Dec. 12, 1939. H. C. PARKER 2,183,103

SLIDE FASTENER LOCK

Filed Feb. 9, 1937

Fig. 1.

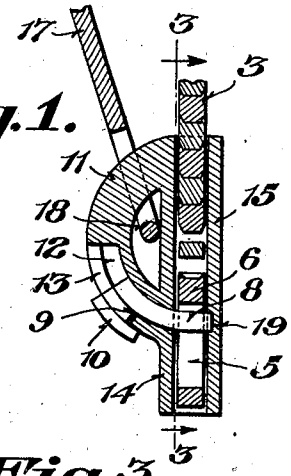


Fig. 2.

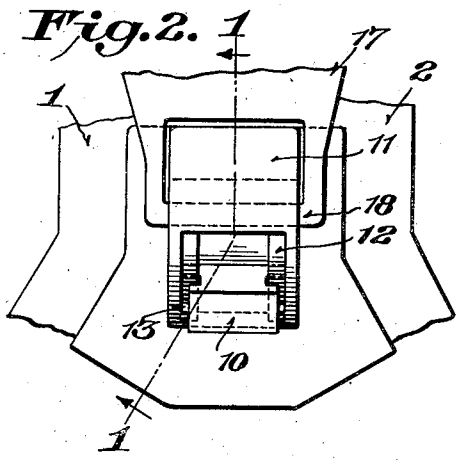


Fig. 3.

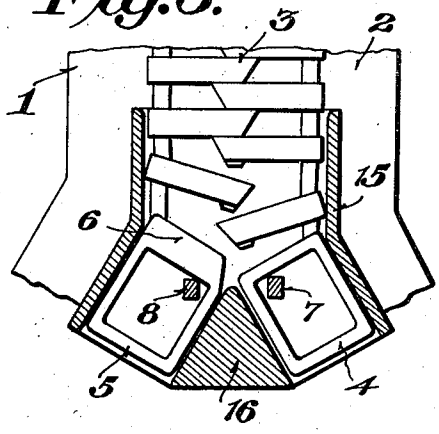


Fig. 4.

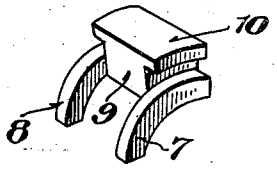


Fig. 5.

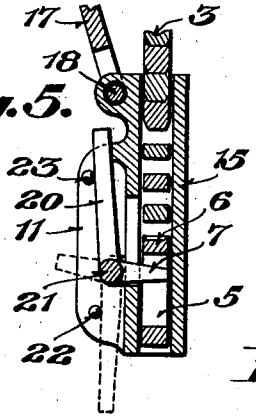


Fig. 6.

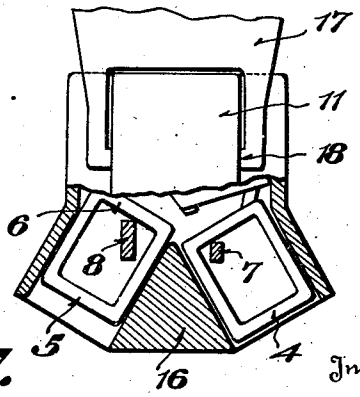
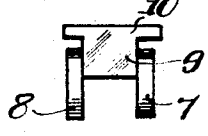


Fig. 7.



Inventor

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2,183,103

SLIDE FASTENER LOCK

Henry C. Parker, Washington, D. C.

Application February 9, 1937, Serial No. 124,886

6 Claims. (Cl. 24—205)

This invention relates to slide fastener locks; and it comprises a lock, for the usual slide fastener provided with stop members in the form of loops, wherein a lock member for engaging said stop members is provided, said lock member being mounted on the slider and usually being slidable, in grooves provided in said slider, into and out of engagement with at least one of said looped stops; all as more fully hereinafter set forth and as claimed.

The so-called slide fasteners, which have come into vogue during the past ten years, have had one serious disadvantage. No wholly satisfactory means has been devised for locking these fasteners in position. The lack of such a locking means has limited the usefulness of these fasteners to a considerable extent.

