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M. SUSKOWITZ ET AL
INTERLOCKING FASTENER GUARD

2,295,976

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Fig. 1.

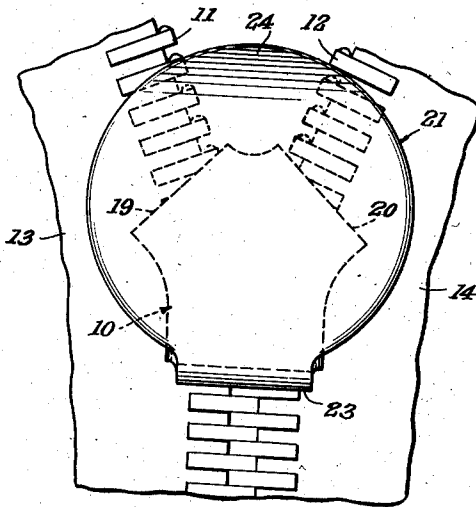


Fig. 2.

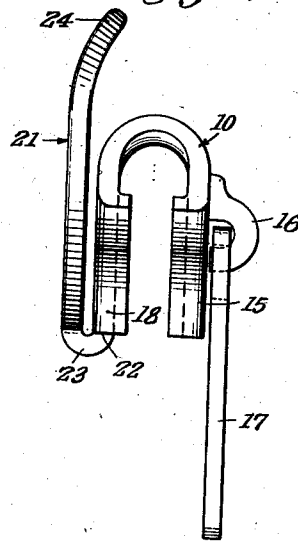


Fig. 3.

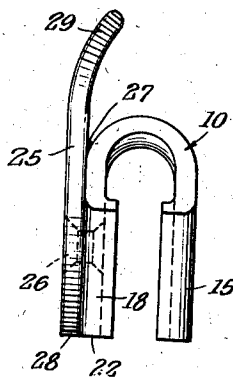
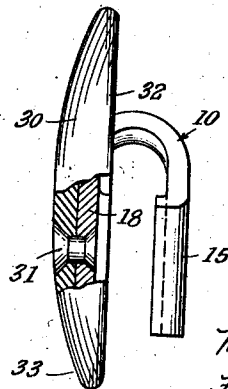


Fig. 4.



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INTERLOCKING FASTENER GUARD

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6 Claims. (Cl. 24—205)

The purpose of this invention is to prevent any object such as underwear or other garments or hair or skin from becoming enmeshed in the interlocking fastener.

This invention relates to slide operated interlocking fasteners employing stringers and particularly to the operating slide therefor. In such fasteners, difficulty has been experienced by the jamming or obstruction of the free movement of the slide by extraneous or foreign objects which are frequently caught between the operating edges of the slide and the stringers and are forced into the interior of the slide. Such jamming or obstruction frequently causes damage to the garment to which the fastener is attached or to the garment caught in the slide, or to the fastener, as well as other annoyances and embarrassment. Previous attempts to prevent such jamming have usually taken the form of protecting flaps for the fastener closure or stringers, but even such flaps are not effective to prevent catching of extraneous objects such as underwear, skin or hair between the back of the slide and the stringers when part of the slide is arranged on the inside of a garment.

The present invention therefore contemplates the provision of an advance guard, shield or baffle secured to the back or rear part of the slide and movable therewith and having a part arranged in advance of the leading edge of the slide to dislodge or divert relatively to the operating edges of the slide any extraneous objects such as underwear or other garments, or hair or skin which might be in the path of the slide and which might otherwise find their way or be forced past the operating edges at the entrance openings for the stringers to a point between the slide and the stringers into the interior of the slide to cause jamming thereof.

The invention further contemplates the provision of a simple, but effective guard or shield fixedly secured to the slide and movable therewith to first engage and divert or dislodge out of the way of the slide during its movement, any extraneous objects which might be in the path of the slide and which might tend to jam it, said guard operating to contact such objects and to divert them if movable or to divert the slide if the objects are relatively fixed before such objects can engage or enter the slide.

