

Oct. 22, 1940.

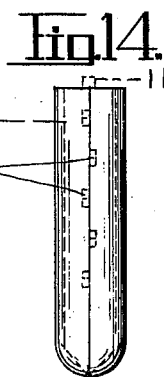
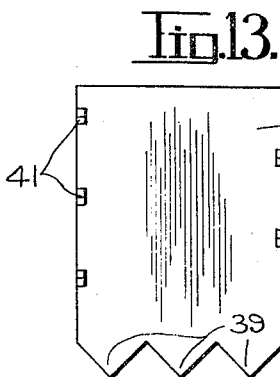
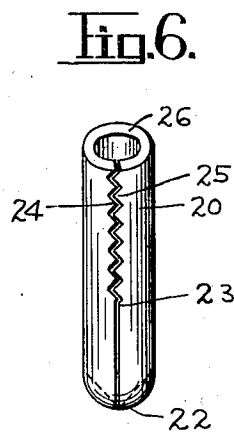
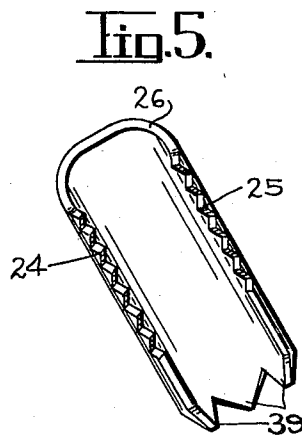
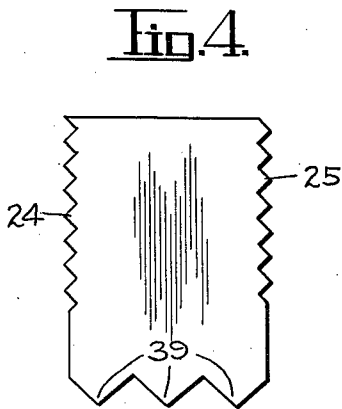
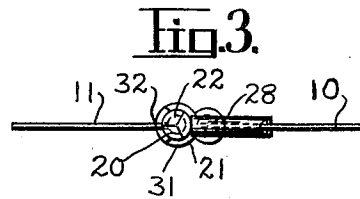
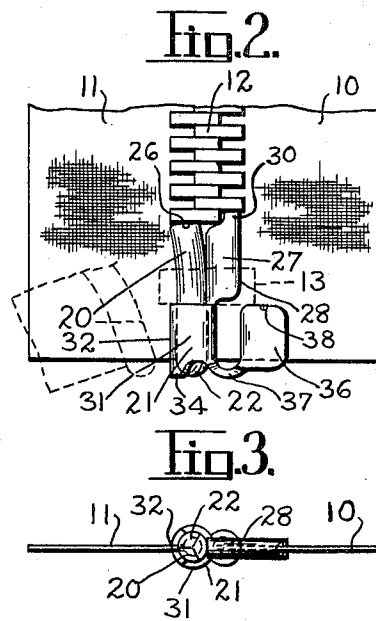
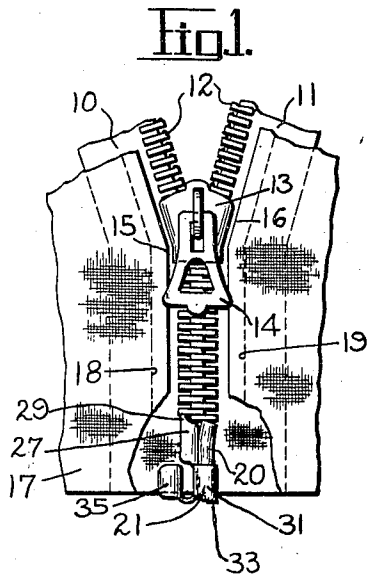
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2,219,045

SLIDE FASTENER SEPARABLE STOP AND METHOD OF MAKING THE SAME

Filed Dec. 5, 1938

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 7.

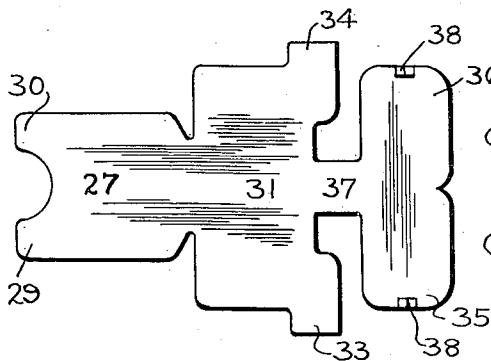


Fig. 8.

