Feb. 21, 1939. C. DUERR 2,148,263

SAFETY CLASP FOR WRIST-WATCH STRAPS

Filed Feb. 26, 1938

Fig. 1.

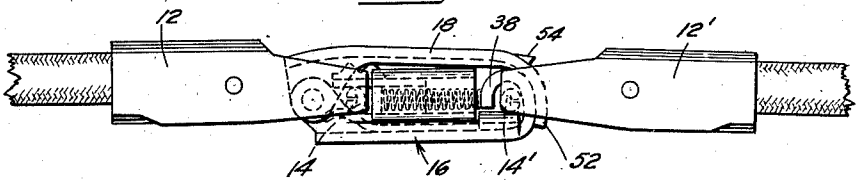


Fig. 2.

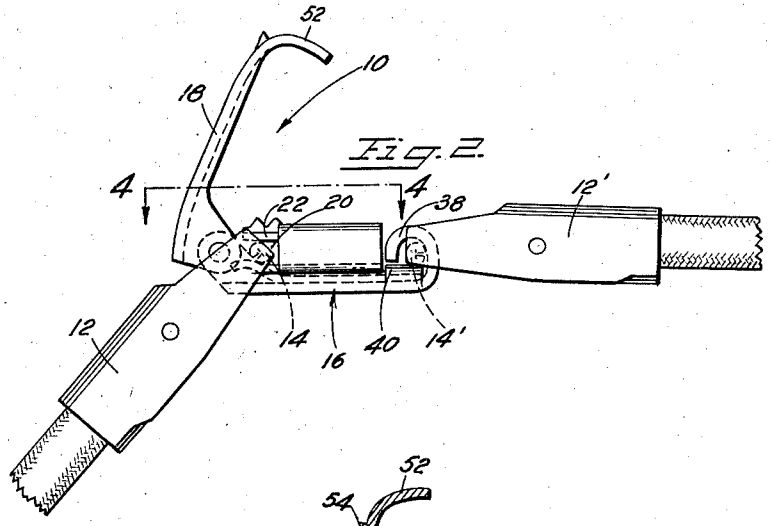


Fig. 3.

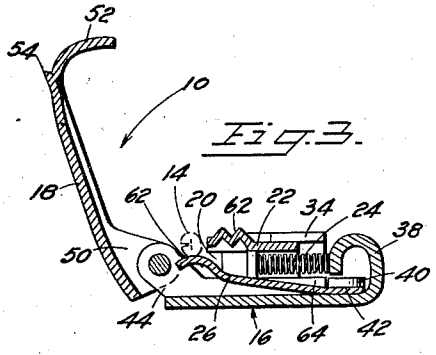


Fig. 4.

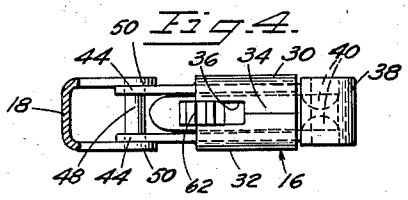
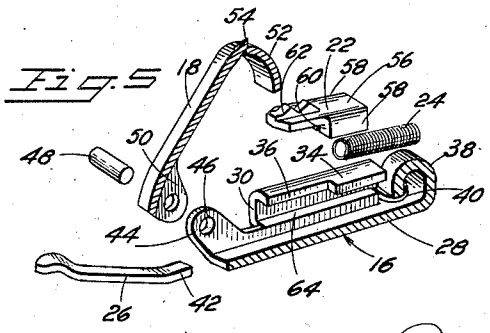


Fig. 5



INVENTOR
CHARLES DUERR
BY
James N. Franklin
ATTORNEY

Patented Feb. 21, 1939

2,148,263

UNITED STATES PATENT OFFICE

2,148,263

SAFETY CLASP FOR WRIST-WATCH STRAPS

Charles Duerr, Glendale, Long Island, N. Y., assignor to Jacoby-Bender, Inc., New York, N. Y., a corporation of New York

Application February 26, 1938, Serial No. 192,695

5 Claims. (Cl. 24—241)

This invention relates to a clasp and more particularly to an improved clasp for wrist-watch straps, bracelets and similar linkages.

