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SLIDE FASTENER STRUCTURE

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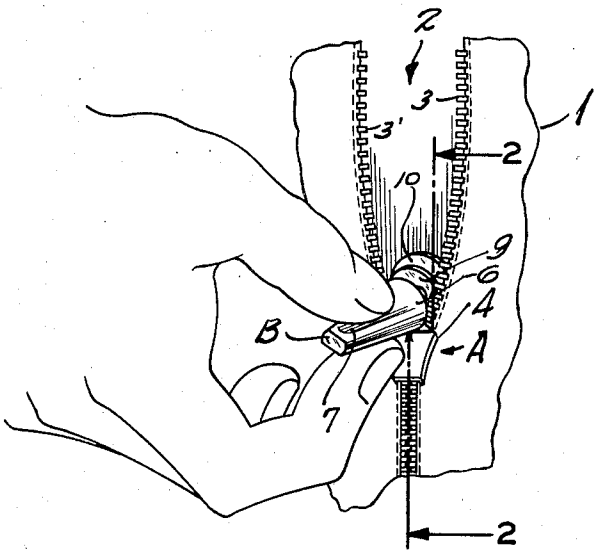


FIG. 1

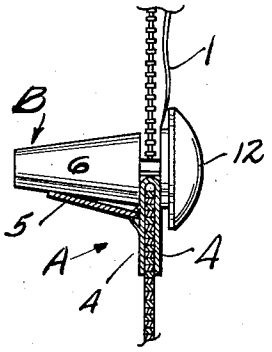


FIG. 2

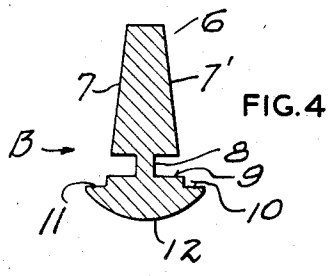


FIG. 4

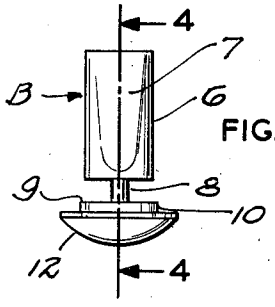


FIG. 3

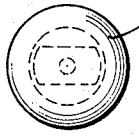


FIG. 5

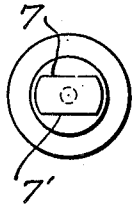


FIG. 6

INVENTOR.

Francis A. Humphreys

BY

Rodney Bedell

atty.

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SLIDE FASTENER STRUCTURE

Francis A. Humphreys, Fayetteville, Ark.

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1 Claim. (Cl. 24—205)

This invention relates in general to slide fasteners and, more particularly, to a tool or guard for facilitating operation thereof.

It is the main object of this invention to provide a tool for use with slide fasteners which includes a guard for preventing matter which underlies a slide fastener from protruding into the line of engagement of the fastener elements, by holding such matter spacedly from the fastener elements as the slider is moved.

It is a further object of this invention to provide a tool for use with slide fasteners having a handle adapted to be readily gripped manually with the pull tab of the slider whereby, in effect, an enlarged operating member is provided for facile actuation of the slider, without positive engagement between said handle and pull tab.

It is an additional object of this invention to provide a tool of the character stated which embodies means for guiding the fastener elements to maintain same in registering relation as the same are moved into and out of interlocked engagement by the slider.

These and other detailed objects, as will appear from the description below, are attained by the structure illustrated in the accompanying drawing, in which:

Figure 1 is a perspective view of a tool constructed in accordance with and embodying the present invention shown in operative position with respect to a slide fastener.

Figure 2 is a section taken along line 2—2 of Figure 1.

Figure 3 is a side view of the tool.

Figure 4 is a section taken along line 4—4 of Figure 3.

Figure 5 is an end view of the head end of the tool.

Figure 6 is an end view of the handle end of the tool.

Referring now to the drawing which illustrates a preferred embodiment of the present invention, **1** designates generally an object such as a garment, case, receptacle or the like having an opening **2** adapted to be closed by a slide fastener A comprising rows of cooperating fastener elements **3, 3'**, secured, as by a tape, along the opposed edges of opening **2**. Fastener elements **3, 3'**, are brought into interlocking engagement and separated from such engagement by means of the customary slider **4**, having the usual pull tab **5** hinged to the slider.