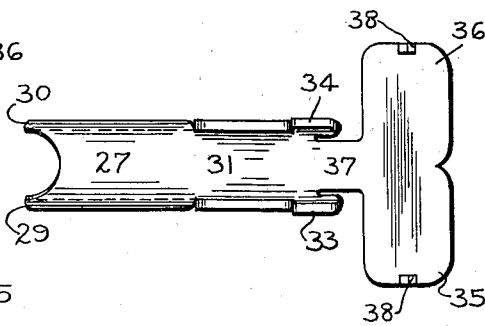


Fig. 9.

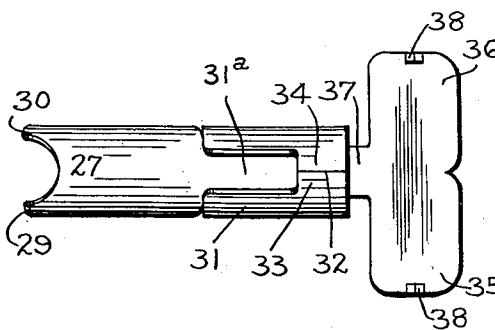


Fig. 10.

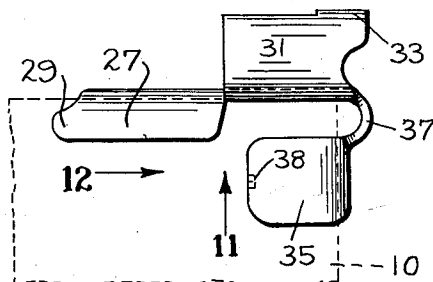


Fig. 11.

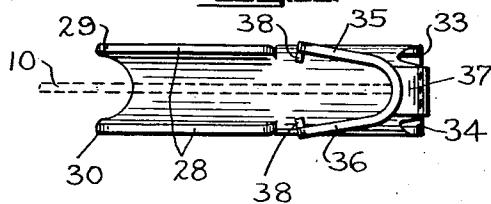
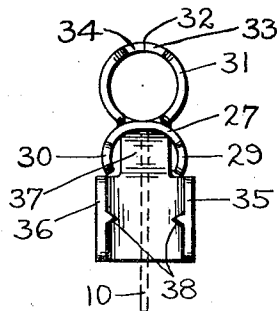


Fig. 12.



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2,219,045

SLIDE FASTENER SEPARABLE STOP AND
METHOD OF MAKING THE SAME

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Application December 5, 1938, Serial No. 243,957

2 Claims. (Cl. 24—205)

This invention relates to improvements in two-part separable stops for use in detachably holding the ends of a pair of slide fastener tapes together, and in the method of making the same.

5 In the use of slide fastener tapes of the above type having rows of cooperating fastener elements along the opposing edges of the tapes, it has been found that detachable stops for the slide member are required at the lower end of the tapes, and
10 that these stops should be narrow in width so that they will not interfere with the stitching of the tapes upon the adjoining fabrics.

One object of this invention is to provide a two-part stop of the above nature consisting of a pair of cooperating male and female members,
15 each of which is made from blanks formed from single pieces of sheet metal, said members being provided with means to readily apply and secure them compactly upon the edges of a pair of tapes.

20 Still another object is to provide a method of making a two-part stop of the above nature whereby the ends of the tapes will be closely and neatly fitted together in an easy and positive
25 manner.

A further object is to provide improved methods of making both of the male and female members of the detachable stop.

30 A still further object is to provide an improved form of detachable two-part stop of the above nature which will be simple in construction, inexpensive to manufacture, easy to manipulate, compact, ornamental in appearance, and very
35 efficient and durable in use.

With these and other objects in view, there have been illustrated on the accompanying drawings two forms in which the invention may be conveniently embodied in practice.

In the drawings:

40 Fig. 1 illustrates a pair of interlocking fastener element-holding tapes and associated fabric, said tapes having the male and female members of the improved detachable two-part stop assembled thereto at the lower ends thereof.

45 Fig. 2 is an enlarged front view of the lower ends of the tapes, showing in full lines the stop parts in assembled position, and in dotted lines the separated position of the male member.

