

July 14, 1959

A. M. BROWN

2,894,305

QUICK RELEASE END STOP

Filed May 8, 1956

Fig. 1.

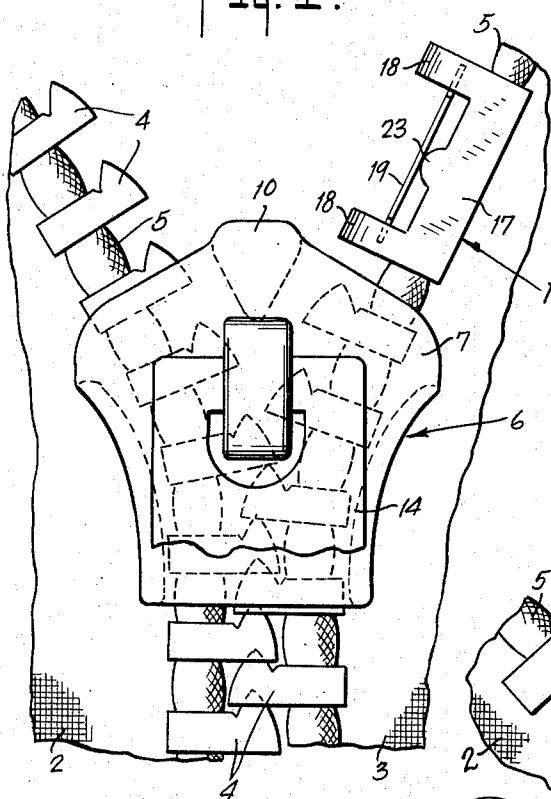


Fig. 2.

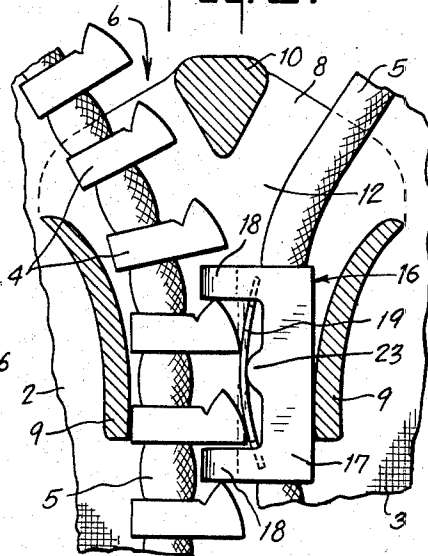


Fig. 3.

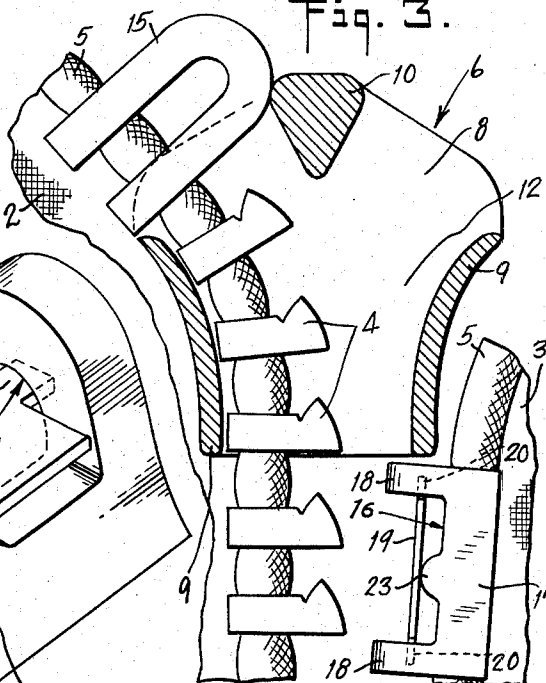
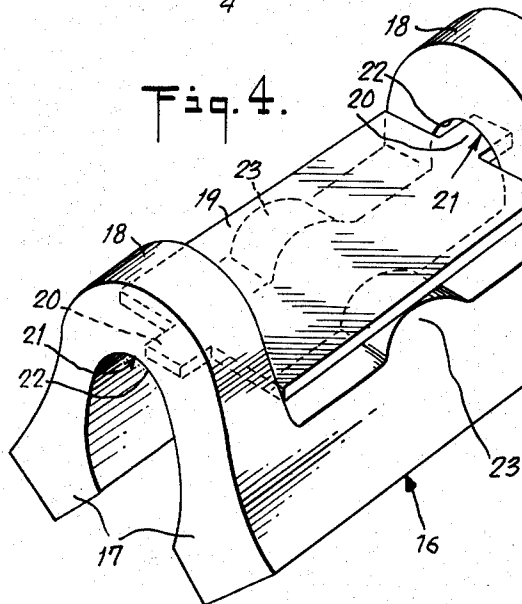


Fig. 4.



