April 21, 1931. F. D. FERRONE 1,801.955

SAFFTY PIN

Filed April 11, 1930

Fig. 1.

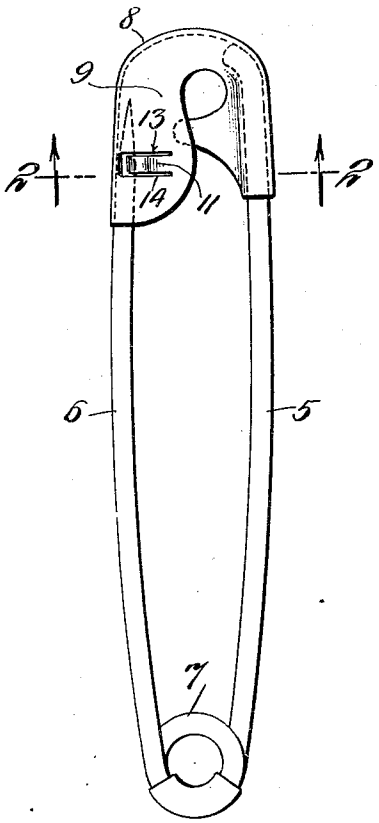


Fig. 3.

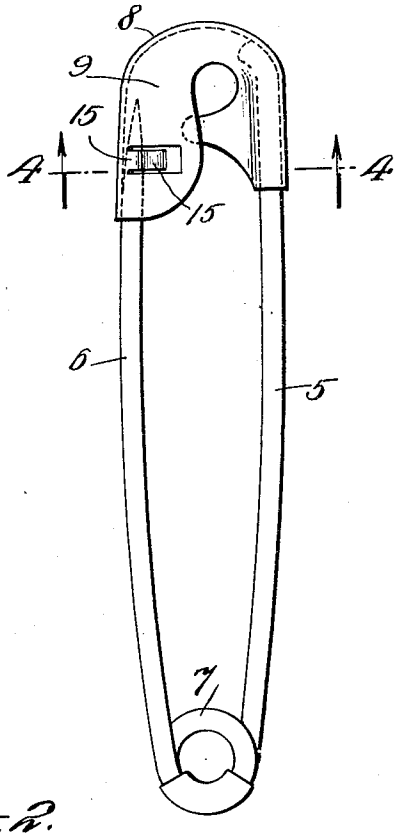


Fig. 2.

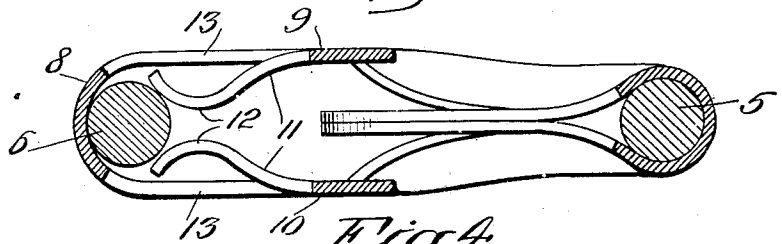
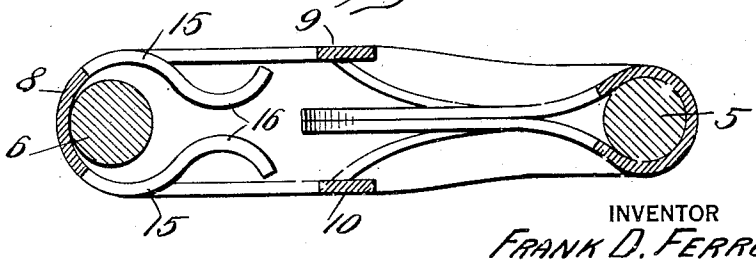


Fig. 4.



INVENTOR

FRANK D. FERRONE

BY Geo. L. Wheelock

ATTORNEY

Patented Apr. 21, 1931 1,801,955

UNITED STATES PATENT OFFICE

FRANK D. FERRONE, OF NEW YORK, N. Y.

SAFETY PIN

Application filed April 11, 1930. Serial No. 443,312.

This invention relates to safety pins of the kind provided with special means aiming to more securely hold the pin engaged and seated in the shield or cap of the safety pin.

Objects of the present invention are to provide simple, practical and efficient means for restraining or preventing the accidental releasement of the point of the pin from the sheath or cap, such safety pin including two spring-connected legs, a sheet metal shield on the free end of one leg for engagement by the pin formed by the other leg, the opposite cheeks of the shield having transverse incisions and also transverse spring catches struck up from the cheeks and defined by the incisions, and the catches having free ends provided with inward, mutually presented, shoulders past which the pin is adapted to be snapped and held thereby when the safety pin is to be closed.

