(No Model.)

R. T. CHEW.

SAFETY BUTTON FASTENER.

No. 342,182. Patented May 18, 1886.

Fig. 1.

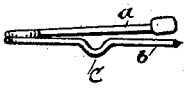


Fig. 2.

Fig. 3.

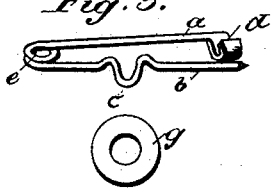


Fig. 4.

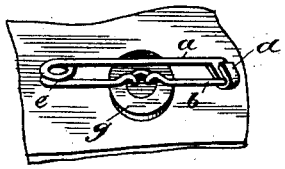


Fig. 5.

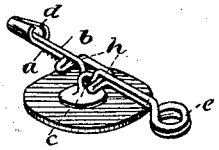


Fig. 6.

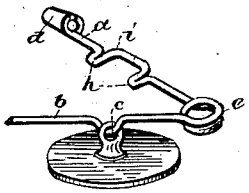


Fig 7.

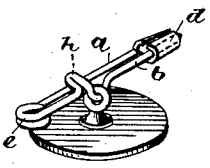
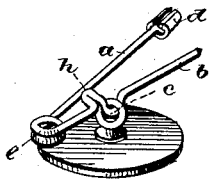


Fig. 8.



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SAFETY BUTTON-FASTENER.

SPECIFICATION forming part of Letters Patent No. 342,182, dated May 18, 1886.

Application filed February 19, 1886. Serial No. 192,497. (No model.)

To all whom it may concern:

Be it known that I, REBECCA T. CHEW, a citizen of the United States, residing at Girard, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Safety Button-Fasteners; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in safety button-fasteners; and the object is to produce a fastener which will secure the button firmly in position without making a hole in the garment, as well as to render it readily attachable and detachable as occasion may require.

The invention consists in a safety button-fastener fashioned in part like the well-known safety-pin. The fastener is made of wire of any suitable kind and size, and, like the safety-pin, is coiled into a spring at one end and has a guard or shield at the other to hold it and protect the point.

In carrying out my invention I form a loop midway in the pin corresponding in size to the eye of an ordinary button, which loop is bent at right angles to the coil of the fastener, so that in use the fastener will lie on its side. Then by passing the pin through the eye or shank of the button from the inside of the garment and immediately back to the inside again after the loop or shank has been taken up, and pressing the pin forward until the loop thereon engages the eye or shank of the button, the loop alone will extend through the garment on the outside and the fastener will remain on the inside and serve to hold the button securely in place.

In the accompanying drawings, Figure 1 is a side view, and Fig. 2 a plan view, of one form of my improved fastener. Figs. 3 and 4 are part plan views of another form, in which a perforated disk appears as an element in the fastener, Fig. 3 showing the parts as disconnected, and Fig. 4 as attached to a piece of fabric. Figs. 5 and 6 are perspective views of a third form, and Figs. 7 and 8 perspectives of still another form.

In the several views, *a* represents the stem or back of the fasteners, *b* the pin, *c* the loop, *d* the guard or shield, and *e* the coiled spring.

In the construction of my improved fastener I have sought to accomplish several results not heretofore attained in this class of devices, among which I may name—

First, the utilization of the stem or back of the fastener to support the pin when under strain. By this means I am enabled to use much smaller wire than would be practicable if the strain came on the pin alone, thus yielding material economy in the manufacture of the article, while it also gives greatly improved results so far as the effect upon the fabric is concerned. For example, as will be seen in the first illustrated form, (shown in Figs. 1 and 2,) the loop is not only bent at right angles to the side of the pin, but the initial bend at each side is inward a short distance, so as to throw the loop toward the center of the fastener.

The same result follows in the second form of the device, (shown in Fig. 4,) in which the construction is identical with that above described, but has in addition a perforated disk or ring, *g*, interposed between the fastener and the fabric, which divides the strain between the pin and stem and serves another useful function, as will be seen further on.

