June 18, 1963 L. H. MORIN 3,093,876

SLIDER FOR ONE-SIDED SEPARABLE FASTENERS

Filed Nov. 24, 1961

FIG. 1.

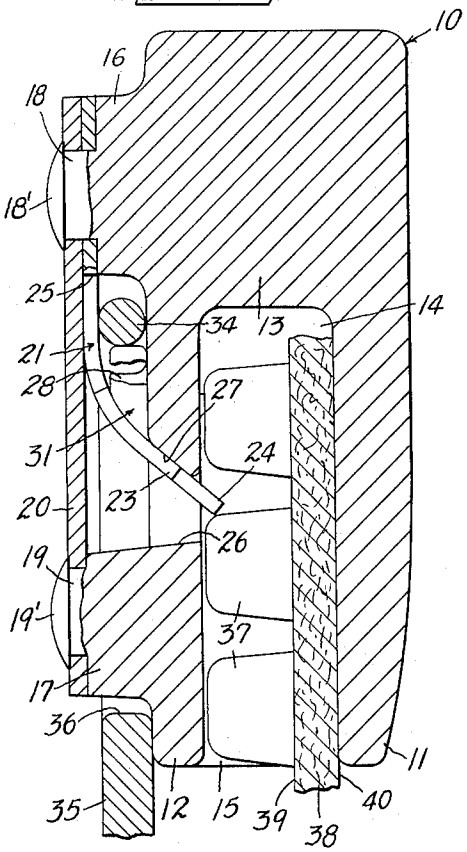


FIG. 2.

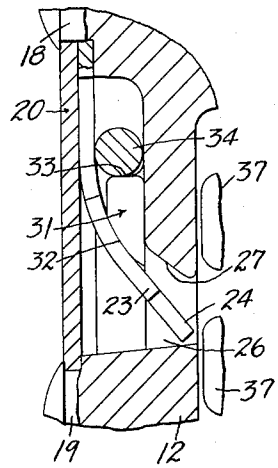


FIG. 3.

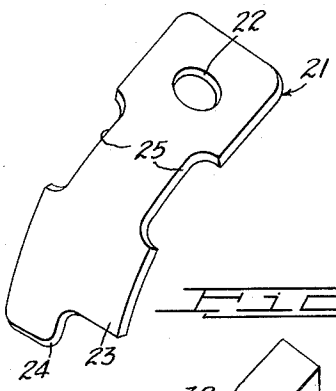


FIG. 4.

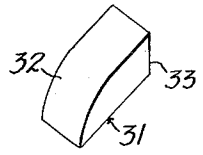
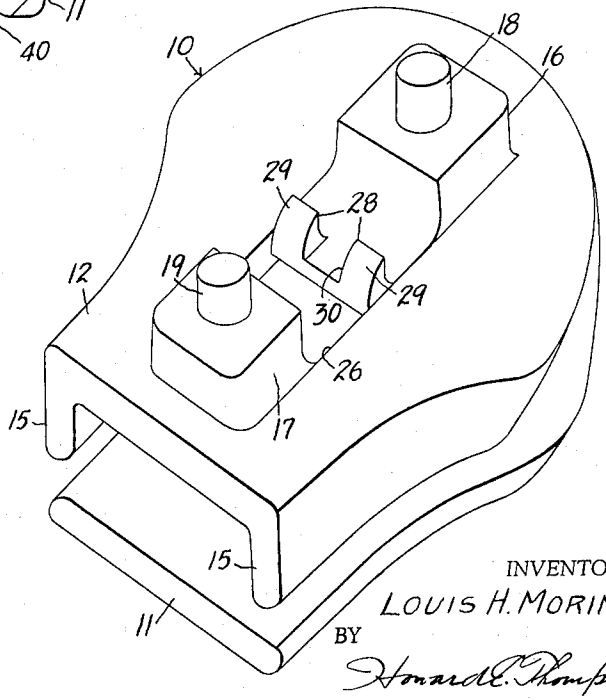


FIG. 5.



