

PATENT SPECIFICATION

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(54) SLIDER FOR SLIDE FASTENERS

(71) We, YOSHIDA KOGYO KABU-SHIKI KAISHA, of No. 1, Kanda Izumi-cho, Chiyoda-ku, Tokyo, Japan; a corporation duly organized under the laws of Japan, do hereby declare the invention for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

- 10 This invention relates to sliders for slide fasteners and in particular to such a slider which is to be applied to an unfinished fastener chain after the same has been attached to a garment or similar article.
- 15 It is now a widely accepted practice of the manufacturers of ready-made garments and other articles to purchase an elongate slide fastener chain, instead of using finished product lengths of slide fasteners, to cut the same into individual lengths determined in accordance with the shape and size of the articles and to sew or otherwise secure such required lengths of the fastener chain to the articles. Other parts of the slide fasteners, such as top and bottom stops as well as sliders, are assembled in the course of the sewing operation. It has been found that this practice results in a great saving in the manufacturing costs of such articles.
- 30 However, the above practice has its own disadvantages with regard to the manipulation of the fastener stringers, which have been secured separately to the edges of an opening in a desired article as aforesaid. through the guide channels in the slider so as to cause the rows of fastener elements on their opposed inner edges to interlock properly in their correct relative positions. It requires the highest degree of dexterity and mental concentration on the part of the operators to manually thread the two fastener stringers simultaneously through the slider without causing misalignment or mismatching between the intermeshing rows of fastener elements.
- 45 At present, such slider assembling operation is performed with the use of a slider holder on which the slider is

mounted upside down with its pull tab vertically suspended. The two fastener stringers secured to an article are drawn one after the other through an entrance end of the slider into the guide channel therein. The resultantly interlocked rows of fastener elements in wrong relative positions are then separated from each other so that the fastener elements are still held interlocked only at their portions within the slider which is now located at one extremity of the fastener stringers. Thereafter, in order to readjust the relative positions of the mismeshed fastener elements, one of the stringers is forcibly pulled through the slider by taking advantage of the elastic deformation of the fastener elements (which are formed from a continuous plastic filamentary material into a coiled or meandering structure) so that both stringers are held in end-to-end alignment. Following this operation, it is necessary to draw the two stringers back towards an exit end of the slider so that the latter is positioned at or adjacent that point on the stringers where a bottom stop is to be affixed. This bottom stop is secured to the fastener after pulling the fastener stringers back again through the slider in a fastener closing direction.

The above described slider assembling operation, however, has suffered from the drawback that the fastener elements are frequently caught in the guide channel in the slider as the fastener stringers are pulled therethrough in a fastener opening direction following the readjustment or correction of the relative positions of the misaligned fastener elements. This is due to the added weight of the fastener-carrying article which causes the fastener stringers to drape down vertically with the results that the coupling head portions of the fastener elements tend to rise or become displaced upwardly adjacent the exit end of the slider. Forcing the stringers in such a condition through the limited space in the slider would often result in permanently deformed or otherwise damaged elements.

[Price 33p]

Price 75p

The present invention aims to overcome the above-mentioned disadvantages.

According to the invention, there is provided a slide fastener slider having a substantially Y-shaped guide channel being in part defined laterally by fastener tape guide rails of longitudinally increasing width from the entrance to the exit end of the fastener slider for supporting the stringers to which the fastener elements are attached.

Preferably, the slide fastener slider has a top and bottom wing inter-connected by a neck at one end, a bail projecting upwardly from said top wing, a pull tab pivotally connected to said bail, and spaced side flanges integral with said top wing and defining therebetween said substantially Y-shaped guide channel, the tape guide rails being provided on said flanges, and the distance between said flanges as measured from their outer peripheries at the exit end being greater than the corresponding distance at the entrance end rendering the contour of the slider body substantially triangular.

The invention will now be further described, by way of example, with reference to the accompanying drawings, in which:—

FIG. 4 is a perspective view of one embodiment of a slider according to the invention;

FIG. 2 is a central sectional view of the slider shown in FIG. 1;

FIG. 3 is a rear end view of the slider shown in FIG. 1 mounted on a slider holder, illustrating the manner of threading a fastener chain therethrough; and

FIG. 4 is a view similar to FIG. 3 but illustrating the manner of threading a fastener chain through a conventional type of slider.

Referring to the drawings and FIG. 1 in particular, there is shown a slider 10 which comprises a top wing 11 and a bottom wing 12 interconnected at one end by a neck 13, a bail 14 projecting upwardly from the top wing 11 and a pull tab 15 pivotally connected to the bail 14. Integral with the top wing 11 are spaced side flanges 16, 16' defining therebetween a substantially Y-shaped guide channel 17 for the passage of the rows of fastener elements E (FIG. 3).