INVENTOR.
ALEXANDER M. BROWN
BY *R. E. Speck*
ATTORNEY

1

2,894,305

QUICK RELEASE END STOP

Alexander M. Brown, Conneaut Lake, Pa., assignor to
Talon, Inc., a corporation of Pennsylvania

Application May 8, 1956, Serial No. 583,437

9 Claims. (Cl. 24-205.11)

This invention relates to slide fasteners, and more particularly to slide fasteners of the quick releasing type and to an improved end stop therefor.

In slide fasteners of the so-called quick releasing type, there is usually provided on one of the stringers thereof a releasing end stop for the slider which acts to limit the movement of the slider along the stringers in a closing direction when the slider is moved into engagement therewith by a normal closing force. However, when a greater pulling or closing force is exerted on the slider, it passes over the end stop whereupon the stringers are disengaged from one another by a tearing or stripping action without moving the slider back over the stringers to the bottom of the fastener. It is to such a releasing end stop that the present invention relates.

Accordingly, it is the general object of the present invention to provide a new and improved releasing end stop for slide fasteners which functions normally to limit movement of the slider in the closing direction, but which will permit the slider to pass thereover to a position thereabove when the slider is subjected to an excessive pulling force whereby the fastener may be stripped open by applying lateral force to the stringers.

It is another object of the invention to provide an end stop for slide fasteners of the quick releasing type which is simple and inexpensive in its construction, and at the same time, efficient and effective in its use.

It is a more specific object of the invention to provide a releasing end stop which can be easily and conveniently attached to the stringer and which will be disposed substantially in the plane of the interlocking fastener elements when so attached thereby permitting the slider to pass freely thereover when desired.

Various other objects and advantages of this invention will be more apparent in the course of the following specification, and will be particularly pointed out in the appended claims.

In the accompanying drawings, there is shown for the purpose of illustration, an embodiment which my invention may assume in practice.

In these drawings:

Fig. 1 is a plan fragmentary view of the upper or closing end of a slide fastener having incorporated therewith, the improved end stop of my invention,

Fig. 2 is a plan view similar to Fig. 1, with the top wing of the slider removed, showing the position the stop member assumes when the slider is disposed substantially in its normally closed position

Fig. 3 is a plan view similar to Fig. 2, showing the slider moved to position above my improved end stop member and completely disengaged from one of the stringers so as to permit opening of the fastener by a lateral pull, and

Fig. 4 is a perspective view of the improved end stop member of my invention.

Referring more particularly to the drawings, there is shown a conventional type of slide fastener consisting, generally, of a pair of stringer tapes 2 and 3 having a

2

series of spaced apart interlocking fastener elements 4 attached to the opposed beaded edges 5 thereof. There is mounted on the fastener elements 4 for longitudinal movement therealong, a slider 6 for engaging and disengaging the fastener elements in a well known manner. Such a slider consists generally of spaced upper and lower wings 7 and 8, respectively, having marginal flanges 9 and connected at one end by a neck portion 10 so as to define substantially a Y-shaped channel 12 between the wings. On the upper wing 7, there is provided a lug 13 to which a pull member 14 is pivotally attached for manipulating the slider.

There is attached to the beaded edge 5 of one of the stringer tapes 2 at the upper end thereof adjacent to the endmost fastener element 4 thereof, a conventional top stop 15 which is adapted to prevent removal of the slider from the upper end of that stringer. It will be seen that the stringer to which this top stop 15 is attached, is slightly longer than the other stringer or, in other words, the fastener elements on this stringer extend beyond the fastener elements on the other stringer 3.

According to the present invention, there is provided a releasing top stop, generally designated at 16, for the stringer 3 which is positioned adjacent to the endmost fastener element of this stringer. This end stop consists of an elongated body member having opposed, co-operating jaw-like, clamping leg portions 17 and a pair of spaced-apart, outwardly extending, projecting portions 18 with one disposed at either end of the body member and which are substantially U-shape in cross section.