In the third form (shown in Figs. 5 and 6) the back or stem of the fastener is constructed with two lapped bearings, *h*, extending forwardly at right angles from the back or stem, which in this instance is out of line with the projections of the stem on either side thereof, so as to allow the pin to rest on the stem when the two parts are locked together. When the parts are thus located, the bearings *h* project past the sides of the loop *e* and form lateral supports of very great strength, so that though comparatively light wire be used in the construction of the fastener the pin will sustain extraordinary strain without drawing out or becoming impaired.

In the fourth form (shown in Figs. 7 and 8) I form a lapped right-angled projection or arm, *h*, on the pin immediately behind the loop for the button, which is made long enough to extend over the stem and bring it positively into service to support and strengthen the pin.

In these four forms the pins and stems are shown as projecting from the spring or coil on opposite sides, so that they have the width of the spring or coil between them when in locked position; but this construction may be varied so as to change the relation of the parts to each other, as may be desired, without departing from the spirit of my invention.

Another important feature of my improvement, as will appear from the foregoing description, is the protection which it gives to the cloth or fabric on the sides of the loop. It will of course be understood that when the strain is such as to require it the perforated disk or ring *g* can be used with either the first, second, or fourth forms of fastener described. It is not necessary in any of them when the strain is slight and the fabric strong and firm; but where the strain is great and the buttons are much used side protection is required. The disk serves this purpose admirably, as it fits snugly about the base of the loop, where the strain comes, preventing spreading and liability to draw through, while at the same time it provides a wide bearing upon the fabric on all sides, and so distributes the strain over a large area.

The manner of connecting the disk with the pin and button is simple. This is accomplished by placing the button in its proper position on the garment on one side and the disk directly opposite it on the other side. Then by pressing the eye of the button with the interposed fabric into the hole in the disk the eye of the button is in convenient position to be taken up by the pin, when the operation is completed and an absolutely secure fastening of the button is effected. The same result is obtained by the construction shown in Figs. 5 and 6, with the advantage of having the lateral bearings or supports integral with the fastening-pin. In this form the connecting part *i* is shown as out of line with the projections of the stem on either side. It might, however, be in the same line, and the stem and pin at their ends next to the coil be arranged to lie side by side in the plane of the coil, instead of in a plane at right angles to the coil, as shown.

My improved fastener is admirably adapted for use with all kinds of buttons having metallic, cloth, or other eyes or shanks, through which they ordinarily are stitched to secure them to a garment. It may be of any desired size, but if made about an inch in length will be large enough for convenience in handling and to furnish a perfectly safe and secure fastening.

I am aware that a safety-pin with a loop in the pin in the same plane as the spring has been made; and I am also aware that a patent exists for pin with a coiled-wire shield for the point and showing loops on the back of the pin at right angles to the coils; but this is not of the nature of my invention. This pin could not be used for the purpose for which mine is designed, and I do not hesitate to disclaim all it contains. The objection to the first-named patent, which I have overcome, is its extreme weakness. A pin fashioned on that plan would have practically little or no utility, for the reason that it has nothing to support and strengthen it, and it would pull through and become unserviceable under ordinary strain. I avoid this objection by providing side support for the loop and make a fastener which cannot be pulled through or bent.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A safety button-fastener having a loop on its pin, and a support for the pin at the side of the loop, whereby the pin is prevented from drawing through the garment, substantially as set forth.

2. A safety button-fastener having a back or stem bent to form lateral supports, and a pin provided with a loop which rests between said supports when the parts are in use, substantially as set forth.

3. A safety button-fastener consisting of a pin and a back provided with loops and connected at one end by a spring, the said pin and back being brought together at the spring, so as to project therefrom side by side, whereby the looped back is made to strengthen and support the pin, substantially as set forth.

REBECCA T. CHEW.

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