

No. 892,784.

PATENTED JULY 7, 1908.

F. E. WARNER.
BUTTON FASTENER.
APPLICATION FILED MAR. 3, 1908.

Fig. 1.

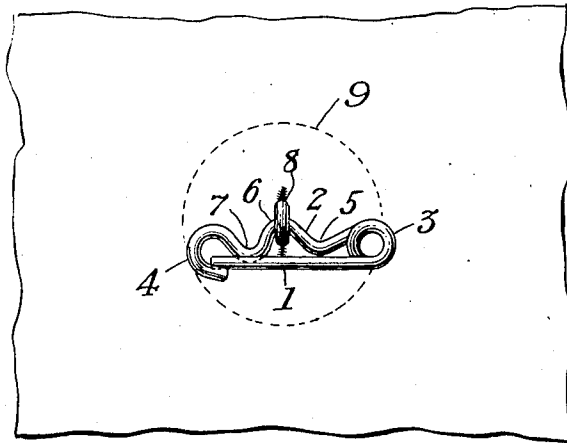


Fig. 2.

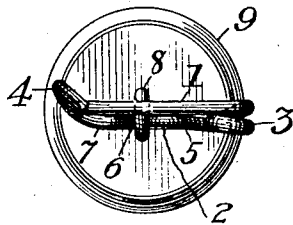


Fig. 5.

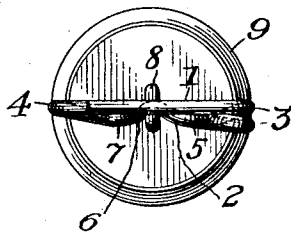
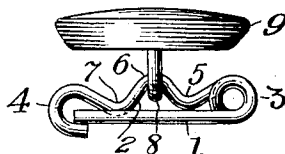


Fig. 6.



Witnesses:

Ed. Finckel
Lillie M. Perry.

Fig. 3.



Fig. 4.

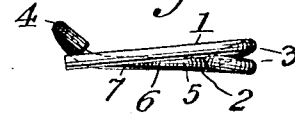


Fig. 7.

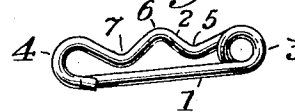
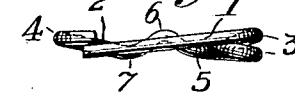


Fig. 8.



Inventor:

Frank Edwin Warner
by Wm. F. Finckel, Atty.

UNITED STATES PATENT OFFICE.

FRANK E. WARNER, OF WATERBURY, CONNECTICUT, ASSIGNOR TO SCOVILL MANUFACTURING COMPANY, OF WATERBURY, CONNECTICUT, A CORPORATION OF CONNECTICUT.

BUTTON-FASTENER.

No. 892,784.

Specification of Letters Patent.

Patented July 7, 1908.

Application filed March 3, 1908. Serial No. 419,033.

To all whom it may concern:

Be it known that I, FRANK ERSKIN WARNER, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented a certain new and useful Improvement in Button-Fasteners, of which the following is a full, clear, and exact description.

More or less difficulty has been experienced in retaining in place the little spring wire devices commonly used for securing buttons detachably to washable and other garments. It is quite desirable that in inserting and removing the buttons the fastener should remain attached to the button, and for this purpose should be capable of being slid down endwise or lengthwise into the eye of the button so as to be threaded through the buttonhole or eyelet and then drawn crosswise so as to occupy a plane substantially at right angles to the eye of the button. It often happens, however, in rough usage and even in ordinary wear, that the fastener becomes accidentally detached from the eye, and it and the button lost. While constructions have been made to correct this difficulty, they were of more or less complicated character.

It is the object of the present invention to provide a self-locking button-fastener, to correct the difficulty described, and to this end the invention consists in a two-limbed wire fastener, made as a spring and with the spring so set that the two limbs thereof normally approach one another, as distinguished from constructions of the safety-pin variety, where the spring is so set that the two limbs normally spring away from each other. One of the limbs is made straight and the other is made with a series of loops, and its end is made as a hook or bill, and either the hook or one of the loops or both are deflected laterally in such way that when the fastener is applied in the eye of the button, the straight limb may engage with the loop and lock the limbs together and thereby prevent the accidental separation of the fastener and button.

