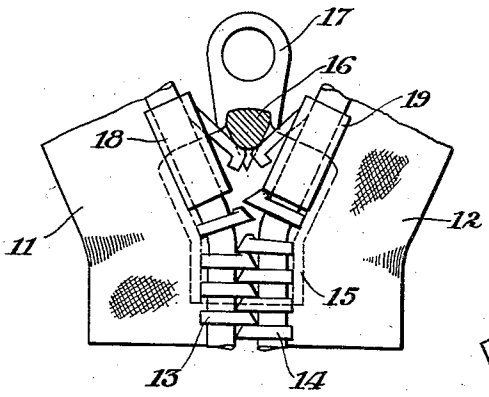
March 14, 1933. S. H. NORTON 1,901,257

LOCK SLIDER

Filed Jan. 10, 1930

Fig. 1.



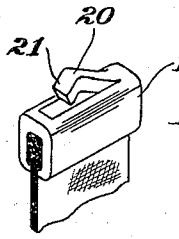


Fig. 3.

Fig. 2.

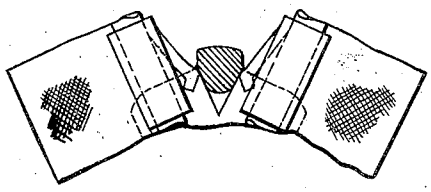


Fig. 6.

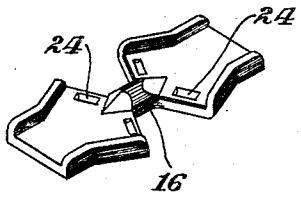


Fig. 4.

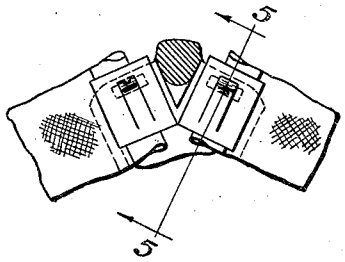


Fig. 5.

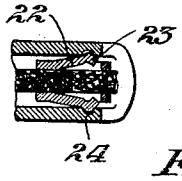


Fig. 8.

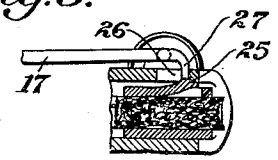
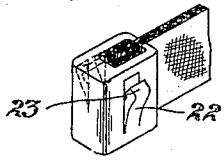


Fig. 7.



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Patented Mar. 14, 1933

1,901,257

UNITED STATES PATENT OFFICE

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LOCK SLIDER

Application filed January 10, 1930. Serial No. 419,816.

My invention relates to slide fasteners and particularly to means for preventing unintended opening movement of the slider along the fastener stringers.

The general object of my invention is to provide improved locking means for preventing unintended opening of a slide fastener.

More specifically my invention consists, in one of its aspects, of improved locking means having parts on the fastener stringers for engagement with the wedging portion of the slider to lock it against unintended movement.

From another aspect my invention consists of improved means carried by a stop member at the end of the fastener for engagement with the slider to prevent unintended movement.

Various objects and advantages of my invention will more fully appear during the course of the following application.

In the accompanying drawing I have shown for purposes of illustration three embodiments which my invention may assume in practice. In the drawing:

Fig. 1 is a face view of a slide fastener embodying my invention with the slider shown in section.

Fig. 2 is a view similar to Fig. 1 with parts broken away and illustrating the position of the parts at the beginning of the opening movement of the slider.

Fig. 3 is a perspective view illustrating one of the top stop members of my invention.

Fig. 4 is a view similar to Fig. 1 showing a modification.

Fig. 5 is a sectional view on line 5—5 of Fig. 4.

Fig. 6 is a perspective view of a blank for making a slider for use in the form of the invention shown in Figs. 4 and 5.

Fig. 7 is a perspective view of one of the top stop members in Figs. 4 and 5.

Fig. 8 is a sectional view similar to Fig. 5 showing still another modification.

In illustrating my invention, I have shown a slide fastener of the same general type as that disclosed in the patent to Gideon Sundback, 1,219,881, March 20, 1917. Such a fastener comprises a pair of corded edge fabric stringers 11 and 12 having opposed series of fastener elements 13 and 14 clamped to their adjacent edges. The fastener elements are successively brought together and interlocked by movement of a slider 15 in one direction and similarly the fastener elements are disengaged by movement of the slider in the opposite direction. A slider of the type illustrated comprises a pair of overlying spaced wings on opposite sides of the fastener stringers connected together by an integral wedging and spacing portion 16 and a pull device 17 is suitably connected to one side of the slider for actuating it along the stringers. A pair of stop members 18 and 19 are attached to the corded edges of the stringers 11 and 12 respectively at the upper ends of the series of fastener elements 13 and 14. These stop members abut against each other inside the slider preventing movement of the slider beyond the end of the fastener elements. Each of the stop members comprises a piece of sheet metal blanked out and bent around the corded edge of the stringer and preferably before bending the stop member, a locking detent 20 is cut out and bent up from the middle portion of the stop element. The ends of these locking tongues or detents are turned inwardly toward the stringer as indicated at 21. As shown in Fig. 1 these locking tongues project outwardly from the stringers and toward each other and when the slider is in a closed position, the wedging portion 16 engages over the locking tongues and it is thus held against accidental movement.

When it is desired to open the fastener the slider may be moved by the application of sufficient force on the pull member 17. The wedging portion of the slider simply wedges the locking tongues toward their respective stringers thus permitting movement of the slider. Upon the upward movement of the slider, the ends of the locking tongues will ordinarily be spaced apart enough to permit entrance of the wedging portion between them and if they strike

against the wedging portion they are guided into the slider by their inclined ends 21.

