United States Patent [19]

Fontana

[11] **3,913,182**

[45] **Oct. 21, 1975**

[54] **CLASP FOR METAL BRACELETS AND IN PARTICULAR FOR WRIST-WATCH BRACELETS OR STRAPS**

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[22] Filed: **Mar. 18, 1974**

[21] Appl. No.: **452,377**

[30] **Foreign Application Priority Data**

Aug. 28, 1973 Italy 28270/73

[52] **U.S. Cl.** ..... **24/71 J**

[51] **Int. Cl.²** **A43C 11/00;** A44B 21/00

[58] **Field of Search** ..... 24/71 J, 265 WS, 201 D, 24/69 J, 70 J, 71 R; 63/3, 5; 224/4 D, 4 E, 4 J, 4 K, 28 R, 28 A

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[57] **ABSTRACT**

A clasp for metal bracelets and in particular for wrist watch bracelets or straps, comprising two rigid bodies fastened to free ends of a bracelet. Protruding from one of the bodies is a hook that can be inserted into a hole in the other rigid body. Fitted within the latter body is a latch by which the hook is automatically locked by merely pressing both rigid bodies against each other, and the latch is unlocked when a pushbutton, protruding from one of the rigid bodies, is depressed.

4 Claims, 6 Drawing Figures

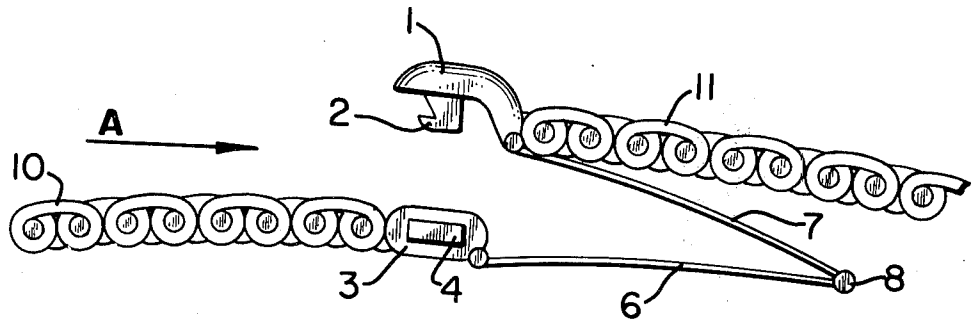


FIG.1

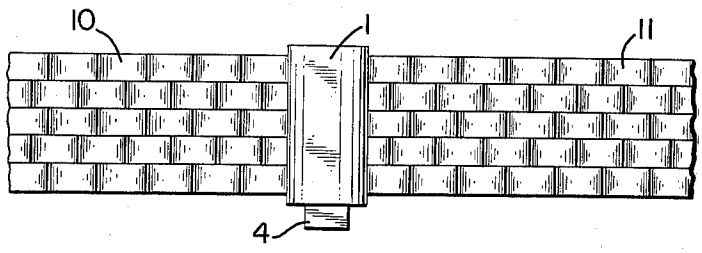


FIG.2

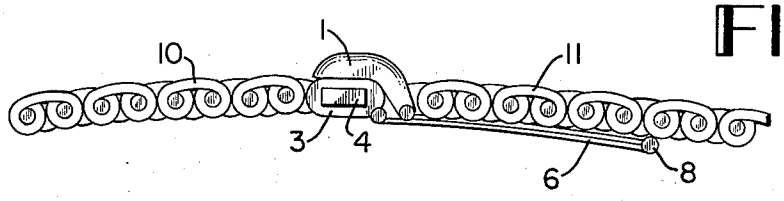


FIG.3

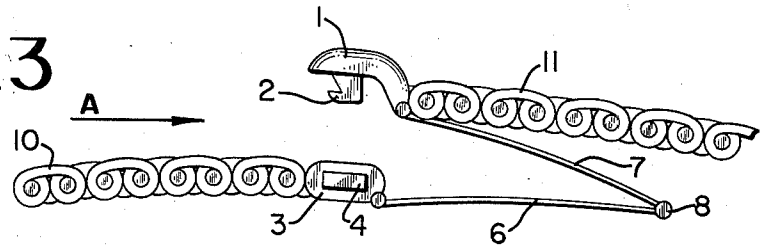


FIG.4

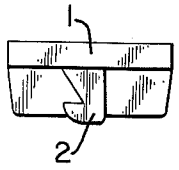


FIG.5

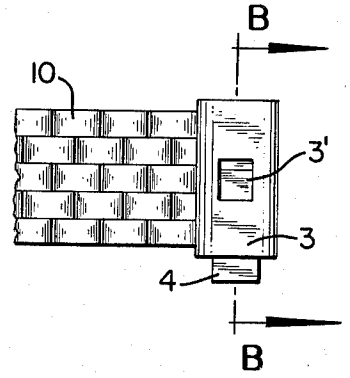
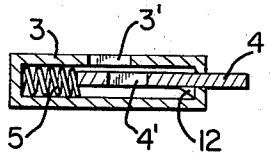


FIG.6



CLASP FOR METAL BRACELETS AND IN PARTICULAR FOR WRIST-WATCH BRACELETS OR STRAPS

This invention concerns a clasp for flexible metal bracelets, and in particular for wrist-watch bracelets or straps.

Already known are many types of clasps for metal bracelets, which however are always either rather expensive, or fail to ensure the required safe fastening, particularly when the bracelets, to which they are fitted, are subjected to accidental pulls.

The main object of this invention consists in the provision of a clasp which, once closed, cannot be accidentally unhooked or opened, thus positively preventing a possible loss of the bracelet, or of the wristwatch to which the bracelet is fitted.

Another object consists in the provision of a clasp of the type as previously stated that can be rather inexpensively produced, owing also to its simple structure, and that can be easily closed and opened.

The above and further objects are attained by a clasp, comprising a first and a second metal body, fastened to free ends of a metal bracelet, or wrist band, whose closing is to be ensured by the clasp, by resting the first body on the second body in the closed condition of the clasp, at least one hook being formed on the first body, while the second body is hollow and receives a slidable pawl therein such that a portion of the pawl projects laterally from a side opening in said second body; there also being accommodated in said recess at least one spring, by which said pawl is urged