June 20, 1950 L. J. LUKAS ET AL 2,511,926

SEPARABLE SLIDE FASTENER

Filed April 4, 1949

Fig. 1

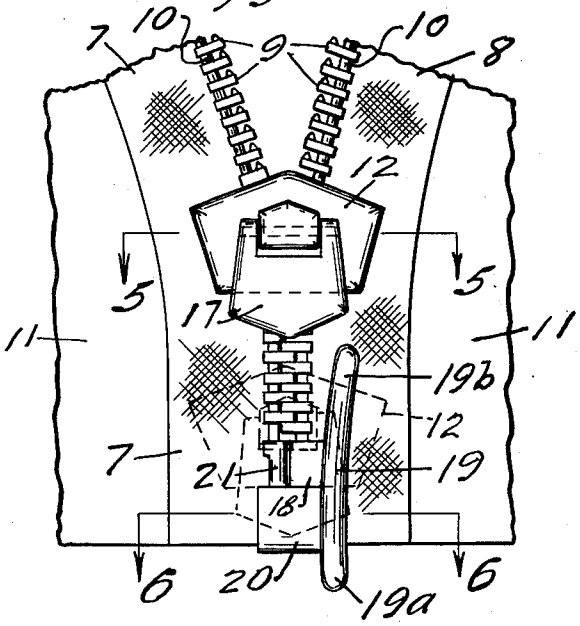


Fig. 2

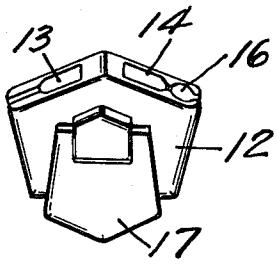


Fig. 3

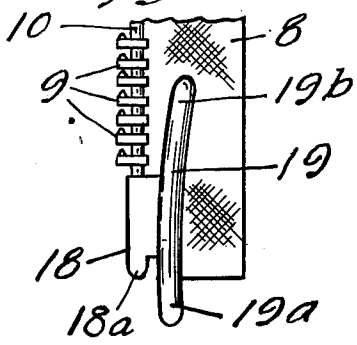


Fig. 4

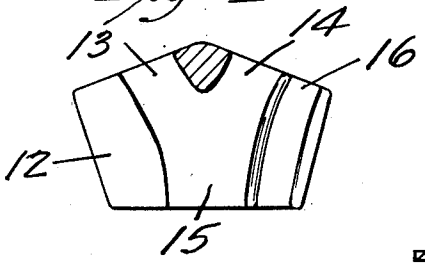


Fig. 6

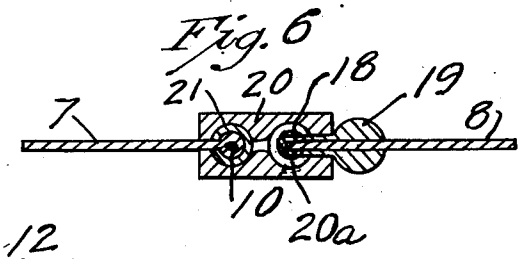
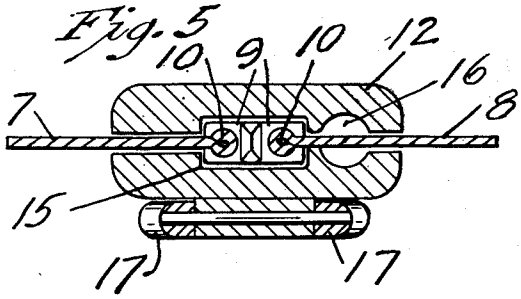


Fig. 5



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SEPARABLE SLIDE FASTENER

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3 Claims. (Cl. 24—205.11)

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This invention relates to a slide fastener having a pair of stringers carrying a multiplicity of coupling links adapted to be coupled and uncoupled by means of a slider and particularly to slide fasteners having separable stringers and end coupling members adapted to facilitate the starting of the links through the slider in correct relative positions.

It is an object of our invention to provide novel slide fastener construction which facilitates the starting of the separable stringers and links through the slider and guards against both incorrect manipulation of the separable members and the likelihood of catching the adjacent clothing or fabric in the coupling members and slider.