50 Fig. 3 is a bottom edge view of the parts shown in Fig. 2.

Fig. 4 is a plan view of the blank from which the male member of the stop is constructed.

55 Figs. 5 and 6 are views showing the appearance of the blank after two successive steps in the method of making the male stop member.

Fig. 7 is a plan view of the blank from which the female member is formed.

Figs. 8 to 12 inclusive are views showing the appearance of the blank after the successive steps in the method of making the female part of the stop, the views in Figs. 11 and 12 being taken
5 looking in the direction of the arrows 11 and 12 respectively in Fig. 10.

Figs. 13 and 14 are views showing the appearance of a modified form of blank and the completed male member made therefrom. 10

Referring now to the drawings in which like reference numerals denote corresponding parts throughout the several views, a pair of beaded fastener element tapes 10 and 11 are each provided with a row of cooperating elements 12
15 adapted to be interlocked in the well-known manner by a cam slide 13, when it is pulled in an upward direction, as viewed in Fig. 1, by a hanging finger piece 14. The elements 12 are adapted
20 to be disengaged when the slide 13 is moved downwardly along the tapes 10 and 11 in the reverse direction. The tapes 10 and 11 are each stitched to the adjacent edges 15 and 16 of two sheets of fabric 17, the lines of stitches being
25 indicated at 18 and 19 respectively of Fig. 1.

The tapes 10 and 11 are detachably connected together at their lower ends by the two-part stop of the present invention, which comprises a male member 20 secured on the tape 11, and a female
30 member 21, secured on the opposite tape 10. The stop members 20 and 21 are each preferably made of a single piece of sheet metal, and are adapted to be readily interfitted, as shown by the full lines in Fig. 2, and to be disengaged, as shown by the
35 dotted lines in said figure whenever the slide 13 has been pushed downwardly to its lowermost position adjacent the lower ends of the tapes 10 and 11. When the parts are in this condition, the male part 20 may be readily slipped upwardly
40 through the slide 13 to disengage it from the female part 21.

Male stop member

The male stop member 20 is tubular in form and has a closed semi-spherical lower end 22.
45 The member 20 is slightly curved outwardly at the upper part to facilitate its passage through the slide 13. The male member 20 is split, as at 23, along its entire length and is provided with
50 two rows of staggered opposing teeth 24 and 25 formed in the opposite abutting edges at the split portion 23, said teeth extending more than half way down from the upper end 26 of said male part toward the bottom thereof and serving to
55

grip the bead of the tape 11 tightly therebetween. The upper end 26 of the male member 20 abuts against the lowermost element 12 on the tape 11 to brace it against dislocation thereon.

5

Female stop member

The female stop part 21 comprises a tubular upper portion 27 which is split its entire length, providing opposed side wings 28 which are adapted to embrace the beaded edge of the tape 10 opposite from the tape bead embraced by the male part 20. The tubular portion 27 has a pair of lips 29 and 30 provided upon its upper end to engage the lowermost element 12 on the tape 10 for bracing it against dislocation thereon. The portion 27 is adapted to enter the slide 13 permitting the latter to move freely thereover.

The female stop member 21 is also provided with an intermediate socket portion 31 extending away from the tubular portion 27, and disposed below the same. The socket portion 31 is provided with a relatively wide slot 31a which is adapted to embrace the edge of the tape 11.

In order to limit the downward movement of the male stop member 20 into the socket 31, lips 33 and 34 are formed, one on each edge of the split section 32 at the lower end of the portion 31, said lips being arranged in abutting relation below the tape end, whereby the lowermost elements 12 on the tapes 10 and 11 will be positively located in accurate alignment with each other so as to be readily interlocked by the upward movement of the slide 13. The upper end of the socket 31 acts as a stop for the slide 13 to prevent it being inadvertently removed from the tape 10.

The female member 21 is also provided with a pair of transverse opposing wings 35 and 36 adapted to clamp about the lower flat portion of the tape 10 outside of the bead to securely hold the female part 21 thereto. The wings 35 and 36 are connected to the intermediate tubular portion 31 by a short downwardly convex curved link 37. In order to more securely hold the wings 35 and 36 upon the tape 10, said wings are provided upon their upper edges with opposed raised points 38.