In the use of slide fasteners, it quite frequently occurs that cloth, skin or other objects immediately beneath the fastener elements **3, 3'**, will accidentally project into opening **2** and be either caught between the engaged elements **3', 3**, or interfere with the smooth operation of slider **4**. In the case of garments, the slide fastener A will be normally disposed in close proximity to the flesh or undergarments of the wearer and accidents of this character are particularly annoying. Such pinching of the flesh by fastener elements **3, 3'**, can be quite painful, while the clinching of a portion of an undergarment or cloth adjacent the fastener elements **3, 3'**, may result in inoperation of the slider **4** with possible tearing of the undergarment material. Dislodgement is often tedious, difficult or impossible.

To avoid these hazards, there is provided a tool **B**, preferably fabricated of plastic. It comprises a handle **6** of basic cylindrical contour being flattened to provide a pair of surfaces **7, 7'**, extending substantially from end to end of handle **6** and being inclined toward the outer end thereof. Surfaces **7, 7'** are each dimensioned for abutment thereagainst of pull tab **5**. At the inner end of handle **6**, tool B is reduced in cross section to form a narrow neck **8** in axial alignment with handle **6**, the length of the neck being slightly greater than the thickness of slider **4**, there being spaced opposed shoulders at the opposite ends of the neck. At the end of neck **8** remote from handle **6** is an annular section **9**, the center of which is axially aligned with neck **8** and handle **6**, with the periphery of said section **9** providing a circular shoulder **10**. Adjacent annular section **9**, tool B is widened as at **11** to form a generally hemispherical head **12** with the rounded surface thereof presented outwardly. As shown in the drawing, the radii of annular section **9** and of planar surface, at **11**, are each greater than that of handle **6**.

In usage, for facilitating the effective unentangling closing of the slide fastener A, the user will lift pull tab **5** of slider **4** upwardly against either of flattened surfaces **7, 7'** of handle **6**, whichever is directed downwardly, or toward slider **4**, and grippingly hold same thereagainst while engaging the other or upper of said surfaces **7, 7'** with the thumb, whereby handle **6** and pull tab **5** are, in effect, unitarily combined to provide an enlarged, more easily manipulated operating member. Tool B is presented to opening **2** so that head **12** projects therethrough, with neck **8** being disposed in alignment with fastener elements **3, 3'**. Upon closing operation of slide fastener A, as by upward movement of slider **4**, fastener elements **3, 3'** will be guided between annular section **9** and the opposed inner end face of handle **6** and thereby be disposed in registering relation for facile interengagement. Neck **8** will thus follow a path substantially within opening **2** as the slider **4** is moved with the other parts of tool B, being either on the inside or the outside of said opening, as the case may be. Head **12** serves as a guard for holding spacedly from opening **2** any underlying object, such as cloth or flesh, to prevent such from accidentally protruding into the line of engagement of fastener elements **3, 3'**. The rounded outer surface of head **12** adapts same for accommodating the particular contour of any potentially protruding matter for effectively shielding it from inadvertent entanglement between the fastener elements **3, 3'**. Circular shoulder **10** serves to push back the raw edge of zipper cloth which might otherwise project into opening **2** from the opposed edges thereof. Tool B may be used as well during unlocking of fastener elements **3, 3'** with the same effectiveness.

Tool B is a compact device and one which may be economically manufactured, preferably by molded plastic construction. In operation, tool B is easily used and is completely reliable for assuring that the fastener elements will be directed into and out of engaged relation without untoward gripping therebetween of any underlying matter.

The details of construction may be varied without departing from the spirit of the invention and the exclusive use of those modifications coming within the scope of the claim is contemplated.

What is claimed is:

An elongated tool for insertion in a direction lengthwise of its axis between the spaced toothed edges of an open slide fastener of the type comprising interlocking teeth and a slider movable therealong to engage the teeth suc-

cessively and having a pull tab, the device comprising a handle having a longitudinal axis, a neck of relatively restricted diameter extending axially of the handle from one end of the handle and a head at the outer end of the neck having a circular rim projecting transversely of the axis of the tool and beyond the sides of the handle throughout the handle periphery and provided with an exterior end surface having a spherical-segment-like outer contour, the handle and head forming flat circular shoulders facing towards each other and spaced axially of the handle from each other and from said outer contour to receive between them and to confine the opposing edges of a fastener to which the tool is applied as they are brought together by movement of the fastener slider.

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