A particular object is to provide a novel slider and coacting stringer end coupling member which constitutes a convenient, combined handle and guide adapted to project above and below the slider when in the starting position and the slider being formed with an auxiliary channel adapted to receive the end coupling member and to coact therewith in facilitating both the starting of the stringer into the slider in proper relation to the second or oppositely disposed stringer and initial movement of the slider along the stringers.

Heretofore, ordinary slide fasteners of the separable type have required a relatively high degree of skill to start the end coupling members in proper operative relation to the sliders, not only because of the small size of the parts which must be inter-engaged, but also because the shape and locations of the conventional parts which must be grasped are such as to make the required manipulation difficult for many adults as well as children. By the present invention we substantially overcome such difficulties and provide coupling members which are easy to manipulate while avoiding entanglement of the adjacent fabric in the fastener members.

Other objects will appear and be more fully pointed out in the following specification and claims.

Referring to the accompanying drawing which illustrates, by way of example and not for the purpose of limitation, a preferred embodiment of our invention:

Figure 1 is a front elevational view showing our improved fastener in operative relation to a pair of stringer members and with the slider in upwardly spaced relation to the lower end coupling and starter members;

Fig. 2 is a perspective view of our improved slider;

Fig. 3 is a front elevational view showing the lower end portion of a stringer carrying our improved starter and guide members;

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Fig. 4 is a central vertical sectional view through the slider taken in a plane parallel to the front face of the slider;

Fig. 5 is a horizontal section taken on the line 5—5 of Fig. 1, and

Fig. 6 is a section taken on the line 6—6 of Fig. 1.

Referring to the drawing, the numerals 7 and 8 indicate the stringer members of a pair which carry a multiplicity of coupling links 9 adapted to be inter-engaged to join the members 7 and 8 together. As shown, the stringer members and coupling links are of conventional construction, each of the stringer members having a roll edge 10 upon which the links 9 are fastened in uniformly spaced relation one to another. The stringer members 7 and 8 extend along opposite margins 11 of a garment for the usual purpose of closing an opening in the garment.

A slider indicated generally by the numeral 12 is formed with upwardly diverging channels 13 and 14 which merge into a common vertically extending channel 15 adapted to slidably receive the inner marginal portions of the stringers 7 and 8, including the coupling links 9 and to guide them to and from their inter-engaging positions as the slide is moved along the stringers in the usual manner. At one side of the channels 13 and 14 the slider 12 is formed with an auxiliary channel 16 adapted to slidably receive and fit a guide member hereinafter described. Pivotally connected to the front wall of the slider 12 is a handle 17 adapted to be grasped to facilitate the operation of the slider.

As best shown in Figs. 3 and 6, the lower end portion of the stringer 8 has fixed thereon a starter member 18 and integral therewith is an elongated guide member 19 which is formed to project in laterally spaced relation to the member 18 from the upper and lower ends thereof. The member 19 may be of substantially circular cross sectional shape and is adapted to slidably fit in and pass through the channel 16 in the slider 12. The normally lower end 19*a* of the member 19 projects below the stringer 8 and the upper end portion 19*b* of this member projects above the upper edge of the member 18. The member 19 is longitudinally curved on a gradual arc corresponding to that of the channel 16 in the slider 12. Projecting from the lower edge of the member 18 is a tooth 18*a*.

To coact with the starter member 18 carried by the lower end of the stringer 8, the stringer 7

has fixed on its lower end a stop member 20 which is of the common type having a closed lower end, vertically slotted side edges and an integral upwardly projecting bead 21 adapted to project into the channel 15 of the slider 12. As shown in Fig. 6, the stop member 20 is also formed with an upwardly and laterally open channel adapted to slidably receive the lower end portion of the starter member 18 and a recess 20*a* at the lower end of the channel is adapted to receive the tooth 18*a* projecting downwardly to retain the members 18 and 19 against lateral separation from the member 20 when in engagement therewith.

In operation, in order to separate the stringer 8 from the stringer 7, assuming that these members are coupled together with the several fastening members in positions indicated in Fig. 1, the handle 17 is grasped with the fingers of one hand and the slider is moved downward until its lower edge makes contact with the stop member 20. This uncouples the links 9 throughout the length of the stringers 7 and 8, causes the guide member 19 to pass into and project above the slider, as indicated in broken lines in Fig. 1, and allows the stringer 8 to be separated from the stringer 7 merely by drawing the stringer 8 carrying the guide member 19 and starter member 18 out of the upper ends of the channels 14 and 16.