The various objects of the invention will be clear from the description which follows and from the drawing, in which:

Fig. 1 is a fragmentary rear view of a garment closure to which the invention has been

applied showing one form of the operating slide with the guard secured thereto.

Fig. 2 is a side view of the improved slide shown in Fig. 1.

Fig. 3 is a similar view of a modified form of the combined guard and slide wherein the guard is of a separate piece of material.

Fig. 4 is a similar view of another modified form of the invention wherein the guard is dished and is provided with parts overhanging both the upper and lower edges of the slide and protecting the slide from jamming in its locking and unlocking movements.

In the practical embodiment of the invention shown by way of example, the slide 10 is mounted for reciprocatory movement on the stringers 11 and 12 of the interlocking fastener in the usual manner, being slidable upwardly, as viewed in Fig. 1, to lock the separable closure formed by the stringers and slidable downwardly to unlock the closure. The stringers 11 and 12 at the edge of a garment of the like closure may include suitable tapes and fastener elements well known in the art, and fastened in a well known manner to the garment parts 13 and 14 to provide the required separable closure. The slide 10 is formed of two similar parts 15 and 18 having the faces thereof in spaced relation to provide a pair of spaced entrance openings for the separate stringers near the top or leading edge of the slide and an exit opening for the interlocked stringers at the lower edge of the slide.

The front part 15 of the slide, as best shown in Fig. 2, is provided with the usual lug 16 and the operating tab 17 hinged to the lug, and is exposed in the usual manner at the front part of the closure in front of the stringers, so that the closure may be operated regardless of whether or not concealing or protecting flaps, of any well known type, are provided on the closure. The rear part 18 of the slide is arranged at the back of the closure and in back of the stringers and of the garment parts 13, 14. If the garment to which the closure is applied is a piece of underwear worn next to the body, the rear part 18 is therefore in a position to contact with the body of the user. If the garment having the closure is an outer garment, the rear part of the slide may contact with the underwear or the like under garment worn by the user.

As has been hereinbefore pointed out, the rear part 18 of the slide being frequently exposed at the rear of a garment, it is in a position to catch into or engage the body of the user, or another garment, or the skin or hair, so that when the

slide is operated, such extraneous objects or parts thereof may be forced into the narrow tight spaces in between the operating edges 19 or 20 of the slide and the stringers 11, 12, thereby to jam the slide. To prevent jamming by such objects as aforesaid, the shield, guard or baffle 21 carried by the slide is provided.

As shown in Figs. 1 and 2, the guard or shield 21 is formed integrally with the slide, being joined to the lower rear edge 22 thereof by the integral bend 23. In this form of the invention, the guard is preferably made of the same material as that of the slide and may be of metal, plastic or any other suitable material. To accomplish its function, the guard is enlarged and made of sufficient area to cover the rear part 18 and to substantially overhang the operating edges 19 and 20 of the slide and the sides thereof and also to project a sufficient distance upwardly beyond the uppermost part or leading edge of said slide. The uppermost part 24 of the guard may be bent forwardly or toward the slide in order that when the slide is reciprocated, it may engage and dislodge and turn inwardly or rearwardly any extraneous objects which might otherwise be in the direct path of the slide and which might engage the edges 19 and 20 thereof. It will be understood that when the engagement, diversion or dislodgement of extraneous objects is referred to herein, relative movement thereof with respect to the slide is intended, since if the object is relatively fixed, hard or immovable, the guard causes the slide to ride over the object and to become displaced rather than causing actual displacement of the object, the displacement meant being relative displacement.

While the guard has been shown as of circular outline in Figs. 1 and 2, it will be understood that it may be of any desired shape or outline of sufficient area to act as a guard or baffle having a part thereof positioned in advance of the leading edge of the slide and also in advance of the operating edges 19 and 20, thereby to form an adequate shield against the entrance of objects or garment parts into the interior of the slide. Preferably, the edges of the slide are smooth and rounded to give the guard or shield a camming action in connection with such objects, thereby to divert said objects to the back of the guard and out of the way of the slide.

