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ARROW-SHAPED SLIDE FASTENER

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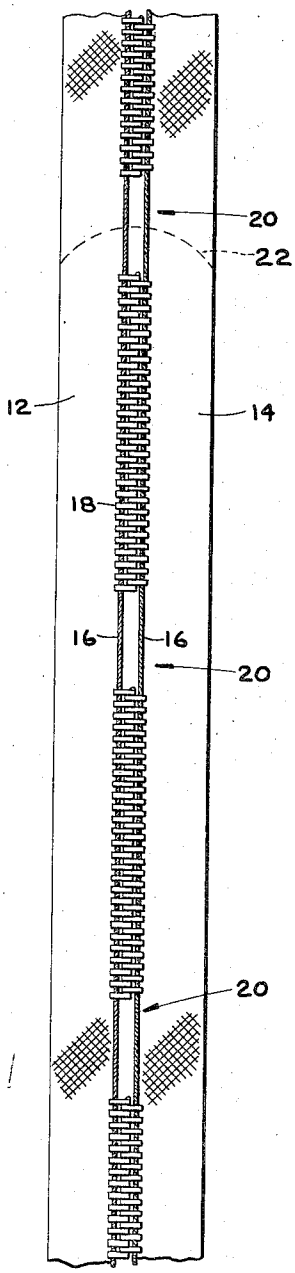


FIG. 1

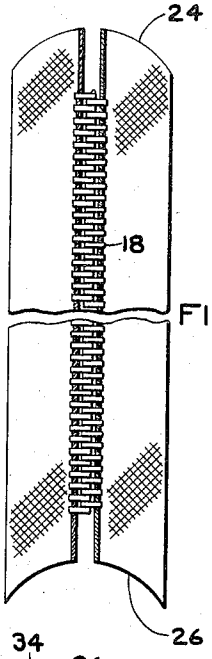


FIG. 2

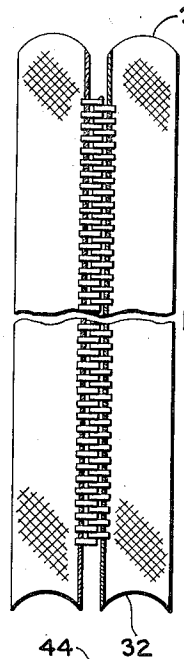


FIG. 3

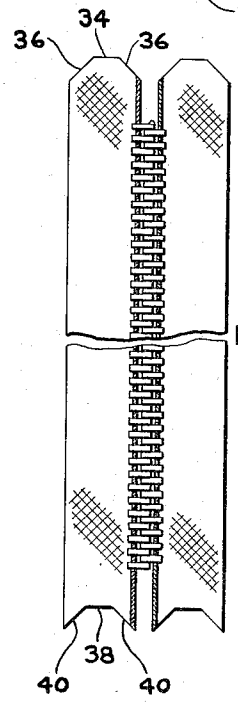


FIG. 4

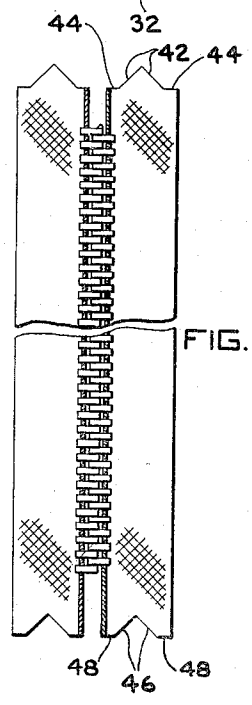


FIG. 5

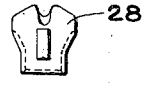


FIG. 6

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ARROW-SHAPED SLIDE FASTENER

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7 Claims. (Cl. 24—205.16)

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This invention relates to slide fasteners, and more particularly to a slide fastener so shaped as to facilitate the assembly of the slider and stringers in proper relative direction.

