Nov. 23, 1943. H. HEIMANN 2,335,147

SLIDE FASTENER

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Fig. 1

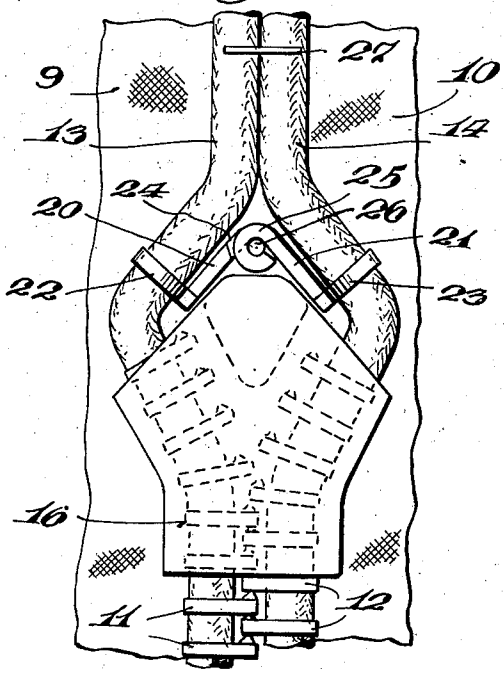


Fig. 2

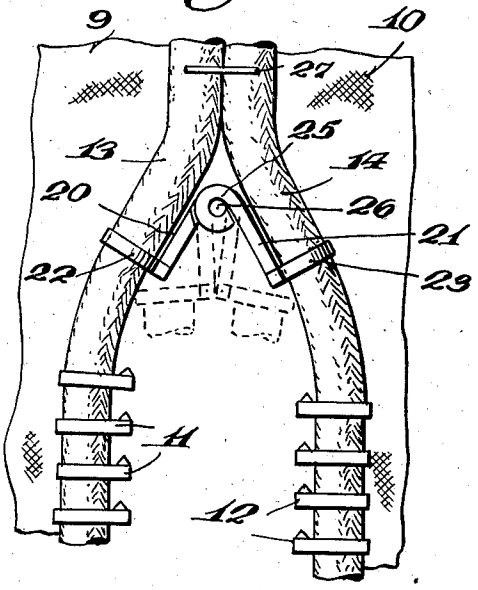


Fig. 3

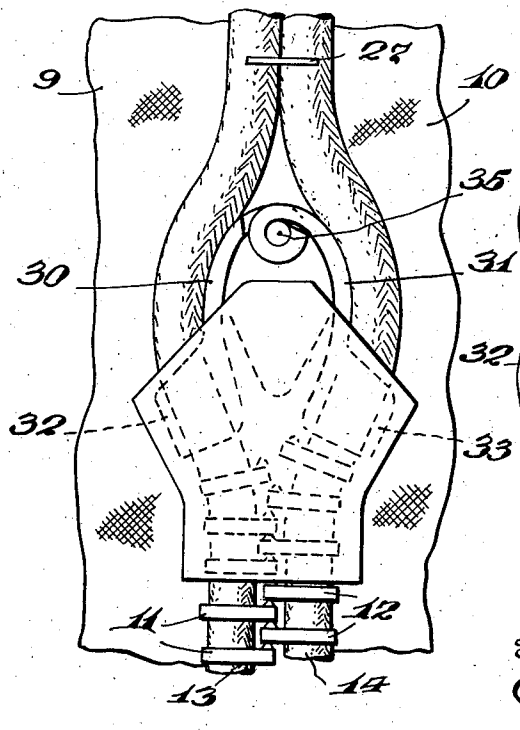
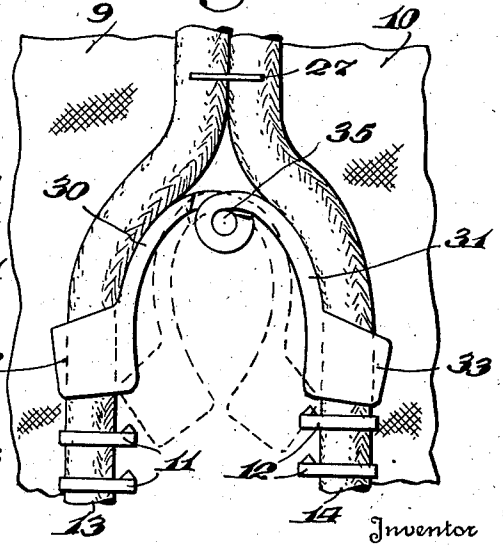


Fig. 4



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SLIDE FASTENER

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5 Claims. (Cl. 24—205)

This invention relates to improvements in slide fasteners, and more particularly to an improved bridge top stop therefor which functions as an end stop for the fastener slider and which furthermore provides a fastener opening of variable width adjacent the top.