In the form of the invention shown in Fig. 3, the guard or shield 25 is made of a separate piece of material than that of the slide 10 and is secured to the rear part 18 of the slide by any suitable means, as for example, one or more countersunk rivets 26 or solder or other adhesive 27 or both, if desired. The lowermost edge 28 of the guard 25 may as shown terminate at the lowermost rear edge 22 of the slide, or it may extend therepast as shown in Fig. 4, while the uppermost part 29 is preferably bent forwardly as hereinbefore described in connection with the corresponding part 24.

In that form of the invention shown in Fig. 4, the guard or shield 30 is also made of a separate piece of material of dished form secured by one or more rivets as 31 to the rear part of the slide or secured thereto by solder, adhesive or other fastening means. In this form of the invention, the side parts 32 of the guard serve to divert objects not in the direct path of the center line of the slide, but situated somewhat to the side thereof. The lower part 33 of the guard may extend downwardly past the lowermost edge of the slide, thereby to divert objects which might be in the

path of the slide on its downward movement. It will be understood that the bend 23 of Figs. 1 and 2 may also serve to divert objects on the downward movement of the slide, and if desired, said bend may extend sufficiently below the edge 22 to accomplish that purpose.

It will be seen from the above that there has been provided a simple, economical and easily constructed shield, guard or baffle for accomplishing adequately the purposes of the invention, and well adapted to meet the requirements of practical use.

While there have been shown and described certain specific embodiments of the invention, it will be understood that the invention is not limited to such embodiments, but that various changes may be made therein within the scope of the appended claims without departure from the spirit of the invention.

We claim:

1. In an interlocking separable slide-operated fastener provided with stringers, an operating slide reciprocally mounted on the stringers and having a front part and a rear part spaced from the front part, and a guard for diverting extraneous objects relatively to the slide on the reciprocation of the slide comprising a plate-like circular member carried by the slide and extending beyond and shielding the operating edges and the side edges of the slide, the leading portion of said guard having a convex rear surface terminating forwardly of the rear part of the slide, the center of said guard lying midway between said operating edges and within the peripheral limits of the slide.

2. In an interlocking separable slide-operated fastener provided with stringers, a slide having operating edges mounted for reciprocatory movement on the stringers, and a plate-like guard member secured to the rear of the slide and having a part bent laterally and forwardly and extending beyond the operating edges to a point between the faces of the slide, said member being circular for the greater part of its periphery, the center of said periphery lying within the peripheral limits of the slide.

3. In an interlocking separable slide-operated fastener provided with stringers, a slide having operating edges, and an object-diverting dished guard member carried by and at the rear of the slide and extending beyond the greater part of the slide and said edges, said member being circular in outline and having a convex rear surface throughout, the center of said member being within the peripheral limits of the slide.

4. In an interlocking separable slide-operated fastener provided with stringers, a slide mounted for reciprocation on said stringers and having a front part and a rear part each terminating in a free edge, an enlarged guard in rearward spaced relation to the slide, and an integral bend joining the free edge of the rear part of the slide and an edge portion of said guard, said guard being circular and having a greater diameter than the greatest dimension of the slide and thereby overhanging substantially the entire periphery of the slide.

5. A one-piece combined slide and guard for an interlocking slide-operated fastener provided with stringers, comprising a front part, a rear part in rearward spaced relation to and joined at one end to an adjacent end of the front part, a circular guard member in rearward spaced relation to the rear part, and a 180° bend integrally joining the peripheral edge of the guard member

to the other end of said rear part, said bend serving to divert objects in the path of said combined slide and guard during the opening movement of said fastener, the diameter of the guard member being greater than the greatest dimension of said front and rear parts and the center of the guard member being within the peripheral limits of the front and rear parts.

6. A combined slide and guard in accordance with claim 5, wherein the end part of the guard member diametrically opposite the bend is bent forwardly beyond the front face of the rear part and part way across the thickness of said combined guard and slide.

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