

H. I. PHILLIPS.
 BUTTON FASTENER.
 APPLICATION FILED JUNE 11, 1912.

1,069,171.

Patented Aug. 5, 1913.

Fig. 1

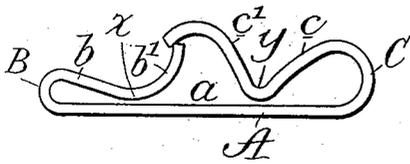


Fig. 2.

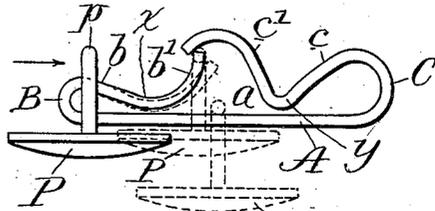


Fig. 3.

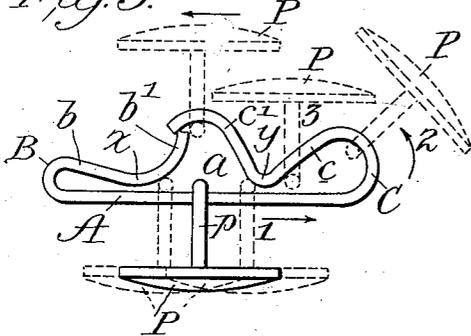


Fig. 4.

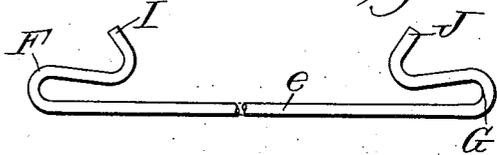


Fig. 7.

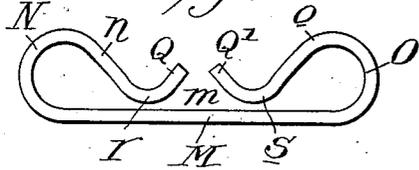


Fig. 5.

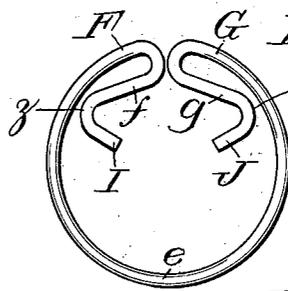


Fig. 8.

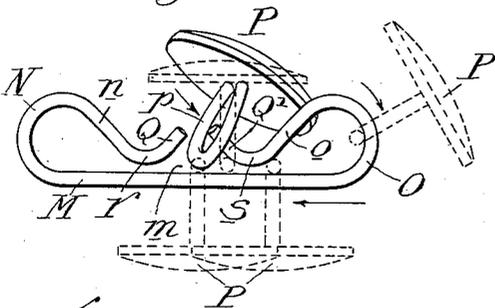
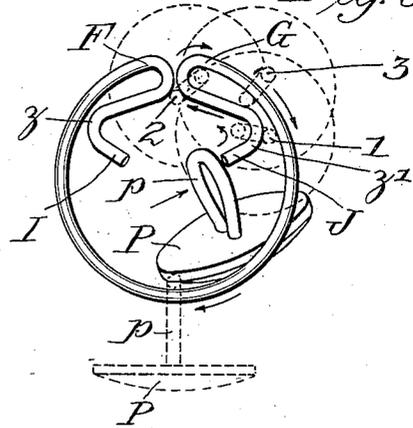


Fig. 6.



Witnesses:
P. J. Hoffmann
W. E. Bunell

Inventor:
H. I. Phillips
 By his Attorneys:
Palmer Wright

UNITED STATES PATENT OFFICE.

HARRY I. PHILLIPS, OF WATERBURY, CONNECTICUT.

BUTTON-FASTENER.

1,069,171.

Specification of Letters Patent.

Patented Aug. 5, 1913.

Application filed June 11, 1912. Serial No. 702,956.

To all whom it may concern:

Be it known that I, HARRY I. PHILLIPS, a citizen of the United States, residing in Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Button-Fasteners, of which the following is a specification.