The invention is susceptible of a variety of forms, and for illustration I am showing only two such forms.

In the accompanying drawings, illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is a bottom plan view, showing a piece of fabric with a button attached by means of one of

the present fasteners, the fastener being shown in elevation. Fig. 2 is a bottom plan view of the button and fastener applied thereto. Fig. 3 is a side elevation of the fastener in the open or unlocked position. Fig. 4 is a bottom plan view of Fig. 3. Fig. 5 is a bottom plan view of another form of fastener. Fig. 6 is a side elevation of the fastener shown in Fig. 5. Fig. 7 is an elevation of the fastener of Figs. 5 and 6 detached and open. Fig. 8 is a bottom plan view of Fig. 7.

The fastener comprises a straight limb 1 and a looped limb 2, connected by an integral spring or coiled member 3, and the limb 2 has at its free end a hook-like loop or bill 4. The member 2 has a series of loops 5, 6 and 7 in addition to the loop which forms the bill 4. The loop 6 is designed to receive and engage the eye 8 of the button 9.

The spring of the device is so set that the limbs 1 and 2 normally approach one another, instead of normally diverging or springing apart from one another as in the case of the ordinary safety-pin and button-fasteners of that character.

If the bill 4 merely overlapped the limb 1, there would be nothing excepting the strength of spring to prevent the strain upon the button-eye and fastener causing them to become detached, and this is not always adequate, and consequently it often happens that the fastener becomes disengaged from the button and both are lost. In order to overcome this difficulty, the loop 7 is made deeper than the loop 5, and the bill 4 is deflected laterally, and the result is that when the fastener is applied to the button, as in Figs. 1 and 2, with the limbs unlocked as in Fig. 3, and then this limb 1 turned from the position shown in Fig. 3 and swung around the end of the bill 4 and into said bill, as in Figs. 1 and 2, said limb comes into lateral contact with the loop 7 on one side and the bill 4 on the other and is locked, and thereby the escape of the button from the fastener, or the escape of the fastener from the button, is prevented until the limb 1 is manually released from the locked position and restored to the unlocked position. Substantially this same result may be obtained with less lateral deflection of the bill, by a slight lateral deflection of one or the other of the loops, as shown in Figs. 5, 6, 7 and 8.

In either modification of the invention, a lock is provided whereby the button and

fastener are connected in a manner substantially proof against accidental displacement, since there can be no movement past the loop 5 toward the spring end, because that loop and the lower limb are in contact, and there can be no movement past the loop 7 toward the bill end, because the limb 1 is locked against said loop by engagement with the bill.

10 The modification shown in Figs. 5 to 8 may have the loop 6 deflected or the loop 7 deflected.

15 It is obvious that instead of connecting the fastener with the button-eye by means of the loop 6, the connection may be equally effectively made on the limb 1.

20 It is to be understood that it is not necessary to disconnect the fastener from the button in order to apply or remove the button, since it is sufficient to move the fastener in the button-eye until the fastener hangs from the button-eye by means of its bill 4.

What I claim is:—

1. The herein described button-fastener, 25 composed of a straight limb and a limb provided with a plurality of loops, the two limbs connected by an integral spring which is set to cause the limbs normally to approach one another, the looped limb having the loop 30 nearest to its free end made longer than the other loops so as to overlap the straight limb,

and said looped limb terminating in a bill deflected laterally and adapted to be engaged by the free limb when a button is applied, the engagement of the longer loop and 35 straight limb and the bill and the end of the straight limb serving to lock the two limbs against displacement and, consequently, to prevent the escape of the button and fastener from one another.

2. A button-fastener, having a straight limb and a limb provided with a plurality of loops, said limbs connected by an integral spring which is set to cause the limbs normally to approach each other, the looped 45 limb having the loop nearest its free end made longer than the others and terminating in a bill which is deflected laterally, and one of the loops also laterally deflected, whereby when a button is applied to the fastener the 50 straight limb may be engaged on one side with the longer loop and on the other side with the bill and the two limbs thereby interlocked to prevent the accidental disengagement of the fastener and button.

55 In testimony whereof I have hereunto set my hand this second day of March A. D., 1908.

FRANK E. WARNER.

Witnesses:

PERCY WARNER,
GEO. E. TOMPKINS.