Although slide fasteners for many purposes are sold completely assembled with the slider on the stringers retained against removal by appropriate end stops, there are other purposes for which the stringers and the sliders are sold separately and must be assembled by the manufacturer of the article using the slide fastener, rather than by the manufacturer of the slide fastener itself. A very common example is the case of trouser fasteners, which are supplied without components because the stringers are separated and are independently sewed into the garment during manufacture of the garment, following which the slider and the end stops are added. In other cases, the stringers are sold in the form of continuous chain either for export, or to dealers who in turn sever the continuous chain into separate stringers and add the sliders and end stops in accordance with the needs of the customer, for some customers may require a plain slider, and others, locking sliders of different types; some may require pulls of different size or type; and some may require end stops of different kinds.

In all these cases, it is important to assemble the slider on the stringers in proper direction. The customer must examine the stringer closely to make sure that he is not sewing it into the garment in improper direction, or adding the slider in improper direction.

A primary object of the present invention is to overcome this difficulty, and to give the stringers a shape which clearly indicates the proper direction in which it is to be used, or in which the slider is to be added.

Another object of the invention is to inhibit ravelling of the threads of the tape at the severed ends ("ravel" is here used in the same sense as "unravel" or "fray"). For this purpose, it is already known to sever the continuous slide fastener chain into stringers by means of a pinking cut, that is, a cut consisting of a large number of tiny serrations. In accordance with the present invention, the ends of the tape are cut on lines which slope, or which for most of their length slope or are on a bias.

In accordance with still another object of the invention, the head end of the stringers is so cut as to mate with the tail end of the stringers, so that the chain can be severed into stringers without scrap or waste therebetween.

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To accomplish the foregoing objects and others which will hereinafter appear, the present invention resides in the fastener elements and method steps, and their relation one to the other, as are hereinafter more particularly pointed out in the following specification. The specification is accompanied by a drawing, in which:

Fig. 1 shows a fragment of continuous fastener chain or stringers;

Fig. 2 illustrates a single stringer so severed from the chain as to embody features of the present invention;

Figs. 3, 4 and 5 show modifications; and

Fig. 6 shows a slider disposed in proper direction relative to the stringers prior to addition of the slider to the stringers.

Referring to the drawing, and more particularly to Fig. 1, a continuous slide fastener chain is shown, this comprising tapes 12 and 14 having the customary beaded edges 16 on which interlockable fastener elements 18 are secured. The fastener elements are in groups of predetermined length, and are separated by so-called gap spaces 20 between the groups of fastener elements. To form individual stringers, the chain is severed across the gap spaces 20, and heretofore this severance has been either a straight line, or a serrated or so-called "pink cut."

In accordance with the present invention, the stringers are separated by a cut such as that shown by a dotted line at 22. The resulting stringers are shown in Fig. 2, and it will be seen that the stringers have been given a somewhat arrow-shaped configuration, that is, the upper end 24 of the stringers has a somewhat arrowhead shape, while the lower end 26 has a somewhat arrow-tail shape. This shape is significant because it serves to indicate the proper direction in which the slider is to be added to the stringers. One form of slider is shown at 28 in Fig. 6, and this slider should face in the direction shown in Fig. 6 when applied to the stringers shown in Fig. 2.

It will be understood that the fastener elements 18 are assumed to be of the conventional or unsymmetrical type, and from inspection of the various figures of the drawing, it will be seen that the elements are so disposed as to have the projection on the head pointed upwardly. Thus, in the present drawing, the element projections, the arrow-shaped stringers, and the slider, are all disposed in upright position, and that is the relative position in which they should be assembled. By making the stringers arrow-shaped as here

shown, it becomes necessary for a person assembling the fastener (or sewing it into a garment even before assembly) to examine the relatively minute fastener elements to determine the proper direction in which it is to be used.

It will be noted that the lines of severance are sloping or biased lines which prevent or inhibit ravelling of the threads of the tapes. It will also be noted that the head end **24** is so shaped as to mate with the tail end **26**, so that a single cut across the chain is adequate to separate the same into stringers without scrap or waste between stringers.