To couple the stringers together, the slider 12 is placed in contact with the stop member 20 and then the operator, while grasping the upper end portion of the guide member 19, inserts the lower end 19*a* thereof in the clearly visible channel 16 and thrusts this guide member together with the member 18 and stringer 8 downward through the slider channels until the member 18 actuates the stop member 20 carrying the stringer 7 downward relative to the slider member which may be held in the other hand against relative movement. This couples the lower pairs of links 9 in inter-engaging relation one with another and insures correct relative positioning of these links. Thereafter the slider may be moved upward along the stringer members to the desired position in the usual manner.

Our improved fastener has a number of advantages as compared with ordinary slide fasteners. Among these advantages is the facility with which the initial coupling of the separable stringers may be accomplished. The upper end portion 19*b* of the guide member 19 affords a handle of convenient size for directing the lower end 19*a* into the auxiliary channel 16 of the slider. Since this rigid member 19 projects both above and below the starter member 18 it affords readily accessible means for properly guiding and inserting the member 18 in the slider channel 14 and connecting channel in the stop member 20. Being located at one side of the starter, the member 19 is readily visible and may be manipulated correctly and easily by young children and others who ordinarily have difficulty in properly starting the slide.

Our invention has the further advantage of guarding against the forcing of adjacent fabrics between the coupling members or into the slider channels during the coupling operation. The guide member 19 projects along the row of links 9 and below the lower end of the stringer 8 and operates to deflect the adjacent fabric free and clear of the path of the coupling members as the latter are passed into the slider channels. By reason of its unusual width and wedge shape, the slider 12 also has a tendency to deflect adjacent fabrics away from the links 9 and slider channels when moved along the stringers 7 and 8.

Having described our invention, what we claim as new and desire to protect by Letters Patent is:

1. In a slide fastener having a pair of stringers and coupling members carried by said stringers adapted to be inter-engaged one with another for fastening said stringers together, the improvements which comprise, a slider formed with main channels adapted to slidably receive and guide said coupling members to and from inter-engaging relation one with another, said slider being formed with an auxiliary channel extending along and at one side of said main channels, a starter member carried by an end of one of said stringers, an end stop member carried by the other stringer, said starter and stop members being formed to be inter-engaged to connect the ends of said stringers together and an elongated guide member operatively connected to said starter member, extending at one side thereof and formed to slidably fit in said auxiliary channel, said guide member projecting above and below said slider when said slider and starter member are in engagement with said stop member.

2. In a slide fastener having a pair of stringers and coupling members carried by said stringers adapted to be inter-engaged for fastening said stringers together, the improvements which comprise, a slider formed with main channels adapted to slidably receive and guide said coupling members to and from inter-engaging relation one with another, said slider being formed with an auxiliary, longitudinally curved channel extending along and at one side of said main channels, a starter member carried by an end portion of one of said stringers, an end stop member carried by an end portion of the other stringer, said starter and stop members being formed to be inter-engaged to couple the ends of said stringers together and a longitudinally curved guide pin operatively conected to said starter member, extending at one side thereof and formed to slidably fit in said auxiliary channel, said guide pin projecting above and below said slider when said slider and starter member are in engagement with said stop member

3. In a slide fastener having a pair of stringers and coupling members carried by said stringers adapted to be interengaged for coupling said stringers together, the improvements which comprise, a slider formed with main channels adapted to slidably receive and guide said coupling members to and from inter-engaging relation one with another, said slider being formed with an auxiliary channel extending along and at one side of said main channels, a starter member carried by an end portion of one of said stringers, an end stop member carried by the end portion of the other stringer, said starter member having a tooth projecting therefrom for engagement with said stop member to couple the end portions of said stringers together and an elongated guide member rigidly connected to said starter member, projecting from the front and back faces of the stringer at one side of said starter member and formed to slidably fit in said auxiliary channel, said guide member projecting above and below said slider when said slider and starter member are in engagement with said stop member.

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No references cited.