As presently constructed, bridge top stops are of rigid construction, being formed in one piece or by two pieces integrally connected together, thereby to space the tapes a given fixed distance adjacent the top or closing end of the fastener. Hence, as the slider is moved away from the stop to partially or fully open the fastener, the width of the opening between the upper ends of the fastener tapes is not only fixed but is usually quite small. For slide fastener assemblies employed in handbags, suitcases, or similar articles, the width of the slot or opening between the tapes can advantageously be increased, thereby to facilitate the removal of objects through the closing end of the fastener. Moreover, it is further desirable that the width or spacing between the tapes, particularly at the top or closing end of the slider, be maintained as small as possible under normal conditions, so as to prevent small objects falling through the closing end of the fastener and thereby becoming lost.

The invention contemplates and seeks to provide an improved bridge top stop for slide fasteners which is so constructed and arranged that it attains the advantages of a narrow opening between the tapes when the fastener is opened but is nevertheless adjustable whereby this opening can be widened adjacent the closing end of the fastener under conditions making the same desirable. More specifically, the invention aims to provide a bridge-type top stop which consists of two separate pieces, each appropriately secured to one of the fastener tapes at the relatively top end thereof, the two pieces being operatively connected together so that they bridge the opening between the tapes and at the same time permit the opening to be adjusted to various widths. Furthermore, according to the invention, the bridge top stop is so constructed that the fastener opening has minimum width as the fastener chains are tensioned, for example, in moving the slider to partially or fully open position, while at the same time the fastener opening may be widened as necessary to facilitate the removal of objects through the closing end of the opening.

Other objects will be in part obvious and in part hereinafter pointed out in connection with the following analysis of this invention wherein is illustrated embodiments of the invention in detail.

In the drawing—

Fig. 1 is a plan view of the upper end of a slide fastener provided with a bridge top stop in accordance with the invention, the slider being illustrated in its relatively upper or fastener closing position;

Fig. 2 is a like view of a slide fastener and bridge top stop illustrated in Fig. 1, the fastener being shown in open position and the stop being adjusted for a wide opening between the tapes;

Fig. 3 is a view similar to Fig. 1, illustrating a modified bridge top stop according to the invention;

Fig. 4 is a plan view of the slide fastener and bridge stop according to Fig. 3, the latter being adjusted for a wide fastener opening adjacent the stop.

Referring to the drawing, wherein like reference characters designate like parts throughout the several views, and particularly to Figs. 1 and 2, the slide fastener therein shown comprises tapes or stringers 9, 10 of extended length to provide a closure for an opening in handbags, suitcases, and similar articles, and which carry along their adjacent edges rows or chains of oppositely disposed fastener elements 11, 12. The securing ends of the elements are clamped over the edge beads 13, 14 of the tapes, the head ends of the elements being provided with the usual locking projections. As is well understood, the oppositely disposed elements of the chains are adapted to be meshed and unmeshed by a slider 16 which, as shown, is of the type having a Y-shaped race or channel adapted to dispose the disengaged elements and the tapes carrying the latter fanwise upon their exit from the slider channels.

According to the invention, a bridge top stop is associated with the fastener tapes at the relatively upper end thereof, to provide a stop which limits movement of the slider 16 in closing direction. In the Figs. 1 and 2 modification, the top stop comprises two separate arm-like parts 20, 21, each carrying at its relatively outer end, to extend at right angles therefrom, a pair of clamping jaws which may be formed similarly to the jaws conventionally provided at the securing ends of the fastener elements. As shown, the related jaws 22 secure arm 20 to tape bead 13, and jaws 23 secure the arm 21 to the tape

bead 14, this securement being effected adjacent the upper or closing end of the fastener.