In the modification illustrated in Figs. 4 to 7, a pair of spring locking tongues 22 are cut out and bent away from each of the stop members so as to lie on opposite sides of the stringer instead of to project outwardly from its edge as in Figs. 1 to 3. The ends of these locking tongues are preferably bent inwardly as indicated at 23 similar to the portions 21 in Fig. 3. Suitable means are also formed in the slider for cooperation with these locking tongues when the slider reaches the upper end of its movement. Such means preferably takes the form of grooves 24 in the wings of the slider as best illustrated in Fig. 6 which shows the slider before it is bent to final form. The operation of the modified construction is substantially the same as the embodiment first described since the notches are curved and the engaging portions of the locking tongues are inclined thus allowing automatic engagement and disengagement of the locking tongues upon an intended movement of the slider. In Fig. 8 there is illustrated a modification of the construction in Figs. 4 to 7 which will produce a positive locking effect. A square shoulder 25 is formed at the end of each of the locking tongues which engages in a square cornered recess 26 in the slider. Suitable means must be provided for releasing the locking tongue in this modification and the release is preferably accomplished by means of a release pin 27 carried by the pull member 17.

As a result of my invention it will be observed that a very simple form of locking device has been provided for preventing unintended movement of the slider and consequent opening of the fastener. The locking is accomplished at the top stop of the fastener, thus insuring that the slider lock be held in fully closed position. It will also be noted that my improved locking device is automatically controlled without any attention whatever from the operator.

While I have in this application specifically described three embodiments which my invention may assume in practice, it will be understood that these embodiments are 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 a slide fastener having opposed series of fastener elements, a slider movable along the same to control the interlocking thereof, said slider having a wedging portion which enters between the fastener elements to disengage them when the slider is moved in one direction, and slider locking means for engagement with said wedging portion to lock the slider against unintended movement in fastener opening direction.

2. In a slide fastener, a pair of flexible stringers, opposed series of fastener elements attached to the adjacent longitudinal edges of said stringers, a slider movable along the stringers to control said fastener elements and a spring locking member projecting laterally in the plane of said stringers from the edge of one stringer to resiliently engage said slider and prevent unintended movement of the same in fastener opening direction.

3. In a slide fastener, a pair of flexible stringers, opposed series of fastener elements attached to the adjacent longitudinal edges of said stringers, a sheet metal member bent around one of said stringers, and a spring locking tongue cut out and bent up from said sheet metal member for engagement with said slider to prevent its unintended movement along the stringers.

4. In a slide fastener, a pair of fabric stringers having corded edges, opposed series of fastener elements attached to the corded edges of said stringers, a slider movable along the stringers to control engagement of said fastener elements, a stop member attached to one of said stringers adjacent the end of said series of fastener elements, and a yielding locking detent projecting laterally from said stop member in the plane of said stringers for engagement with said slider to prevent unintended movement of the same in fastener opening direction along said stringers.

5. In a slide fastener, a pair of flexible stringers opposed series of fastener elements attached to the adjacent edges of said stringers, a stop member attached to each of said stringers adjacent the end of the series of elements, and a spring locking tongue projecting laterally in the plane of said stringers from each of said stop members for resilient engagement with said slider to prevent unintended opening of the same.

6. In a slide fastener, a pair of flexable stringers opposed series of fastener elements attached to the adjacent edges of said stringers, a stop member attached to each of said stringers adjacent the end of the series of elements, and a spring locking tongue projecting laterally in the plane of said stringers outwardly from each of said stop members for engagement with said slider to prevent unintended opening of the same, said locking tongues being automatically movable out of locking engagement with the slider when a sufficient force is applied to the slider.

7. In a slide fastener, a pair of flexible stringers, opposed series of fastener elements attached to the longitudinal edges of said stringers, a pair of oppositely disposed

locking members carried by said stringers, and locking detents on said members projecting outwardly from said stringers toward each other for engagement with said slider to lock the same against unintended movement in fastener opening direction.

8. In a slide fastener, a pair of flexible stringers, opposed series of fastener elements attached to the longitudinal edges of said stringers, a slider movable along said elements to control engagement and disengagement of the same, a member carried by each of said stringers adjacent one end of said series of elements and a spring locking tongue on such member projecting outwardly from the stringer, said slider having spaced wings on opposite sides of said stringers and a wedging portion connecting said wings, said locking tongues engaging under said wedging portion when the fastener has reached its limit of travel to lock same against unintended opening movement.

9. In a slide fastener, a pair of flexible stringers, opposed series of fastener elements attached to the longitudinal edges of said stringers, a slider movable along said elements to control engagement and disengagement of the same, a member carried by each of said stringers adjacent one end of said series of elements a spring locking tongue on such member projecting outwardly from the stringer, said slider having spaced wings on opposite sides of said stringers and a wedging portion connecting said wings, said locking tongues engaging under said wedging portion when the fastener has reached its limit of travel to lock same against unintended opening movement, and camming surfaces on said wedging portion for engagement with said locking tongues to force them toward their respective stringers and allow movement of the slider when a sufficient force is applied thereto.

10. In a separable fastener, the combination with a pair of stringers, a series of fastener elements secured to the edge of each stringer, a slide movable along said stringers to effect engagement and disengagement of said fastener elements and having a connection between portions thereof, a stop member attached to each of said stringers adjacent the end of the series of elements, and a spring locking member projecting laterally in the plane of the stringers from each of said stop members, said locking members adapted to snap lock with the connection of said slide.

In testimony whereof I affix my signature.

SAMUEL H. NORTON.