There is provided a resilient plate-like member 19 preferably having a tongue-like portion 20 extending outwardly from either end thereof, as more clearly shown in Fig. 4 of the drawings. These tongue-like portions 20 are loosely disposed in openings 21 provided by the U-shaped projecting portions 18 and are adapted to co-operate with a shoulder 22 arranged on the inner side thereof. Centrally of the body member and between the U-shaped projecting portions 18, there is arranged outwardly extending, bearing portions 23 which support the plate-like member 19 centrally thereof. Thus, it will be seen that the plate-like member 19 bridges the projecting portions 18 and the bearing portions 23 so as to be movably mounted on the body member.

When the improved releasing end stop member of my invention is attached to the stringer 3, it will be seen that the jaw-like clamping leg portions 17 are securely clamped to the beaded edge 5 thereof. When so attached, it will be seen that the projecting portions 18 and the bearing portions 23 extend outwardly from the edge of the stringer tape and support the plate-like member 19 at a spaced distance from the edge of the stringer tape 3.

It will be understood that the width of each of the projecting portions 18 in a direction longitudinally of the body member is slightly less than the distance between any two adjacent fastener elements 4 so that it can enter freely therebetween for a purpose to be described. Also, the projecting portions 18 are spaced apart a distance slightly greater than the overall distance that two adjacent fastener elements occupy along the stringer tapes so that two opposed fastener elements are free to enter therebetween.

The improved top stop of my invention functions in the following manner. When the slider 6 is moved upwardly to close the fastener, it is manipulated by the pull member 14 with an ordinary pulling force until the endmost fastener elements on the longer stringer and the end stop of the present invention enter the channel of the slider and are disposed in the mouth thereof, or at the point of divergence of the Y-shaped channel 12 substantially in the center thereof, as shown in Fig. 2 of the drawings. At this point, it will be seen that the flange

3

portions 9 of the slider body, which act as guides, force the top stop into engagement with two of the fastener elements 4 on the opposed or longer stringer with the noses or outer end portions of two of the opposed fastener elements 4 being disposed in the space between the U-shaped projecting portions 18 and with the projecting portions disposed between two other adjacent fastener elements. In such position, it will be seen that the outer ends of these two fastener elements 4 will abut against the resilient plate-like member 19. It will be understood that the over-all width of the top stop member together with these opposed fastener elements when so positioned is slightly greater than the width of the slider channel or the distance between the flanges 9, thereby preventing the top stop on the shorter stringer and the series of opposed endmost fastener elements on the longer stringer from passing completely through the slider body so as to limit ordinary movement of the slider in a direction to close the fastener. From this position of the slider, it will be understood that it may be manipulated, as desired, in the conventional manner, to open the fastener.

If it is desired to open the fastener more quickly than it could be opened normally by moving the slider manually by means of the pull member throughout the length of the fastener, an excessive pulling force is applied to the slider by means of the pull 14 in a direction to further close the fastener, thereby causing the slider to pass over the end stop to a position thereabove on the endmost fastener elements of the longer stringer, as shown in Fig. 3. It will be seen that when an excessive closing force is applied to the slider and sufficient poundage has been built up, that the flange portions 9 of the slider force the end stop and the opposed fastener elements together, whereby the outer end portions of these two opposed fastener elements force the ends of the resilient plate-like member 19 inwardly of the stop about its central fulcrum 23, so as to reduce momentarily the normal combined over-all width of the end stop together with the opposed fastener elements, thereby permitting the same to pass through the channel 12 of the slider. After the end stop passes through the slider, the resilient plate-like member 19 again assumes its normal position due to its inherent resilient characteristics. It will be seen that the slider in moving over the end stop has passed off the end of and is completely free of the shorter stringer and is disposed only on the endmost fasterer elements 4 at the upper end of the longer stringer. The fastener can now be easily and quickly opened merely by applying lateral force to one or both of the stringers, i.e., by a stripping or tearing action, whereby the fastener elements will automatically disengage from one another.

As a result of my invention, it will be seen that there is provided an end stop of the quick releasing type which is small and compact and one which conforms substantially to the configuration of the fastener elements thereby providing a neat appearance.

While I have shown and described an embodiment which my invention may assume in practice, it will be understood that this embodiment is merely for the purpose of illustration and description, and that 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 of the class described including a pair of stringer tapes having a series of spaced apart interlocking fastener elements attached to the opposed edges thereof, a releasing end stop comprising a body member attached to one of the stringer tapes adjacent the endmost fastener element thereof, a pair of spaced apart outwardly projecting portions carried by said body member and extending outwardly from the edge of the stringer to which the body member is attached, a resilient plate-like member extending between said projecting portions, and means carried by said body member for supporting said plate-like member in cooperation

4

with said projecting portions and for spacing it from the edge of the stringer tapes.