These being among the objects of the present invention, the same consists of certain features of construction and combinations of parts herein described and claimed, and shown in the accompanying drawings in a preferred and modified form and in which:

Figure 1 is an enlarged side elevation of the improved safety pin in its preferred form;

Fig. 2 is an enlarged cross-section thereof on the line 2—2, Fig. 1;

Fig. 3 is a side elevation of a modified form, and

Fig. 4 is an enlarged cross-section on the line 4—4, Fig. 3.

Similar parts in both of the illustrated, preferred and modified forms of the invention bear the same reference numerals, different numerals being used to point out the specific difference between the two forms illustrated.

In the drawings, the general type of safety pin is illustrated, the same having a leg 5 forming a back bar and a leg 6 which is formed into the pointed pin of the device, and the two legs are formed in one with a helical spring 7 which connects them. Secured in any usual or preferred manner to the back bar or leg 5 is the sheet metal shield or cap 8 which may be of any preferred construction, the same being adapted to receive and engage with the pointed end of the pin 6.

The shield or cap 8 is made of suitable metal of a more or less springy character which can be bent up by dies. Usually the shield or cap 8 is provided with opposite cheeks 9, 10 which provide a pocket between them, in which the pointed end of the pin is received, and as such these cheeks are fairly stiff and as such present little if any resilience.

In the preferred form of the invention shown in Figs. 1 and 2, the cheeks 9, 10 are provided with integral struck-up tongues 11, one for each cheek, and the free end of each tongue is bent inwardly so as to form more or less of a shoulder 12. These shoulders 12 are presented mutually towards each other so as to oppose each other and to provide a contracted throat between them. Inasmuch as the shields 9, 10 are composed of suitable sheet metal and as the tongues 11 are struck up therefrom, the said tongues possess suitable resilience, being of small width as compared with the length of the shield or cap, and being rather elongated.

To enable the formation of these special spring tongues or catches, a pair of incisions is made in each cheek 9, 10 at 13, 14, so that when the tongue shaped catches are bent up and formed as shown in Fig. 2, openings are formed in both cheeks, representing the amount of metal which was removed in order to enable the formation of the spring tongues. It will be seen that when the pointed end of the pin 6 is to be seated in the shield or cap 8, said end is pressed with a little force through the throat formed between the two shoulders 12, thereby pressing the spring tongues 11 outwardly, and then when the pointed end of the pin is seated as shown in Fig. 2, the free ends of the tongues, formed with such shoulders, spring back into such position as to retain the pointed end of the pin to its seat.

In the form of the invention shown in Figs. 1 and 2, the spring tongues 11 emerge from the outermost portions of the cheeks 9 and 10, and the free ends of the tongues are directed towards the pin 6 when it is

seated in the shield. In the modification of the invention illustrated in Figs. 3 and 4 the spring tongues 15 emerge from points at opposite sides of the seat for the pin, and the free ends of the tongues extend in a direction towards the back bar 5, or in an opposite direction to that shown in the preferred form of the invention. In the modified form, the spring tongues 15 are also formed at their free ends with inwardly presented or bent portions 16 which form a contracted throat for the entrance of the pin as in the preferred form of the invention. In other words, in the preferred form, the pin 6 passes the full length of the spring tongues 11 in being seated in locked position, whereas in the modified form the pin becomes seated and locked between the base portions of the spring tongues 15, after the pin has passed by the shoulders 16.

It will be obvious to those skilled in the art that changes may be made from the exact construction shown and described, such as slashing or incising the shield or cap in different ways to provide spring jaws, fingers or tongues, and that such changes can be made without departing from the invention as defined in the scope of the appended claims.

What I claim as new is:

1. A safety pin, including two spring-connected legs, a sheet metal shield on the free end of one leg for engagement by the pin formed by the other leg, the opposite cheeks of the shield having transverse incisions and also transverse spring catches struck up from the cheeks and defined by the incisions, the catches having free ends provided with inward, mutually presented, shoulders past which the pin is adapted to be snapped and held thereby when the safety pin is to be closed.

2. A safety pin, including two spring-connected legs, a sheet metal shield on the free end of one leg for engagement by the pin formed by the other leg, the opposite cheeks of the shield each having a pair of transverse incisions and also transverse spring catches struck up from the cheeks and each located between and defined by the incisions of a given pair, the catches having free ends provided with inward, mutually presented, shoulders past which the pin is adapted to be snapped and held thereby when the safety pin is to be closed.

3. A safety pin, including two spring-connected legs, a sheet metal shield on the free end of one leg for engagement by the pin formed by the other leg, and spring catch tongues struck up from the cheeks of the shield and bent inwardly at their free ends to provide shoulders forming a contracted throat through which the pin is adapted to be pressed so as to be held by the shoulders when the safety pin is to be closed.

FRANK D FERRONE.