Of course, the particular shape shown in Figs. 1 and 2, is only one of many which may be employed, in the same way and for the same purpose. Thus, referring to Fig. 3, the head ends **30** are convex, much as in Fig. 2, but with each tape separately pointed instead of the pair of tapes being pointed in combination. Similarly, the tail ends **32** are separately recessed or feathered, instead of the two tapes being recessed in combination.

It will be understood that straight lines may be used in lieu of curved lines, in which case the stringers shown in Fig. 2 will have a single point and a single tail, while the stringers shown in Fig. 3 will have two points and two tails.

Moreover, the cuts may, if desired, be made up of a number of lines, and a portion of the cut may be horizontal instead of biased. Such an arrangement is shown in Fig. 4, in which the head ends are made up of transverse lines **34** and sloping lines **36**. The tail ends preferably mate with the head ends, and are made up of transverse lines **38** and sloping lines **40**.

In Fig. 5 the cuts are also made up of transverse and sloping lines, but with the sloping lines disposed between the transverse lines. More specifically, the head ends are made up of sloping lines **42** and transverse lines **44**, while the tail ends are made up of sloping lines **46** and transverse lines **48**. Here again the ends preferably mate, but it may be worth mentioning that although desirable, it is not essential that the ends mate, the only difference then being that the severing knife will be differently shaped and its action will be to punch away some of the material of the chain, instead of merely to sever it.

It is believed that the nature, method of manufacture, and method of use of our improved slide fastener, as well as the advantages thereof, will be apparent from the foregoing detailed description. It will also be apparent that while we have shown our invention in several preferred forms, changes may be made without departing from the spirit of the invention as sought to be defined in the following claims.

We claim:

1. A slide fastener comprising tapes with interlockable fastener elements along their adjacent edges, one end of said tapes being cut on lines which have an arrowhead significance, and the other end of said tapes being cut on lines which have an arrow-tail significance, said arrow shape serving to indicate the proper direction in which the slider is to be added to the stringers.

2. A slide fastener comprising tapes with interlockable fastener elements along their adjacent edges, one end of said tapes being cut on lines which have an arrowhead significance, and

the other end of said tapes being cut on lines which have an arrow-tail significance, the head end being so shaped as to mate with the tail end to avoid waste of tape between stringers when severing a continuous chain into separate stringers, and said arrow shape serving to indicate the proper direction in which the slider is to be added to the stringers.

3. A slide fastener comprising tapes with interlockable fastener elements along their adjacent edges, one end of said tapes being cut on sloping lines which prevent ravelling and which have an arrowhead significance, and the other end of said tapes being cut on sloping lines which prevent ravelling and which have an arrow-tail significance, said arrow shape serving to indicate the proper direction in which the slider is to be added to the stringers.

4. A slide fastener comprising tapes with interlockable fastener elements along their adjacent edges, one end of said tapes being cut on sloping lines which prevent ravelling and which have an arrowhead significance, and the other end of said tapes being cut on sloping lines which prevent ravelling and which have an arrow-tail significance, the head end being so shaped as to mate with the tail end to avoid waste of tape between stringers when severing a continuous chain into separate stringers, and said arrow shape serving to indicate the proper direction in which the slider is to be added to the stringers.

5. The method of severing continuous slide fastener chain into individual lengths, which includes cutting across the chain between stringers with a cut which gives one end of the stringer a shape having an arrowhead significance, and the opposite end an arrow-tail significance, the arrow shape serving to indicate the proper direction in which the slider is to be added to the stringers.

6. The method of severing continuous slide fastener chain into individual lengths, which includes cutting across the chain between stringers with a cut which gives one end of the stringer a shape having an arrowhead significance, and the mating opposite end an arrow-tail significance, said ends being so severed as to inhibit ravelling of the tape, the arrow shape serving to indicate the proper direction in which the slider is to be added to the stringers.

7. The method of severing continuous slide fastener chain into individual lengths, which includes cutting across the chain between stringers with a single scrapless cut which gives one end of the stringer a shape having an arrowhead significance, and the mating opposite end an arrow-tail significance, said ends being severed without waste therebetween and being so severed as to inhibit ravelling of the tape, the arrow shape serving to indicate the proper direction in which the slider is to be added to the stringers.

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