to a position wherein a part thereof projects laterally from said opening, thus acting as a pushbutton that can be depressed by a finger in order to shift said pawl against the action of said spring. Formed on the side of said second body which, in the closed condition, forces said first body, is at least one orifice having a diameter sufficient to allow for the passage of said hook therethrough, at least a portion of said pawl, within the recess of said second body, being provided with an orifice to engage said hook when it is inserted into the orifice of said second body, and the pawl is in its rest position. The hook can be disengaged by depressing said pushbutton by a finger, i.e. by pushing the pawl back against the action of the spring. The pawl is also formed with a detent dog adapted to be engaged with said second body, whereby to prevent complete removal of the pawl from said second body.

For a better understanding of the structure and features of the clasp according to the invention, a preferred but non-exclusive embodiment thereof will now be described with reference to the accompanying drawing, in which:

FIG. 1 is a plan view of a closed clasp with which a metal bracelet is fitted.

FIGS. 2 and 3 are respective side elevations in closed and open positions of the clasp.

FIG. 4 shows a detail of the clasp, namely of a hook thereof, as seen in the direction of arrow A in FIG. 3.

FIG. 5 is a plan view of one of the two main components of the clasp, and:

FIG. 6 is a cross-section of this component, taken on line B—B in FIG. 5.

As it can be seen from the drawing, the clasp according to this invention comprises a first metal body 1 fastened to the free end of a half metal bracelet 11 and a

second metal body 3, fastened to the free end of another half of a metal bracelet 10, said two halves 10 and 11 of the bracelet being fitted, for example, to a wrist watch.

In the closed condition of the clasp, the first body 1 rests on the second body 3, as shown in FIGS. 1 and 2.

A hook 2, having a relatively large cross-sectional area, projects from that side of body 1 which, when the clasp is closed, is directed toward body 3 (see FIGS. 3 and 4). The body 3 is hollow (as shown particularly in the FIG. 6), and a pawl 4 is slidingly fitted therein. As it can be clearly seen in the drawing, a portion of pawl 4 extends out of an opening which is formed on one side of body 3. Also fitted within the hollow body 3 is also a spring 5, by which the pawl is urged to the position wherein a part thereof protrudes out of body 3, the pawl also being formed with a detent dog 12 adapted to be engaged with the body 3, whereby to prevent the pawl from being separated from hollow body 3.

In effect, only a small portion of pawl 4 projects laterally from body 3, there to form a pushbutton, which can be depressed easily by a finger, while resting another finger of the same hand against the opposite side of body 3, to push the pawl 4 back into said body.