The adjacent ends of the arms 20, 21 are formed as enlarged heads 24, 25, each having an eye for the reception of a rivet-like pin 26. The arms are related as shown and the pin 26 accordingly provides a hinge joint which permits the arms to have free relative turning movement on the axis of the pin.

Above the bridge top stop, the tapes can be held in desired position, for example, in edge-to-edge contact by a staple 27 or other equivalent means.

As will be observed from Fig. 1, the slider 16 in its uppermost of fastener closing position is adapted to move against the under faces of the arms 20, 21 which bridge the opening between the tapes and thereby limit the closing movement of the slider. By reason of the hinge joint connection between the arms 20, 21, the latter may adjust themselves to the position as shown in which the arms engage against the inclined upper edges of the slider. As the slider is moved away from the top stop to partially or fully open the fastener, the tapes are tensioned. The arms 20, 21 being free to move towards each other, tensioning of the tapes causes the arms to close, as indicated in dotted lines (Fig. 2), and accordingly the tape beads 13, 14 are brought close together to provide an opening of minimum width. Hence, the passage of small articles through the narrow width fastener opening is prevented.

However, when it is desired to widen the space between the tapes, particularly at the stop end of the fastener, the tapes can be spread apart as indicated in full lines (Fig. 2), the arms 20, 21 of the top stop turning on the axis of the pin 26 to permit such wider opening to be effected. Accordingly, the removal of articles contained within the handbag or suitcase closed by a fastener provided with the top stop as aforesaid is facilitated.

According to the modified top stop illustrated in Figs. 3 and 4, the arms 30, 31 are hinged or pivoted at their relatively adjacent ends by a pivot 35. Instead of extending straightway as in Fig. 1, the arms are formed long and extend along a curvature. At their free or outer ends they carry clamp jaws 32, 33 corresponding generally to the clamp jaws 22 of the Fig. 1 construction. By reason of the curvature of the arms 30, 31, the jaw ends thereof may nest within the diverging channels of slider 16 when the latter is moved against the stop. Hence the clamping jaws 32, 33 are concealed by the slider wings, and an attractive closure results. As the slider is moved away from the slot to open the fastener, the jaw ends of the arms withdraw from the slider and are free to move towards each other in response to tensioning of the tapes to their dotted line position (Fig. 4) to provide an opening of minimum width at the stop end of the fastener. However, this opening can be enlarged, as indicated in full lines (Fig. 4) by suitable manipulation of the tapes to spread the same whereby passage of articles through the fastener at the stop end thereof is facilitated.

Accordingly, the invention provides an improved bridge top stop which functions as a stop to limit the closing movement of the slider and which at the same time provides a simple and effective means for reducing the width of the fastener opening as the fastener tapes or chains are tensioned by the slider as the latter is moved in its opening direction. The bridge top stop of the invention further provides a simple and effective means by which the width of the opening at the top end of the fastener may be enlarged under conditions requiring the same.

As many changes could be made in carrying out the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description, or shown in the accompanying drawing, shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. In a slide fastener, a bridge top stop comprising two separate parts, each adapted to be secured at one end to a corresponding fastener tape adjacent the top end of the fastener, and a joint operatively connecting the other ends of said arms and permitting free relative movement therebetween whereby the width of the fastener opening adjacent the stop may be varied.

2. In a slide fastener, a bridge top stop comprising two separate parts, each of which is adapted to be secured to a corresponding fastener tape adjacent the top end of the fastener, said parts being operatively connected to each other by a hinged joint which permits the parts to hinge relative to each other and thereby vary the width of the fastener opening.

3. In a slide fastener, a bridge top stop comprising two separate parts, each of which is adapted to be secured to a corresponding fastener tape adjacent the top end of the fastener, said parts being operatively connected by a pin and eye connection whereby said parts may turn relative to each other on the axis of said pin.

4. In a slide fastener, a bridge top stop comprising two separate parts, each part carrying securing means at one end thereof for securing the same to a fastener tape, said securing means extending at an angle to and relatively outwardly from said part, the other end of each part being formed as a head having an eye, and a pin extending through the head eyes for securing the parts together and to provide a pivot about which said parts may turn relatively to each other.

5. A bridge stop for a slide fastener according to claim 4, in which the arms extend along a curvature such that the ends of the parts and the securing means therefor may extend into the slider channels as the slider is brought to fastener closing position.

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