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SLIDER FOR ONE-SIDED SEPARABLE FASTENERS

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This invention relates to sliders for use in conjunction with one-sided separable fasteners, that is to say, wherein the scoops of the stringers are attached to and project on one surface only of the stringers. More particularly, the invention deals with a slider structure wherein the stringers can be reversibly arranged and operated in the slider, so that the plain tape faces of the stringers can be arranged inwardly or adjacent the body of a wearer when fastener devices are used upon garments of various types and kinds.

Still more particularly, the invention deals with a slider structure of the character defined which will be relatively thin in overall thickness or, in other words, wherein the silhouette is kept as low as possible and, further, wherein a novel means is employed controlling operation of the lock element of the slider and the pull for actuating the slider.

The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed and, in which, the separate parts are designated by suitable reference characters in each of the views and, in which:

FIG. 1 is an enlarged longitudinal central sectional view through a slider made according to my invention, with parts of the construction broken away and shown in elevation and diagrammatically illustrating a part of a stringer arranged in the channel of the slider.

FIG. 2 is a view generally similar to FIG. 1 showing only parts of the construction and illustrating the lock element of the slider in inoperative position.

FIG. 3 is a diagrammatic perspective view of the lock element detached.

FIG. 4 is a similar view of the shoe member detached; and

FIG. 5 is a diagrammatic perspective view of the body portion of the slider preparatory to attachment of the several parts therewith.

Considering FIG. 1 of the drawing, **10** represents the slider body defined by an inner wall **11** and an outer wall **12**, these walls being joined at the wide end of the slider in a connecting web **13** of general construction, forming the usual two channels at the wide end of the slider opening into the single channel **14**, partially defined by the side flanges **15** on the outer wall **12**, as clearly noted in FIG. 5 of the drawing.

Projecting outwardly from the surface of the wall **12** are spaced lugs **16** and **17**, each having rivet studs **18** and **19**, as clearly seen in FIG. 5, for attachment of a closure plate or yoke **20**, ends of **20** being apertured to pass over the studs **18** and **19** and these studs are riveted-over, as indicated at **18'**, **19'** in FIG. 1 in securing **20** in position.

Before the plate **20** is secured in position, a lock element **21** is first arranged upon the surface of the lug **16**, the element being apertured, as seen at **22**, to fit over the stud **18**. The element **21** is composed of spring material and has an offset end portion **23** terminating at one side of the element in a locking tongue **24**. The sides of the element between the mounted end and the end **23** are reduced in width, as seen at **25** in FIG. 3 of the drawing, to give greater flexibility to the element **21**.

The end portion **23** of the element **21**, as well as the tongue **24**, extend into and operate in an aperture **26** in the wall **12** adjacent the lug **19**, one wall of the aperture **26** being abruptly bevelled to form a seat **27** for the end portion **23** of the element **21**, as clearly noted in FIG. 1 of the drawing. The wall **12** of the slider has two upwardly projecting guides **28**, with rounded surfaces **29**, continuations of the seat **27**, upon which the element **21** also rests when in the position shown in FIG. 1 of the drawing. The space or channel **30** between the guides **28** is adapted to receive a free shoe **31**, having a rounded surface **32**, generally conforming to the contour of the surface **29** of the guides **28**, the shoe having a perpendicular end surface **33**, upon which the transverse rounded pivot pin **34** of the pull **35** operates, as will appear from a consideration of FIGS. 1 and 2 of the drawing. The pull **35**, adjacent the pivot end **34** thereof, has a large aperture **36**. This aperture provides free passage of the pull over the lugs **16**, **17**, as well as over the plate **20** in the swinging movement of the pull from the position shown in FIG. 1 to a raised position, the latter position being assumed by the pull in operating the slider to close or couple the stringers of the separable fastener as with other devices of this type and kind.