The object of the present invention centers about the provision of an improved clasp of the safety type, that is, one wherein the linkage element locked by the clasp is retained locked by a safety element should the normal latch of the clasp be opened or be accidentally disengaged.

In this type of safety clasp, a pivoted latch functions to seal the keeper opening of the latch and to lock the linkage element therein, and a bolt member (the safety element) functions as a second or safety seal for said latch opening and lock for the linkage element, the construction and arrangement being such that the opening (and particularly an unintended or accidental disengagement) of the latch will leave undisturbed the safety seal and lock. In operation, when the latch is opened, the bolt member has to be moved manually to its unlocking position to free the linkage element, and the said bolt member is usually returned to its locking position automatically by moving the latch to its closed position.

The prime desiderata of the present invention deals with an improved safety clasp structure wherein the described function and operation is carried out effectively and which is characterized further by the following functional and operational features: (1) the bolt member is returnable automatically to its locking position by the insertion of the linkage element in the keeper opening of the latch (so that the safety seal and lock may become effective even before the latch is moved to closed position) and (2) when the bolt member is moved manually to its unlocking position to free the linkage element, the linkage element is partially ejected from the keeper opening of the latch (so that the removal of the linkage element from the latch is facilitated).

To the accomplishment of the foregoing and such other objects as may hereinafter appear, the present invention resides in the clasp combination sought to be defined in the appended claims and described in the annexed specification and drawing, in which:

Fig. 1 is a vertical elevational view of the safety clasp of the invention showing the manner of using the same and depicting the arrangement of parts with the clasp in closed position;

Fig. 2 is a similar view thereof showing the relation of the parts with the latch of the clasp in opened position and the safety lock in locked position;

Fig. 3 is a longitudinal cross-sectional view of the clasp showing the latch in opened position and the safety lock in unlocked position;

Fig. 4 is a plan view taken in cross-section in the plane of the line 4—4 of Fig. 2; and

Fig. 5 is a perspective exploded view of the clasp showing all the separate component parts thereof.

Referring now more in detail to the drawing, and particularly to Figs. 1 and 2 thereof, the safety clasp of the invention generally designated as 10 is designed for use with the linkage elements of wrist-watch bands, bracelets or similar linkages, the drawing depicting the use of the clasp for wrist-watch straps of the cord type having terminal links 12 and 12', each terminal link being formed with a cross-bar 14 and 14', the said cross-bars being the linkage elements which are joined to and locked by the clasp 10. Of these linkage elements, the element 12 is the one which is made removably attachable to the clasp.

The clasp 10 comprises essentially the clasp body 16, a latch member 18 pivoted thereto, the said clasp body having a keeper opening 20 adapted to removably receive the linkage element 14, the said latch member 18 being movable from the open position shown in Fig. 2 to the closed position shown in Fig. 1 when it is desired to seal the keeper opening 20 and latch the linkage element 14. The safety lock comprises a bolt member 22 which functions when in the locking position shown in Fig. 2 to form a second and safety seal for the keeper opening 20 and a second and safety lock for the linkage element 14, the said bolt member 22 being slidably mounted in the clasp body 16 and being movable to the unlocking position shown in Fig. 3 when it is desired to free the linkage element 14.

