June 26, 1934. E. O. SEAVER 1,964,485

SLIDE FASTENER

Filed Sept. 15, 1933

Fig. 1.

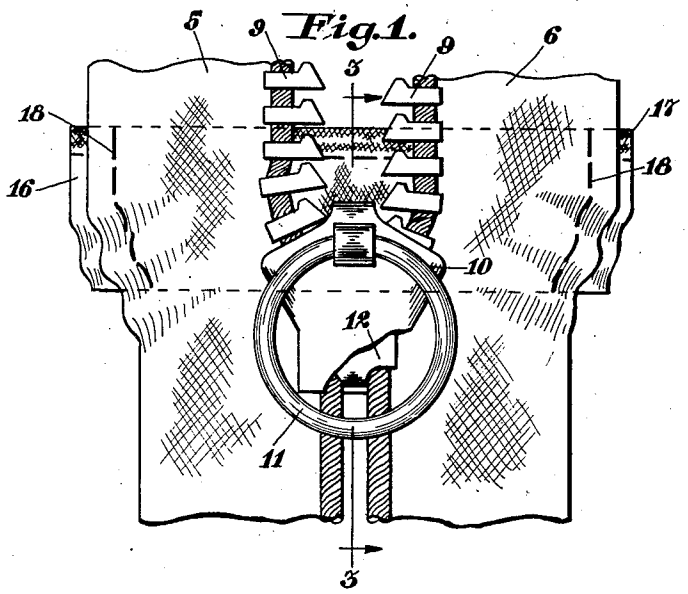


Fig. 2.

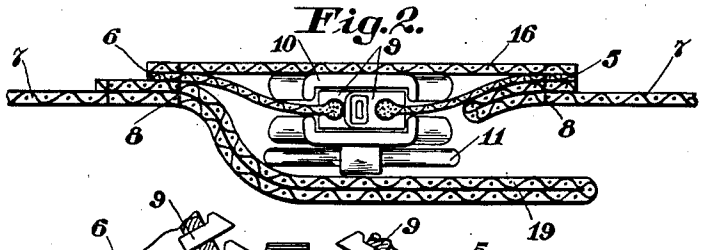


Fig. 3.

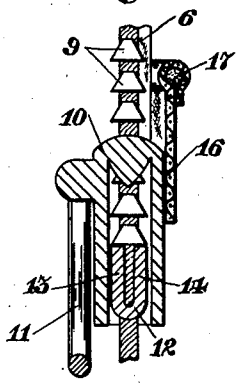
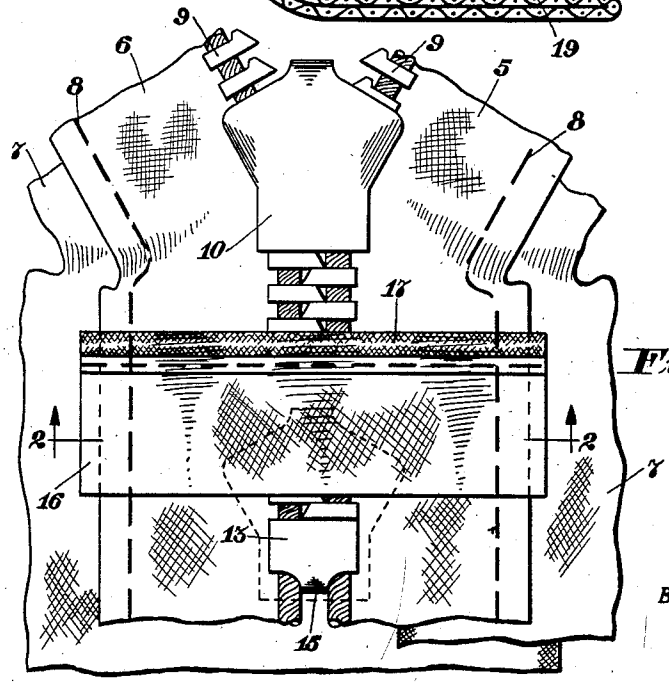


Fig. 4.



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SLIDE FASTENER

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Application September 15, 1933, Serial No. 689,616

3 Claims. (Cl. 24—205)

My invention relates to slide fasteners and more particularly to supplemental reinforcement means for preventing accidental damage to such fasteners.

In many cases where slide fasteners are applied in garments the user will open the fastener by a ripping pull which will place a force on the slider tending to move it in opening direction toward the bottom stop. The bottom stop serves as a permanent binder in many garment fasteners and serves also to locate the fastener elements in one row relative to fastener elements on the other row, so that they will come into engagement properly. It has happened in some cases that the force applied on the sides of the fastener when the slider is against the bottom stop, will move the bottom stop on the flexible tapes and impair its functions.

The object of the present invention, therefore, is to provide supplemental means which will prevent lateral pull on the edges of the article from transmitting stress to the slider when the slider is against the bottom stop.