As it can be seen from FIGS. 5 and 6, an orifice 3′ is formed in body 3 which, when the clasp is closed, is directed toward the body 1, orifice 3′ having a diameter sufficient to allow the hook 2 to pass therethrough. Moreover, as shown in FIG. 6, the end of pawl 4 is formed as a latch, i.e. is formed with an orifice 4′ having a diameter sufficient to allow the hook 2 to become engaged therethrough.

In the inoperative condition of the clasp, i.e. when the pawl 4 is not wholly depressed inside of body 3, the orifices 3′ and 4′ are only partly superposed, as shown in the FIG. 6, while they are exactly coincident and aligned when the pushbutton (i.e. the end portion of pawl 4 that projects out of body 3) is depressed by a finger.

The hook 2 is shaped in such a manner that, when the body 1 is placed on the body 3, it can only partly engage the orifice 4′, after having passed through the orifice 3′. By pressing the body 1 against the body 3, the inclined edge of orifice 4′ of pawl 4 which is nearer to spring 5 is acted upon by the surface formed on the lower side of the free end of the hook, thereby causing a shifting of the pawl and a compression of the spring, while a complete penetration of the hook into the inside of body 3 gradually occurs. At this point, the pawl 4 is caused to spring back to its rest position, thereby automatically locking the hook 2, and thus fastening the body 1 to body 3 in the closed position of the clasp.

To release the body 1 from the body 3, i.e. for opening the clasp, it is sufficient to depress the pushbutton-like end of the pawl, whereby to have the orifices 3′ and 4′ accurately aligned with each other; thus, the hook 2 can be disengaged from the latch, and can be brought out of orifice 3′.

A safety device of the already known type can also be fitted, if desidered, to the bracelet, to prevent the bracelet from inadvertently slipping from the hand of the wearer and dropping to the floor. Such safety device may consist of two thin sheets 6 and 7, connected with each other by a hinge 8, and having their opposite ends pivotally connected to the bodies 1 and 3, as shown in FIGS. 2 and 3.

Obviously, the described clasp may be made of any precious or non precious metal, and two single pawls, projecting out of opposite sides of body **3** could be fitted within said body instead of the single pawl shown in the drawing.

Since the clasp is fitted to metal bracelets, it follows that when it is in its closed condition, it will essentially be subjected to stresses having a tendency to draw the body **1** away from the body **3** in the longitudinal direction of the bracelet, i.e. to move the body **1** to the right in FIGS. **1** and **2** with to respect body **3.** Obviously, owing to the ruggedness with which the hook **2** and the body **3** are made, such stresses can not damage the clasp, since they would act practically and exclusively on the hook and on the body **3.** At any rate, the latch pawl will be subjected to weak stresses only (even in the case when components having a tendency to lift the body **1** vertically away from the surface of body **3** are included in said stresses) and thus it can be of small size, though ensuring a good closing of the clasp.

What I claim is:

1. A clasp for metal bracelets comprising a first metal body adapted to be fastened to one free end of a metal bracelet, a second metal body adapted to be fastened to an opposite end of the same bracelet, said first body being superposable on the second body to close the clasp, said first body including a hook projecting therefrom, said second body being hollow, a pawl slidingly fitted inside the hollow second body, said pawl being confined within said hollow second body, said pawl including a portion projecting laterally from said second body, and spring means fitted within said hollow body and acting on said pawl to urge the same in a direction so that said portion of the pawl projects laterally from said second body and can serve as a pushbutton which can be depressed by a finger of the user to shift said pawl inwardly against the action of said spring means, said second body having an orifice of a size sufficient to allow passage of said hook therethrough, said orifice in said pawl being in partial registry with said orifice in said second body such that when said hook is inserted in the orifice in the second body the hook will engage the orifice in said pawl and gradually displace the same against the action of the spring means until said hook is latched with said orifice in the pawl, said pawl being displaceable against the action of said spring means by pressing against said pushbutton to align said orifices and allow removal of said hook from the orifices to separate said metal bodies.

2. A clasp as claimed in claim **1,** wherein said hook has a free end of inclined — plane shape.

3. A clasp as claimed in claim **1** wherein said orifices are rectangular.

4. A clasp as claimed in claim **1** comprising a detent on said pawl engageable with said second body to prevent removal of the pawl from said second body.

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