To carry out the stated objects of the invention, the operation of the bolt member 22 is controlled by an actuating spring 24 active on the bolt member to urge or move the same to its locking position, and a holding spring 26 which is active on the bolt member to hold the same in its unlocking position after the bolt member has been manually moved to such unlocking position. With this construction and interrelation of the parts of the clasp, it will be seen that when the latch member 18 is moved to its open position or is accidentally disengaged (assuming the position shown in Fig. 2 of the drawing), the linkage element 14 is still detained in locked posi-

tion, a manual motion of the bolt member **22** from its locking position shown in Fig. 2 to its unlocking position shown in Fig. 3 being required to free the linkage element **14** and to permit removal of the link terminal **12** from the clasp. When the bolt member **22** is thus moved to its unlocking position placing the actuating spring **24** under tension, the holding spring **26** comes into play by dint of its engagement with a part of the bolt member **22** to hold the bolt member **22** in its unlocking position against the action of the actuating spring **24** as is clearly depicted in Fig. 3 of the drawing. The movement of the holding spring **26** from its depressed position shown in Figs. 1 and 2 to the position shown in Fig. 3 functions to partially eject the linkage element **14** so as to facilitate removal of the terminal link from the clasp. Fig. 3 of the drawing also depicts the assumed relationship of the parts when the terminal link **12** is returned to the clasp to be locked thereby. Here it will be seen that upon depressing the free end of the holding spring **26**, either by means of the linkage element **14** or by moving the latch member **18** to its closed position, the holding tension on the bolt member **22** will be released and the actuating spring **24** will then be free to move the bolt member **22** to its locking position.

Considering now more in detail the structure of the clasp elements, the clasp body **16** comprises a part suitably shaped of sheet material and forming a housing for the safety bolt, its actuating spring and its holding spring, the said clasp body comprising in detail a bottom wall **28**, the side walls **30** and **32**, and abutting parts forming a top wall **34**, the said top wall having the cutout or opening **36** formed therein. One end of the clasp body **16** is formed with the curled portion **38** which pivotally receives the linkage bar **14'**, the said body end being also provided with the oppositely turned-in flanges or lugs **40**, **40**, which function to clamp the end **42** of the holding spring **26**. The other end of the clasp body **16** is fashioned to provide the hinge lugs **44**, **44** suitably orificed as at **46** to receive the hinge pintle **48**.

The latch member **18**, also suitably fashioned from sheet material, is shaped at one end to provide the depending lug members **50**, **50** having orifices which mate with the latch body orifices **46** and which also receive the hinge pintle **48**, the other end of the latch member **18** being provided with a down-turned curved or hooked portion **52** adapted to slide over and resiliently interlock with the curled terminal portion **38** of the latch body **16**. Desirably, the latch member **18** is also provided at this end with a finger engaging tooth **54**.

The bolt member **22** is similarly suitably fashioned out of sheet metal stock and is bent up to provide a top wall **56**, two side walls **58**, and medially arranged in-turned lugs forming a wall **60**. The top wall **56** is desirably provided with teeth **62** defining finger engaging means. The actuating spring **24**, which preferably is a compression spring, is seated within the clasp so that its opposite ends are anchored against the wall **60** of the bolt member and a part of the curled end portion **38** of the clasp body. The holding spring **26**, which is preferably in the form of a leaf spring, is so designed that a part thereof engages the bottom of the wall **60** of the bolt member when the bolt member is moved to an unlocking or retracted position, all as best depicted in Fig. 3 of the drawing. This holding spring **26** is also so shaped as to provide at its free end an upstanding part **62** which is located in the keeper opening **20** of the clasp and is there engageable (by the linkage element **14** as already described) to release the holding action of this spring and to thereby permit the actuating spring to move the bolt to its locking position. As will be evident, this upstanding part of the holding spring also functions to assist in ejecting the linkage element when the bolt member is moved to its unlocking or retracted position so as to facilitate removal of the link member from the clasp.

The side walls **30** and **32** of the clasp body have pressed-in portions at their bottom which define interiorly of the clasp body housing a pair of opposite side tracks **64** upon which the bolt member **22** slides or rides. The space between these tracks **64** is that within which the holding spring **26** is movable.

The manner of constructing and using the safety clasp of my present invention and the characteristic functioning thereof securing the advantages of the invention will, in the main, be fully apparent from the above detailed description thereof. It will be further apparent that changes may be made in the construction of the clasp without departing from the spirit of the invention defined in the following claims.