Most of the locks for slide fasteners which have been proposed heretofore have been designed to lock the slider at any point desired along the fastener. These locks have not proved to be satisfactory in practice owing to the fact that their locking elements have been designed usually to engage in the small recesses between fastener elements. But these recesses have a depth usually not exceeding 1/64 inch and this depth has been found insufficient to provide satisfactory purchase for the locking elements which have soon worn down and become inoperative in practice. It has also been proposed to lock the slider in closed position by means of resilient members attached to the stops. But these resilient members on the stops have been found objectionable. And both of these types of locks have had the common disadvantage of yielding upon a quick jerk or strong pull upon the slider. In other words these locks are not positive in action and are not tamper-proof.

In many practical applications of slide fasteners it is important that the slider be locked positively in its closed position while other positions are either not as important or quite immaterial. Examples of these applications are closures for pocket-books, brief cases and the like. Also in many cases it is desirable to provide slide fasteners for clothing which are proof against tampering by children or by the practical joker, for example. None of the locks which have been suggested heretofore have been entirely satisfactory for these purposes.

I have now found that the usual slide fasteners which are provided with looped stops can be readily equipped with a positive locking device comprising a lock member mounted on the slider and adapted to pass through said looped stops when in locked position. This locking member can be made slidable and is conveniently mounted in the usual lug which is mounted on top of the slider for holding the pull member. The locking member is advantageously made with two arcuate shaped prongs or fingers joined by a knurled stud by which the locking member can be operated. When made in this fashion the top lug on the slider may be provided with arcuate grooves in which the tongues are slidable. The throw of the locking member is so short, that a large top lug is not required.

My invention can be explained in greater detail by reference to the accompanying drawing which shows, more or less diagrammatically, several illustrative embodiments of slide fastener locks within my invention. In this showing

Fig. 1 is a vertical section through a slider provided with my locking device, the section being taken along the line 1—1 of Fig. 2,

Fig. 2 is a plan view of the slider with the pull removed,

Fig. 3 is a horizontal section along the line 3—3 of Fig. 1,

Fig. 4 is a perspective view of the lock member with other parts removed,

Fig. 5 is a vertical section similar to that of Fig. 1 but showing a modification,

Fig. 6 is a partial view similar to that of Fig. 3 showing another modification, while

Fig. 7 is a front elevation of a modified lock member.

In the various figures like parts are designated by like reference numerals. Referring first to Fig. 3, the usual corded fabric stringers 1 and 2 are shown, these stringers having the usual opposed series of fastener elements 3 clamped to their adjacent edges. At the ends of the stringers the usual looped stops 4 and 5 are provided.

The slider is formed of the usual superimposed spaced wings 14 and 15 which are connected and integrally secured together by means of the pointed wedging and spacing element 16. On top of the slider there is provided the usual lug 11 which carries the pull 17. The pull may be pivoted in the lug 11 at 18, as shown in Fig. 1.

The locking element, shown in perspective on an enlarged scale in Fig. 4, consists of the two prongs 7 and 8 which are usually of arcuate shape, these prongs being joined or secured together by the stud 9 having a knurled head 10. This locking element can be slidably mounted on the top lug 11 of the slider. The fore part of this lug may be made of arcuate shape with a radius of curvature corresponding to that of

the prongs 7 and 8, as shown in Fig. 1. The front part of this lug may be cut away on both sides to form the arcuate grooves 12 in which the prongs 7 and 8 are slidable. A center groove 13 may be provided in the lug to receive the stud 9 of the locking element. The total throw of the locking element may be made less than ⅛ inch hence the over-all dimensions of the lug 11 need not be much greater than is customary. It is advantageous to provide prongs 7 and 8 of sufficient length to pass through the looped stops 4 and 5. If desired the lower wing 15 may be provided with slight depressions 19 to receive the ends of the prongs 7 and 8.

Owing to the fact that the looped stops 4 and 5 are usually not directly opposed to each other, it is advantageous to provide a special loop on the shorter side of the fastener having an inner or rear edge which is thicker than the corresponding edge of the other loop by about the width of one of the fastener elements, as shown at 6 in Fig. 3. This feature enables the use of a lock in which the prongs 7 and 8 are symmetrically arranged and of the same dimensions.