Method of making the male stop member

The male member 20 is made from sheet metal by first stamping a flat blank from a strip of metal, as shown in Fig. 4, said blank having staggered teeth 24 and 25 on its opposite edges, and also being provided with a plurality of pointed lips 39 (three in this instance) formed on its lower edge. The blank shown in Fig. 4 is first bent by suitable forming tools into the shape shown in Fig. 5, partially closing the toothed edges together and forcing the lips 39 part way toward each other.

The next step in the method is to place the edge of the tape 11 between the toothed edges 24 and 25 of the blank, and said edges are then pressed together to cause the teeth 24 and 25 to enter the tape 11, the lips 39 being at the same time forced into engagement to form the semi-spherical end 22 (see Fig. 6).

Method of making the female stop member

In making the female stop member 21, a blank is first stamped from sheet metal, as shown in Fig. 7. The next step of the method is to bend the upper portion 27 and the intermediate socket portion 31 in opposite directions by suitable forming tools and dies (not shown) into the part-

ly tubular form shown in Fig. 8. At the next, or third operation, the intermediate portion 31 is completely formed into a socket, the lips 33 and 34 being pressed together into abutment, as shown in Fig. 9.

The next, or fourth, operation includes bending the bottom link 37 horizontally to move the tape-clamping wings 35 and 36 through 90° so that the base thereof will lie perpendicular to the tubular socket 31. The female stop member is then in condition to be assembled to the tape 10 by clamping the sides of the upper portion 27 upon the bead of said tape and the transverse wings 35 and 36 upon the flat portion of said tape, the points 38 being thus caused to penetrate the tape to hold it securely therebetween.

In the modified form of male stop member 40 shown in Fig. 13, two rows of raised points 41 are provided on its opposite side edges in staggered relation, so that when the member 40 is formed into a tube embracing the edge of the tape 11, the tongues 41 will penetrate the material of the tape.

Operation

In operation, the male and female members 20 and 21 of the two-part stop of this invention are applied to the respective ends of the pair of separate beaded tapes 10 and 11 after the rows of fastener elements 12 have been first assembled thereto. The camming slide 13 will then be slipped over the elements 12 on the tape 10 and moved downwardly as far as it will go, or until it engages the socket 31 as shown in dotted lines in Fig. 2. The male member 20 will then be slipped downwardly through the slide 13 and into the socket 31 as far it will go, as shown in full lines in Fig. 2, thus securing the tape ends together with the rows of elements 12 in alignment. The slide 13 may then be moved upwardly to interlock the elements 12 in the usual manner and secure the adjacent edges of the tapes 10 and 11 together thereby connecting the inner edges 15 and 16 of the fabric 17.

One advantage of this invention is that sufficient room is left at each side of the assembled stop members on the tapes to permit the tapes to be secured to a piece of fabric by uninterrupted lines of stitches close to the rows of elements.

While there have been disclosed in this specification two forms in which the invention may be embodied and the preferred methods of making the same, it is to be understood that these forms and methods are shown and described for the purpose of illustration only, and that the invention is not to be limited to the specific disclosure, but may be modified and embodied in various other forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

Having thus fully described the invention, what is claimed as new, and for which it is desired to secure Letters Patent, is:

1. In a separable two-part end stop for detachably holding the lower ends of a pair of beaded slide fastener stringers, each of which is provided with a row of cooperating fastener elements, which rows are adapted to be detachably interlocked by means of a slider member, said end stop comprising a cooperating one-piece male member and a one-piece female member, characterized by having said male member comprising a split tube slightly arcuate in its longitudinal dimension, having a series of triangular

prongs at its lower end pressed into semi-spherical shape, and having staggered opposed bead-engaging teeth along the upper part of its split edges, the lower ends of said split edges being devoid of teeth, said male member extending below the associated stringer for insertion into the socket of said female member.

2. In a separable two-part end stop for detachably holding the lower ends of a pair of beaded slide fastener stringers, each of which stringers is provided with a row of cooperating fastener elements, which rows are adapted to be detachably interlocked by means of a slider member, said end stop comprising a cooperating one-

piece male member and a one-piece female member, characterized by having said male member comprising a split tube slightly arcuate in its longitudinal dimension, having a series of triangular prongs at its lower end pressed into semi-spherical shape, and having staggered bead-engaging teeth extending radially inward from the edges of said split tube on the inside surface thereof, the lower ends of said split edges being devoid of teeth, lying in abutment and extending below the associated stringer for insertion into the socket of said female member.

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