The slider 10 is substantially triangular in its plane with its exit end 18 taken as the base, as shown in FIG. 2. More specifically, the side flanges 16, 16' are flared towards the exit end 18 at which they reach maximum breadths B, B' so as to provide widened or enlarged guide rails 19, 19' which serve to hold the opposed stringer tapes T, T' of the fastener chain F (FIG. 3) horizontally flat thereon during the assembling of the slider 10 therethrough as hereinafter described.

Opposite to the exit end 18 of the slider 10 is

an entrance end 20 through which the fastener stringers T, T' are introduced into the guide channel 17.

It will be noted that the distance W between the side flanges 16 and 16' as measured from their outer peripheries at the exit end 18, is greater than the corresponding distance W' at the entrance end 20, contrary to the conventional type of slider.

Referring to FIG. 3, the slider 10 of the above described construction is mounted upside down, viz. with its top wing 11 face down, on a slider holder 21 and positioned for receiving the two stringers T, T' of the fastener chain F attached to a garment G. The two stringer tapes T, T' are manipulated one after the other through the entrance end 20 into the guide channel 17 of the slider 10, and the relative positions of the rows of fastener elements E are corrected in the manner previously described, followed by pulling the stringer tapes T, T' back again through the slider 10 in a fastener opening direction. In such instance were it not for the structural features of the present invention, the fastener elements E on both or one of the stringers T (T') would rise at their coupling head portions E_a above normal horizontal line of engagement with those on the mating stringer T', and become caught at the exit end 18 under the influence of the added weight of the garment G as illustrated in FIG. 4.

This problem is eliminated according to the embodiment of FIGS. 1 to 3, by the provision of the enlarged guide rails 19, 19' of the side flanges 16, 16' which extend laterally beyond the inner edges of the stringers T, T', to which the rows of elements E are secured, and over the tape web areas T_a, T_a' so as to hold the stringers flat against the guide rails 19, 19' and prevent them from warping down under the influence of the load of the garment G, whereby the rows of elements E can be held in horizontal alignment and drawn smoothly through the exit end 18 into the guide channel 17 of the slider 10.

Increased breadth of the guide rails 19, 19' particularly adjacent the exit end 18, where the slider 10 is most liable to displacement when mounted on the slider holder 21, further serves to retain the slider 10 stably in place on the slider holder 21 during the assembling operation.

WHAT WE CLAIM IS:—

1. A slide fastener slider having a substantially Y-shaped guide channel for fastener elements, said guide channel being in part defined laterally by fastener tape guide rails of longitudinally increasing width from the entrance to the exit end of the fastener slider for supporting the stringers to which the fastener elements are attached.

The present invention aims to overcome the above-mentioned disadvantages.

According to the invention, there is provided a slide fastener slider having a substantially Y-shaped guide channel being in part defined laterally by fastener tape guide rails of longitudinally increasing width from the entrance to the exit end of the fastener slider for supporting the stringers to which the fastener elements are attached.

Preferably, the slide fastener slider has a top and bottom wing inter-connected by a neck at one end, a bail projecting upwardly from said top wing, a pull tab pivotally connected to said bail, and spaced side flanges integral with said top wing and defining therebetween said substantially Y-shaped guide channel, the tape guide rails being provided on said flanges, and the distance between said flanges as measured from their outer peripheries at the exit end being greater than the corresponding distance at the entrance end rendering the contour of the slider body substantially triangular.

The invention will now be further described, by way of example, with reference to the accompanying drawings, in which:—

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FIG. 2 is a central sectional view of the slider shown in FIG. 1;

FIG. 3 is a rear end view of the slider shown in FIG. 1 mounted on a slider holder, illustrating the manner of threading a fastener chain therethrough; and

FIG. 4 is a view similar to FIG. 3 but illustrating the manner of threading a fastener chain through a conventional type of slider.

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This problem is eliminated according to the embodiment of FIGS. 1 to 3, by the provision of the enlarged guide rails 19, 19' of the side flanges 16, 16' which extend laterally beyond the inner edges of the stringers T, T', to which the rows of elements E are secured, and over the tape web areas T_a, T_a' so as to hold the stringers flat against the guide rails 19, 19' and prevent them from warping down under the influence of the load of the garment G, whereby the rows of elements E can be held in horizontal alignment and drawn smoothly through the exit end 18 into the guide channel 17 of the slider 10.

Increased breadth of the guide rails 19, 19' particularly adjacent the exit end 18, where the slider 10 is most liable to displacement when mounted on the slider holder 21, further serves to retain the slider 10 stably in place on the slider holder 21 during the assembling operation.

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2. A slide fastener slider according to claim 1 and having a top and bottom wing inter-connected by a neck at one end, a bail projecting upwardly from said top wing, a pull tab pivotally connected to said bail, and spaced side flanges integral with said top wing and defining therebetween said substantially Y-shaped guide channel, the tape guide rails being provided on said flanges, and the distance between said flanges as measured from their outer peripheries at the exit end being greater

than the corresponding distance at the entrance end rendering the contour of the slider body substantially triangular. 15

3. A slide fastener slider substantially as hereinbefore described with reference to FIGS. 1 to 3 of the accompanying drawings.

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