The term "bottom stop" is used herein and in the trade, to mean the connecting and stop member at the end of the rows of fastener elements which is the first to be engaged by the slider, or the end where the slider is located when the fastener is fully opened. In some instances this may be actually at the top of the fastener rather than at the bottom.

In the accompanying drawing, I have shown for purposes of illustration one embodiment which my invention may assume in practice. In this drawing:

Fig. 1 is a front view of the lower portion of a fastener equipped with my invention;

Fig. 2 is a cross-sectional view on line 2—2 of Fig. 4;

Fig. 3 is a longitudinal section on line 3—3 of Fig. 1; and

Fig. 4 is a rear view of the fastening device showing the slider in partly closed position.

The fastening device illustrated has flexible supports, herein fabric tapes 5, 6, which are attached in the edges of the article 7, by any suitable means such as rows of stitching 8. Cooperating rows of fastener elements 9 are mounted on the adjacent edges of the tapes and are engaged and disengaged by a slider 10 in a manner which is well known in the art. The slider is ordinarily actuated along the rows of fastener elements by a pull tab 11 but in some cases the fastener is opened up by pulling on the mounting tapes or edges of the article to which the fastener is applied. Such a pull will be transmitted to the slider, which will tend to slip along the rows of fastener elements toward the opening position as is well known in the art. The bottom stop member is designated as 12 and is placed directly against the endmost fastener element on one stringer, and just slightly spaced from the endmost fastener element on the other stringer, so as to hold the elements in proper relation for engagement by the slider.

The form of bottom stop illustrated has two jaw plates 13, 14 which embrace the edges of the mounting tapes, and which are integrally connected by a narrow neck 15 between the edges of the flexible supports. When the slider is in fully open position and bearing against the stop member, any ripping action or lateral stress on the flexible supports will tend to force the bottom stop to move along the flexible support, provided the stress is transmitted to the slider as is ordinarily the case.

In my invention, a supplemental reinforcing means is applied to connect the flexible supports just above the bottom stop so as to remove the stress from the slider. Such reinforcing means comprises a tension member firmly attached to the flexible supports just above the bottom stop and the length of such member is only slightly greater than the distance between its points of attachment when the fastener is closed, so that as soon as a pulling force is placed on the supports with the slider in fully opened position, the tension member will come into play and prevent such force being transmitted to the slider. One convenient form of the tension member is a flexible tape 16 having a cord edge 17 at the top and secured to the flexible supports by stitching 18. The cord edge provides extra strength at the point where the greatest stress will occur. This tape is arranged on the back side of the fastener so that it will not be visible in use and does not interfere in any way with the movement of the slider in fully open position. The tape is of such length that when the fastener is closed the fastener elements will take the lateral strain from the tape and at the same time, it will permit a slight separation of the fastener elements in this locality when the fastener is opened; but it will not allow any stress to be placed on the slider when it is against the bottom stop.

In Fig. 2 the cross-section illustrates the structure in the fly of a pair of trousers where difficulty of the above character has frequently been experienced. In this assemblage it is demon-

strated that the tension member 16 does not affect the use of the fastener. The overlapping flap 19 extends over the complete fastening device and completely conceals the metal parts of the fastener.

As a result of my invention a simple and cheap way has been provided for eliminating many causes of trouble and dissatisfaction in fasteners which are applied in garments.

While I have shown and described in this application one embodiment which my invention may assume in practice, it will be understood that this embodiment is merely for the purposes of illustration and description and that various other forms may be devised within the scope of my invention as defined in the appended claims.

What I claim as my invention is:

1. In combination, a slide fastener comprising opposed fastener stringers with rows of fastener elements on their adjacent edges, a slider movable along said elements for engaging and disengaging the same, a member serving as a permanent connection for said stringers and as a bottom stop for the slider, and a flexible tension member permanently secured directly to said stringers and extending across said fastener elements just far enough above said bottom stop to take up the transverse stress when said fastener is ripped completely open and to prevent severe stresses from being transmitted to said permanent connecting member.

2. In combination, a slide fastener comprising opposed fastener stringers with rows of fastener elements on their adjacent edges, a slider movable along said elements for engaging and disengaging the same, a pull tab attached to one side of said slider, a member serving as a bottom stop for the slider and as a permanent connection for said stringers, and a flexible tension member permanently secured to said stringers and extending across said fastener elements on the side of the fastener opposite said pull tab, the points of connection of said flexible member to the stringers being spaced from the fastener elements sufficiently to allow free movement of the slider between the tension member and fastener elements, said tension member having at least a portion thereof above the slider when the slider is against said bottom stop whereby a ripping stress applied to the fastener stringers when in open position will not be transmitted to said slider and connecting member.

3. The combination defined in the preceding claim wherein said tension member comprises a corded edge tape with the corded edge spaced farthest away from said bottom stop.

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