Aug. 9, 1938. E. MOREHOUSE 2,126,571

SAFETY CATCH

Filed Dec. 27, 1935

Fig. 1.

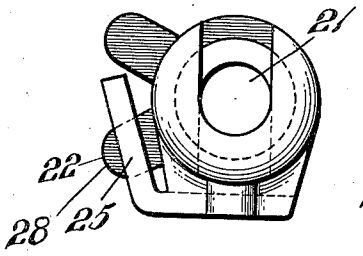


Fig. 2.

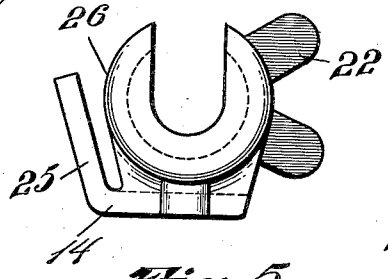


Fig. 3.

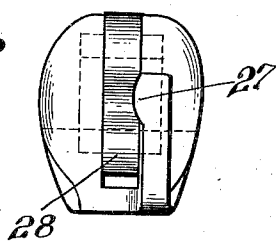


Fig. 4.

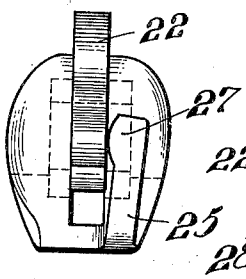


Fig. 5.

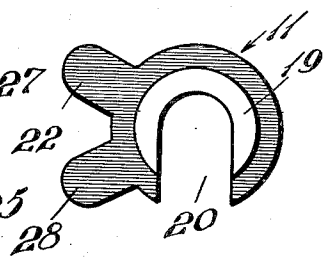


Fig. 6.

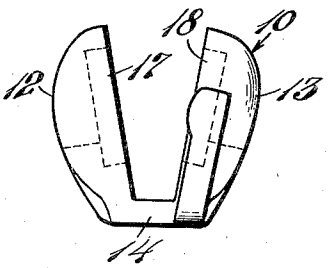


Fig. 7.

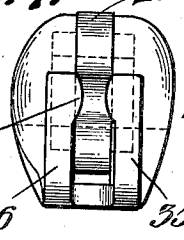


Fig. 8.

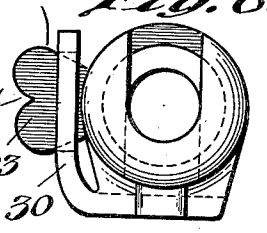


Fig. 9.

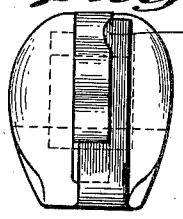
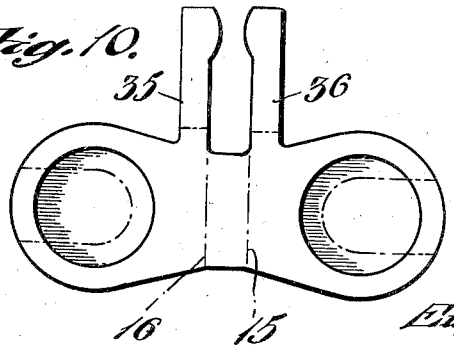


Fig. 10.



INVENTOR.
Eugene Morehouse
BY
Barlow & Barlow
ATTORNEYS.

Patented Aug. 9, 1938 2,126,571

UNITED STATES PATENT OFFICE

2,126,571

SAFETY CATCH

Eugene Morehouse, Providence, R. I., assignor to B. A. Ballou & Co., Inc., a corporation of Rhode Island

Application December 27, 1935, Serial No. 56,305

5 Claims. (Cl. 24—157)

This invention relates to an improved construction of safety catch which is designed to lock the pointed end of a pin stem in engagement with a safety catch; and this invention has for one of its objects the provision of a resilient means for locking the rotor keeper member of the safety catch which will have a greater resiliency than locks heretofore used in safety catches of this character.

Another object of the invention is the provision of a resilient locking means for the rotor member of the safety catch which may be easily adjusted so as to increase or decrease the pressure which it provides and should wear take place an arrangement by which the same may be easily compensated for without the use of special tools for such adjustment.

Another object of the invention is the provision of a means by which a better resilient action may be maintained in the more precious metals than has heretofore been possible with the known constructions.

Another object of the invention is the provision of means having a greater leverage and thus one which may be caused to move through a greater distance to and from a position of holding the rotor member of the safety catch in closed position.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawing:

Fig. 1 is an end view of a safety catch with rotor member in closed position;

Fig. 2 is a view similar to Fig. 1 with a rotatable keeper member in open position;

Fig. 3 is a side view of the catch shown in Fig. 1;

Fig. 4 is a side view showing the locking arm as flexed as the handle of the keeper member is moved from closed position;

Fig. 5 is an end view of the rotatable keeper member;

Fig. 6 is a side view of the body member with its ears spaced for the reception of the keeper member between them;

Fig. 7 is a side elevation of a modified construction of safety catch showing two holding arms instead of one holding arm;

Fig. 8 is an end view of a different modification showing the handle of the keeper member as of a different shape;

Fig. 9 is a side view of the structure shown in Fig. 8 in which the holder arm extends over the upper edge of the one-piece handle rather than between the outwardly projecting portions of the two-piece handle;

Fig. 10 is a plan view of the body member before it is folded to provide spaced ears and showing the position of the holding arms extending therefrom.

Safety catches are designed to be applied to jewelry, such as pins, brooches, and the like, which are of the more expensive character, as it is important that some sort of keeper be used to hold the pin in locked position and prevent the ornament from being detached from the fabric and lost; and in order that a more secure safety catch may be had, I have provided a lock for the rotor member so that it cannot accidentally be moved to open position without some manual manipulation to cause this effect; and the following is a more detailed description of the present embodiment of this invention by which these advantageous results may be obtained.