This invention relates to devices for removably fastening buttons to garments. Uniforms, overalls, waistcoats, etc., are commonly provided with detachable buttons and various devices have been employed and suggested for this purpose.

It is the object of my invention to provide a device which, while simple in construction and economically manufactured, may be easily applied or detached and will securely hold the button in place.

According to my invention I form the fastener of a single piece of wire bent to such form as to permit it to be easily applied to the button but which when once applied is so guarded that the button can not be accidentally separated from it.

The invention may be embodied in fasteners varying somewhat in details but which all possess the common characteristic of providing a plurality of guards or obstructions past which the eye of the button must pass before it can leave the fastener.

In the accompanying drawing one form of my invention is shown in Figures 1, 2 and 3. Fig. 1 shows a side elevation of the fastener. Fig. 2 is a similar view of the fastener showing how a button of ordinary construction may be connected with it. Fig. 3 is a similar view of the fastener showing the manner in which the button must be moved in order to be separated from the fastener. Figs. 4, 5 and 6 show a modified form of the invention. Fig. 4 illustrates the blank from which the fastener is made. Fig. 5 shows the completed fastener. Fig. 6 is a view similar to Fig. 5, but indicating how the button must be moved in order to be connected properly with the fastener. Figs. 7 and 8 show a further modification. Fig. 7 is a side elevation of the fastener. Fig. 8 is a similar view and indicates how it is necessary to move the button in order to attach it to the fastener or to detach it therefrom.

In each instance the fastener comprises a button-holding portion, guarded on opposite sides by spring-pressed humps and formed with loops on opposite sides of the humps connecting with fingers for receiving and discharging the eye of the button.

In Fig. 1 the fastener is shown as comprising a straight part A connecting at opposite ends with loops B, C. The loop B is relatively narrow and may be passed through the eye of a button; the loop C is wider and cannot be passed through the button's eye. The side *b* of the loop B extends diagonally inward toward the straight part A where it connects with an outwardly curved finger *b'*, there being a hump *x* at the inner side of the loop close to the straight part A of the fastener. The outer side *c* of the loop C also extends diagonally inward and connects with a finger *c'* which projects outwardly toward the finger *b'* which it overlaps. The joint between the finger *c'* and the outer side *c* of the loop C produces a hump *y* similar to the hump *x*. By this construction a fastener is produced comprising a button-holding part *a* guarded on opposite sides by spring-pressed humps *x*, *y* carried by loops B and C which connect with fingers *b'*, *c'* which receive the eye of the button.

In order to place the button on the fastener the loop B is first passed through the eye *p* of the button P and the finger *b'* is sprung inward as indicated. Then the button B drops into the button-holding portion *a* of the fastener. It will be understood, of course, that the eye of the button is passed through the fabric before the fastening device is applied.

In order to separate the button from the fastener it is necessary to move it in the manner shown in Fig. 3. It will first be observed that the button is guarded by the humps *x* and *y* so that it cannot be accidentally moved into either one of the loops B or C. The loop B is so narrow that the eye cannot conveniently be sprung past hump *x* and it cannot accidentally be sprung past the hump *y* without unusual pressure but if the proper amount of pressure is applied the button may move from the position shown in full lines in Fig. 3 to the position 1 shown by dotted lines, the hump *y*

springing open to permit the eye to pass; then the button is moved to position No. 2 in the loop C; then to the position No. 3 in loop C and then again past the hump *y*; then it is moved along the finger *c'* and finally, by pulling the finger *c'* outward it is moved past the end of the finger *b'* and separated. It will thus be seen that the eye of the button must pass the hump *y* twice before it can be separated from the fastener, and furthermore in the construction shown in Fig. 3 it must pass by a spring-actuated obstruction at the end of the finger. The possibility of the button being lost by accidental separation from the fastener is thus very remote.

The fastening device shown in Figs. 1, 2 and 3 is of such shape that if desired the button may be moved to the position No. 2, shown in Fig. 3, and the fastening device passed through the eyelet in the cloth and then the button may be turned to the position shown in full lines in Fig. 3. In this way the fastener and button may always be kept together.