What is claimed is:

1. A safety clasp comprising a clasp body having a keeper opening for detachably receiving an element to be locked, a latch movably mounted on said clasp body active for sealing said opening and locking said element when the latch is moved to its closed position, and a safety bolt for safety-sealing said opening and locking said element, said bolt consisting of a bolt member slidably movable in said clasp body relatively to said opening, said bolt member being movable manually to an unlocking position, an actuating spring active on the bolt member to urge the same to a locking position, and a holding spring active on the bolt member to hold the same in the unlocking position, said holding spring having a part located in said clasp opening and there engageable to release the action thereof and to thereby permit the actuating spring to move the bolt member to its locking position.

2. A safety clasp comprising a clasp body having a keeper opening for detachably receiving an element to be locked, a latch pivotally mounted on said clasp body active for sealing said opening and locking said element when the latch is moved to its closed position, and a safety bolt for safety-sealing said opening and locking said element, said bolt consisting of a bolt member slidably movable in said clasp body relatively to said opening, said bolt member being movable manually to an unlocking position, an actuating spring active on the bolt member to urge the same to a locking position, and a holding spring active on the bolt member to hold the same in the unlocking position, said holding spring having a part located in said clasp opening and there engageable by said element to release the action thereof and to thereby permit the actuating spring to move the bolt member to its locking position.

3. A safety clasp comprising a clasp body having a keeper opening for detachably receiving an element to be locked, a latch movably mounted on said clasp body active for sealing said opening and locking said element when the latch is moved to its closed position, and a safety bolt for safety-

sealing said opening and locking said element, said bolt consisting of a bolt member slidably movable in said clasp body relatively to said opening, said bolt member being movable manually to an unlocking position, an actuating spring active on the bolt member to urge the same to a locking position, and a holding spring active on the bolt member to hold the same in the unlocking position, said holding spring having a part located in said clasp opening and there engageable by said element to release the action thereof and to thereby permit the actuating spring to move the bolt member to its locking position, the said holding spring being free to move to permit said part to partially eject said element from the clasp opening when the bolt member is manually moved to the unlocking position.

4. A safety clasp comprising a clasp body, having a keeper opening for detachably receiving an element to be locked, a latch movably mounted on said clasp body active for sealing said opening and locking said element when the latch is moved to its closed position, and a safety bolt for safety-sealing said opening and locking said element, said bolt consisting of a bolt member slidably movable in said clasp body relatively to said opening, said bolt member being movable manually to an unlocking position, a spring between the bolt member and an end wall of said clasp body active on the bolt member to urge the same to a locking position, and a holding leaf-spring anchored at one end to the bottom of said clasp body active on the bolt member to hold the same in the unlocking position, said holding leaf-spring having its free end located in said clasp opening and there depressible to release the action thereof and to thereby permit the actuating spring to move the bolt member to its locking position.

5. A safety clasp comprising a clasp body having a keeper opening for detachably receiving an element to be locked, a latch pivotally mounted on said clasp body active for sealing said opening and locking said element when the latch is moved to its closed position, and a safety bolt for safety-sealing said opening and locking said element, said bolt consisting of a bolt member slidably movable in said clasp body relatively to said opening, a finger piece on said bolt member engageable for moving the member to an unlocking position, an actuating compression-spring between the bolt member and an end wall of the clasp body active on the bolt member to urge the same to a locking position, and a holding leaf-spring anchored at one end to the bottom of said clasp body active on the bolt member to hold the same in the unlocking position, the said clasp body forming a housing for the bolt member and said springs, said holding leaf-spring having its free end located in said clasp opening and there engageable by said element to release the action thereof and to thereby permit the actuating compression-spring to move the bolt member to its locking position, the said free end being free to move to permit the partial ejecting of said element when the bolt member is manually moved to the unlocking position.

CHARLES DUERR.