair of arms adapted to fit the wrist, a hinge connecting one arm to the case, a casing having an opening at the back side of the watch case, a plate projecting from the case into said opening and having a slotted portion therein, and oppositely movable alined members shiftably projecting through opposite sides of said casing into the interior thereof and having hooks cooperating with edges of said slotted portion.

In testimony whereof I affix my signature.

SAMUEL MATHEZ.