In Figs. 4, 5 and 6 a modification is shown. Fig. 4 shows the blank from which the fastener is produced. By merely bending this blank in one operation the fastener shown in Fig. 5 may be produced, being in the form of a divided ring having loops and fingers similar in function to those before described. This fastener has a button-holding portion *e*, loops F and G and fingers I and J. The loops are formed by continuing the wire at the division of the ring inward, the sides *f* and *g* of the loops being inclined, and coming close at their ends to the ring where they join the fingers I and J, which are turned inward toward each other. This construction produces humps *z*, *z'* on opposite sides of the button-holding portion *e*, these humps being spring-pressed and so arranged that the eye of a button cannot accidentally pass between them and the ring. The outer ends of the loop come close together so that the eye of the button cannot pass them without springing the metal. In this construction also it will be observed that there is a button-holding portion guarded on opposite sides by spring-pressed humps and the device is formed with loops on opposite sides of the humps and fingers at the ends of the loops for receiving and discharging the eye of the button.

In order to place a button on the fastening device, it is necessary to proceed in the manner indicated in Fig. 6. The eye *p* of the button is first moved on to one of the fingers I or J and when it comes to the position 1 it must press the hump away from the ring. Then the button is moved to position No. 2 and must then press the loops F and G apart. Then the button is turned and moved to the position No. 3 when it

must again press the hump away from the ring in order to pass. After this is done the button may move to the proper position shown at the bottom of Fig. 6. In order to withdraw the button from the fastener, it must be moved past the hump and loop in the manner above described but in reverse order, it being necessary to move the eye past spring-pressed parts of the fastener three times before it can be withdrawn.

Figs. 7 and 8 show another modification, the form of the fastener being, however, quite similar to those before described. Comparing Fig. 7 with Fig. 1 for instance, it will be observed that the fastener is substantially the same except that the upper or overlapping part of the finger *c'* of Fig. 1 is omitted. The blank shown in Fig. 4 is also quite similar to the fastener shown in Fig. 7. Furthermore, it will be observed that the fastener of Fig. 7 has a button-holding portion in its middle part guarded on opposite sides by spring-pressed humps. It is formed with loops on opposite sides of the humps and fingers at the ends of the loops for receiving and discharging the eye of the button. More specifically the fastener consists of a straight part M, connecting with loops N and O on opposite sides. The outer sides *n* and *o* of the loops are turned toward the straight part M and connect with outwardly projecting fingers Q, Q', humps *r*, *s* being formed on opposite sides of the button-holding part *m* of the fastener. In order to connect a button P with the fastener it must be moved in the manner shown in Fig. 8. First the eye *p* is placed on one of the fingers and then moved past one of the humps, such as *s*. Then the button is moved into one of the loops, then past the same hump again and finally into the button-holding part of the fastener. To remove the button the same movements are necessary but in reverse order. When in use the button is held between two spring-pressed humps which prevent it from passing accidentally into either of the loops.

I claim as my invention:

1. A wire button fastener, comprising a button-holding portion guarded on opposite sides by spring-pressed humps and formed with loops on opposite sides of the humps, and fingers at the inner ends of the humps in the middle portion of the fastener for receiving and discharging the eye of the button.

2. A wire button fastener, comprising a button-holding portion, loops at opposite ends of the button-holding portion, spring-pressed humps between the loops and the button-holding portion, and fingers projecting outwardly from the inner ends of the loops in the middle portion of the fastener.

3. A wire button fastener, comprising a

button-holding portion guarded on opposite
sides by spring-pressed humps, a relatively
narrow loop at one end of the fastener, a
wider loop at the opposite end thereof, and
5 overlapping fingers projecting from the in-
ner ends of the loops in the middle portion
of the fastener.

In testimony whereof, I have hereunto
subscribed my name.

HARRY I. PHILLIPS.

Witnesses:

WILLIAM J. LARKIN, Jr.,

MARY C. MCCARTHY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