With reference to the drawing, 10 designates generally the body member of the safety catch and 11 the keeper member which is rotatably mounted therein. This body member consists of ears 12 and 13 connected to a base 14, which parts are usually formed of a single piece of material blanked out, as shown in Fig. 10, and bent into the form shown in Figure 6 along the lines 15 and 16 shown in Figure 10. These ears are each recessed as at 17 and 18 to receive trunnions 19 on opposite sides of the keeper 11 and provide bearings therefor. This keeper is slotted as at 20 to align with slot 21 in the body member in one position and to be positioned downwardly and out of line with the upwardly extending slot of the body when in closed position, as shown in Figure 1. The keeper is manipulated from closed to open position by the handle 22 which in the formations shown in Figures 1 to 7, inclusive, consists of spaced projecting portions, while in the forms shown in Figures 8 and 9, the handle 23 consists of one solid piece notched as at 24.

In order to hold the keeper member in closed position an arm 25 is provided to extend laterally outwardly from the base 14, as clearly shown in Figure 2, and then upwardly in spaced relation to the peripheral edge 26 of the body. At the end of this arm there is a convex protuberance 27 having a surface substantially following a portion of the surface of a sphere which protrudes into the path of travel of the handle 22 so that as the handle is moved to and from closed position, portion 28 will engage and force the arm to one side, as shown in Figure 4 in snapping past the arm which then springs back again into a position, as

shown in Figure 3, with this protruding portion **27** extending over the portion **28** of the arm and thus holding it in locked position.

In the showings in Figures 8 and 9, the arm **30** is longer and higher than that previously shown and extends upwardly to provide a protruding portion **31** in the path of travel of the handle **23**. In this case, the portion **30** must extend over the upper edge **32** of the handle **23** to hold it in closed position, as there is no space as in handle **22** for such engagement.

In Figure 7 I have illustrated two arms **35** and **36** located on opposite sides of the path of travel of the handle each substantially a duplicate of arm **25** with portions **37** in the path of travel of the handle to act in the same manner as the protruding portions **27**, above described.

The arm such as shown at **25** or **30**, or the arms **35**, **36** are formed integral with the body at the base thereof and are formed by blanking out a structure such as shown in Figure 10, so that all of the parts of the body that is the ears **12** and **13** and one arm or two arms **35** and **36** are formed all of a single piece of stock and then bent to desired position.

There is sufficient resiliency in an arm so that an easy action may be had which is due to the long radial distance between the protuberance **27** and the center of rotation of the keeper and due to the long arm may be easily bent so as to adjust the frictional holding tension desired as the parts move to and from closed position; and also, should the engaging end of the arm or the handle become worn, it is very easy to adjust the arm by bending without any special tools for the purpose. Further, the arm is a type of construction which the wearer may easily comprehend so that he or she may bend this arm to increase its tension.

The foregoing description is directed solely towards the construction illustrated, but I desire it to be understood that I reserve the privilege of resorting to all the mechanical changes to which the device is susceptible, the invention being defined and limited only by the terms of the appended claims.

I claim:

1. A safety catch comprising a body member, a keeper member rotatably mounted in said body member and having a handle projecting outwardly beyond the margin of the body member, a resilient arm connected to the body member and extending outwardly therefrom and thence along the body member and in close adjacency thereto and having at the end of said arm a portion in the path of movement of a portion of said handle, said handle being sprung past the arm by the resilient movement of the arm in a direction substantially parallel to the axis of rotation.

2. A safety catch comprising a body member having an attaching base and side ears, a keeper member rotatably mounted in said body member and having a handle projecting outwardly beyond the margin of the body member, a resilient arm connected to the body member adjacent the base and extending outwardly and upwardly from the marginal edge thereof in close adjacency thereto and having a portion in the path of movement of a portion of said handle, said handle being sprung past the arm by the resilient movement of the arm in a direction substantially parallel to the axis of rotation in moving to and from closed position.

3. A safety catch comprising a body member having an attaching base and side ears, a keeper member rotatably mounted in said body member and having a handle projecting outwardly beyond the margin of the body member, a resilient arm connected to the body member adjacent the base and extending outwardly and upwardly from the marginal edge thereof and in spaced relation but in close adjacency thereto and having a portion in the path of movement of a portion of said handle, said handle being sprung past the arm by the resilient movement of the arm in a direction substantially parallel to the axis of rotation in moving to and from closed position, said handle engaging portion of said arm having a convex surface conforming generally to the surface of a sphere to assist in its initial movement past the handle in either direction.

4. A safety catch comprising a body member, a keeper member rotatably mounted in said body member and having a handle projecting outwardly beyond the margin of the body member, a pair of resilient arms connected to the body member adjacent its base and extending outwardly and upwardly and spaced from each other and on either side of the path of movement of a portion of said handle, said arms yielding in a direction parallel to the axis of rotation to permit said handle to pass in moving from open to closed position.

5. A safety catch comprising a body member, a keeper member rotatably mounted in said body member and having a handle projecting outwardly beyond the margin of the body member, a pair of resilient arms connected to the body member adjacent its base and extending outwardly and upwardly and spaced from the body member and from each other and on either side of the path of movement of said handle with portions extending into the path of movement of said handle and in close adjacency to said body member, said arms yielding in a direction parallel to the axis of rotation to permit said handle to pass in moving from open to closed position, the handle engaging portion of said arm having a convex surface to assist in its movement in either direction.

EUGENE MOREHOUSE.