If the looped stops 4 and 5 are made identical, it is usually necessary to provide a locking element having one prong in advance of the other or of greater thickness, since otherwise only one of the prongs would be operative owing to the usual staggered relationship of the looped stops. In Fig. 6 a modification is shown in which prong 8 of the locking element is thicker than prong 7. When constructed in this fashion prong 8 serves as a means for adapting the locking element to engage the looped stop elements equally and simultaneously on both sides of the wedging element 16. It is also possible, of course, to provide looped stops directly opposed to each other by positioning one at a slightly greater distance from its adjacent fastener elements than the other.

A further modification of my slide fastener lock is shown in Fig. 5. In this showing a locking element 20 is provided which is pivotally mounted at 21 to the lug 11 of the slider. This element is substantially in the form of a bell crank. The full lines in the figure show the locking element in its locked position while the dotted lines show the element in its unlocked position. A single locking element may be employed for engaging only one of the looped stops or two may be provided, mounted on either side of the lug 11.

It should be noted that in both modifications the locking element is mounted on the top of the slider adjacent the point of the wedging element 16 and its prongs are so constructed and arranged as to pass through the top wing and through the loops of the stop elements when the fastener is in its fully closed position and when the locking element is in its locked position.

While I have described what I consider to be the best embodiments of my invention it is obvious that many modifications may be made in the structures which have been described without departing from the purview thereof. In its broadest aspect my invention contemplates the provision of at least one locking element mounted on the slide of a slide fastener and adapted to engage with at least one of the usual looped stops. The locking element may be mounted in various ways and, if desired may be held in its positions resiliently. For example, the prongs 7 and 8 of the locking element shown in Fig. 4 may be made of resilient material and shaped, for example bent inwardly, in such manner that they are held resiliently in position in the grooves 12, as shown in Fig. 7. It is also possible to provide other means for retaining the locking element in its two positions, such as the low detents 22 and 23 shown in Fig. 5, which prevent the locking element from being accidentally operated. The various elements making up my slide fastener and locking element may be constructed of various sizes and shapes within the skill of the art. The handle 20 of the locking element shown in Fig. 5 may be used as a pull. Other modifications which fall within the scope of the following claims will be immediately evident to those skilled in the art.

What I claim is:

1. A slider for the usual slide fastener comprising upper and lower spaced wings, a lug mounted on the upper wing of said slider, a locking element slidably mounted in said lug and provided with at least one elongated locking prong, an aperture in said upper wing adapted to receive said prong, said prong being adapted to pass through said aperture and through the space between said wings when in its locked position, and means for moving said prong into and out of its locked position.

2. The slider of claim 1 wherein the said lower wing is provided with a depression for receiving said locking prong when in its locked position.

3. The slider of claim 1 wherein said slidable locking element is retained resiliently in its locked and unlocked positions.

4. A slider for the usual slide fastener comprising upper and lower spaced wings, a lug mounted on the upper wing, a pair of grooves in said lug, a pair of apertures in said upper wing registering with said grooves, a bifurcated locking element slidable in said slots having prongs adapted to pass through said apertures and to enter the space between said wings when in its locked position, and means for moving said locking element into and out of its locked position.

5. A slider for the usual slide fastener comprising upper and lower spaced wings, an arcuate lug mounted on the upper wing, at least one arcuate groove in said lug, an aperture in said upper wing registering with said groove, a locking element provided with at least one arcuate locking prong slidable in said groove and adapted to pass through said aperture and to enter the space between said wings when in its locked position.

6. A slider for the usual slide fastener comprising upper and lower spaced wings, an arcuate pull-holding lug mounted on the upper wing, a pair of arcuate grooves in the forward end of said lug, a pair of apertures in said upper wing registering with said grooves, a bifurcated locking element having two arcuate, resilient locking prongs slidably mounted in said grooves, a pair of depressions in said lower wing adapted to receive the ends of said prongs, said prongs being adapted to pass through said apertures and to enter the space between said wings when said locking element is in its locked position, and means for moving said locking element into and out of its locking position.

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