2. In a slide fastener of the class described including a pair of stringer tapes having a series of spaced apart interlocking fastener elements attached to the opposed edges thereof, a releasing end stop comprising a body member attached to one of said stringer tapes adjacent the endmost fastener element thereof, a pair of spaced apart outwardly projecting portions carried by said body member, an outwardly extending bearing portion carried by said body member and arranged substantially centrally between said first mentioned projecting portions, and a plate-like resilient member extending between said first mentioned projecting portions and bearing on said bearing portion.

3. The combination as defined in claim 2, wherein the projecting portions are spaced apart from one another a distance slightly greater than the overall distance that two fastener elements occupy along the stringer tape and each of the projecting portions has a width in a direction longitudinally of the body member slightly less than the distance between any two adjacent fastener elements.

4. In a slide fastener of the class described including a pair of stringer tapes having a series of spaced apart interlocking fastener elements attached to the opposed edges thereof, a releasing end stop comprising a body member attached to one of said stringer tapes adjacent the endmost fastener element thereof, a pair of spaced apart outwardly projecting portions carried by said body member which extend outwardly beyond the edge of the stringer tape to which it is attached, each of said projecting portions being substantially U-shape in cross section, a resilient plate-like member extending between said U-shaped projecting portions with the ends thereof movably disposed in under said U-shaped projecting portions, and means carried by said body member for supporting said plate-like member in co-operation with said U-shaped projecting portions which acts as a fulcrum for said plate-like member and which spaces said plate-like member from the edge of the stringer tape.

5. The combination as defined in claim 4, wherein the projecting portions are spaced apart from one another a distance slightly greater than the overall distance that two fastener elements occupy along the stringer tape and each of the projecting portions has a width in a direction longitudinally of the body member slightly less than the distance between any two adjacent fastener elements.

6. In a slide fastener of the class described including a pair of stringer tapes having a series of spaced apart interlocking fastener elements attached to the opposed edges thereof, a releasing end stop comprising a body member attached to one of said stringer tapes adjacent the endmost fastener element thereof, a pair of spaced apart outwardly projecting portions carried by said body member which extend outwardly beyond the edge of the stringer tape to which it is attached, each of said projecting portions being substantially U-shape in cross section, an outwardly extending bearing portion carried by said body member and arranged centrally between said first mentioned projecting portions, and a resilient plate-like member bridging said first mentioned projecting portion and said bearing portion, the ends of said plate-like member being movably disposed in under the U-shaped projecting portions and the central portion of said plate-like member bearing against said bearing portion.

7. The combination as defined in claim 6, wherein the projecting portions are spaced apart from one another a distance slightly greater than the overall distance that two fastener elements occupy along the stringer tape and each of the projecting portions has a width in a direction longitudinally of the body member slightly

5

less than the distance between any two adjacent fastener elements.

8. In a slide fastener of the class described including a pair of stringer tapes having a series of spaced apart interlocking fastener elements attached to the opposed edges thereof, a releasing end stop comprising a body member attached to one of said stringer tapes adjacent the endmost fastener element thereof, a pair of spaced apart outwardly projecting portions carried by said body member which extend outwardly beyond the edge of the stringer tape to which it is attached, each of said projecting portions being substantially U-shape in cross section, an outwardly extending bearing portion carried by said body member and arranged centrally between said first mentioned projecting portions, and a resilient plate-like member extending between said U-shaped projecting portions, a tongue arranged at each end of said plate-like member, said tongues being movably disposed in under said U-shaped projecting portions with the

5

10

15

20

central portion of said plate-like member bearing against said bearing portion which acts as a fulcrum.

9. The combination as defined in claim 8, wherein the projecting portions are spaced apart from one another a distance slightly greater than the overall distance that two fastener elements occupy along the stringer tape and each of the projecting portions has a width in a direction longitudinally of the body member slightly less than the distance between any two adjacent fastener elements.

6

References Cited in the file of this patent

UNITED STATES PATENTS

2,441,007 Carlile ----- May 4, 1948

FOREIGN PATENTS

117,921 Australia ----- Jan. 13, 1944

553,551 Great Britain ----- May 26, 1943

1,059,424 France ----- Mar. 24, 1954