It will appear, from a consideration of FIG. 1 of the drawing, that, normally, the lock element **21** has its lock tongue projecting into the channel **14** to operatively engage the scoops **37** of a stringer tape **38**, which is diagrammatically shown, in part, in FIG. 1. The fastener is of the type and kind wherein the scoops are arranged solely upon one surface of the stringer tape **38**, namely the surface **39**; whereas, the other surface **40** is arranged adjacent the inner surface of the wall **11**, as shown. It will, thus, be apparent that, in the use of the fastener, the plain surface **40** will be adjacent the body of the wearer when the separable fastener stringer is applied to apparel of any type or kind. This is extremely desirable on some types and kinds of apparel which comes in close contact with the body of the wearer.

In moving the slider along the stringers to uncouple the same, the pull **35** is raised slightly and pulled downwardly into the position shown in FIG. 2 of the drawing and, in this operation, the pivot end **34** forces the shoe **31** downwardly to flex the end portion **23** of the element outwardly in the aperture **26** to disengage the tongue **34** from the scoops **37** shown, in part, in FIG. 2, thus providing free movement of the slider along the stringers. It will be apparent, however, that, upon release of the pull, the shoe **31** will be forced in an upward direction by the element **21**, returning the parts to the position shown in FIG. 1 of the drawing and resulting in an automatic locking of the slider on the stringers. This operation is especially important when a separable fastener is only partially opened and it is desirable to retain the stringers locked in this partially opened position. From the foregoing, it will be apparent that the element **31** may be said to define a pull actuating element, at all times maintaining the locking lug in operative position in the channel **14** of the slider body. It will be apparent that, in moving the slider upwardly along the stringers in the operation of coupling the stringers, the tongue **24** will simply ratchet-over the scoops **27**.

It will be understood that the yoke **20**, in addition to retaining the element **21** on the lug **16** and forming of the bridge portion of the yoke a cover for the element **21** and part of the pivot end **34**, also serves to retain the pivot end **34** in permanent engagement with the slider body. Further, it will appear, from a consideration of FIG. 1 of the drawing that the curvature of the lock element substantially conforms to the curvature on the surfaces **29** and **32**. The end portion **23** of the element **21** is at all times positioned between side walls of the aperture **26** and is, thus, retained against any possible shifting movement on the stud **18**.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A slider for separable fasteners comprising a channelled slider body having inner and outer walls joined at one wide end of the slider in a connecting web, the outer wall having spaced projecting lugs, a yoke arranged upon and bridging said lugs, means on the outer ends of said lugs retaining said yoke against displacement from the lugs, the outer wall of the slider body having an aperture adjacent one of said lugs, a lock element fixed to the other of said lugs between said yoke and the end of said other lug and having an end portion operating in said aperture, said end portion of the element having a projecting locking tongue normally extending into the channel of the slider body to operatively engage scoops of a fastener stringer movable through the channelled slider body, a pull having a pivot end arranged between said element and the surface of the outer wall of the slider body, and means comprising a longitudinally slidable shoe on said outer wall disposed between the pivot end of the pull and said element for moving the element into inoperative position in one directional movement of the slider body by said pull.

2. A slider as defined in claim 1, wherein the last named means comprises a shoe member bearing directly upon said element, and the outer wall of the slider body includes means for guiding and positioning the shoe member on said wall.

3. A slider as defined in claim 2, wherein the last named means includes surfaces alined with one wall of the aperture in the outer wall of the slider body in forming a stop checking tensional movement of the lock element in said slider body.

4. A slider as defined in claim 3, wherein said shoe has a surface conforming with the surfaces of said last mentioned means.

5. A slider as defined in claim 4, wherein part of said element engaged by said shoe is curved.

6. A slider as defined in claim 1, wherein the first named means comprises rivet studs integral with said lugs.

References Cited in the file of this patent

UNITED STATES PATENTS

2,373,523 Winterhalter ---------- Apr. 10, 1945

FOREIGN PATENTS

477,929 Canada ---------- Oct. 16, 1951
676,484 Germany ---------- June 5, 1939