

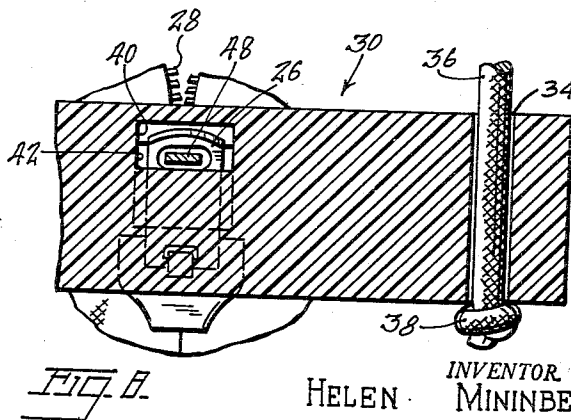
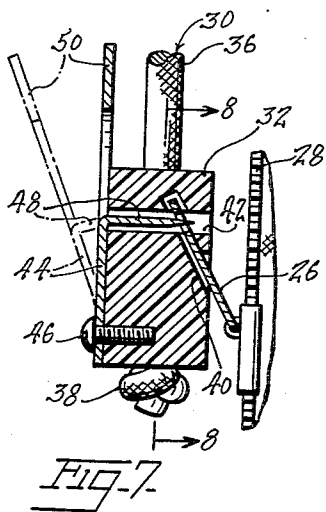
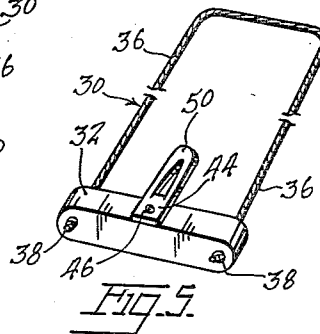
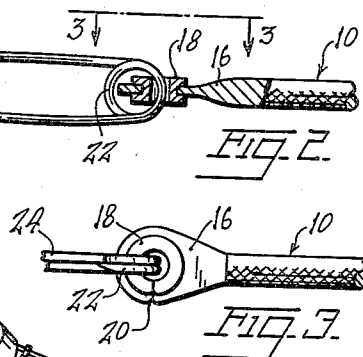
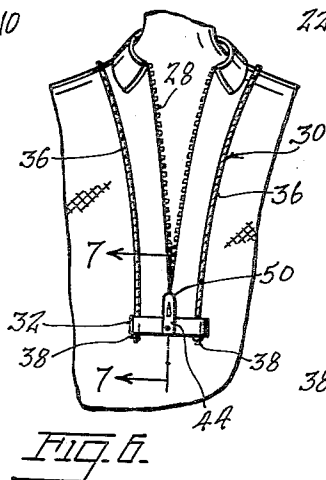
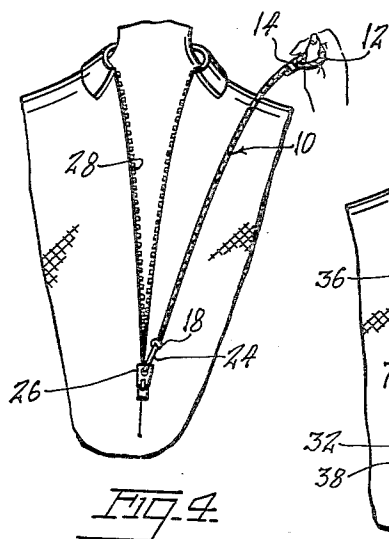
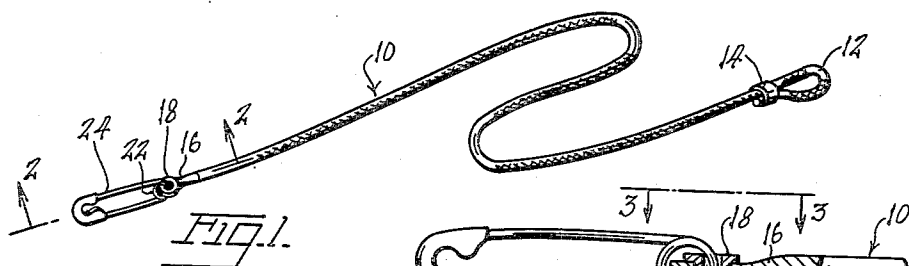
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OPENING AND CLOSING DEVICE FOR SLIDE FASTENERS

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1

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OPENING AND CLOSING DEVICE FOR SLIDE FASTENERS

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4 Claims. (Cl. 24—205.15)

This invention relates to a device connectable to the handle of the slide of a slide fastener, for actuating the slide in a fastener-closing or opening direction from a remote location.

Many garments, particularly ladies' dresses, are equipped with slide fasteners disposed in a relatively inaccessible location, such as, for example, vertically down the center of the back of the dress. It is very difficult to close or open the fastener, under these circumstances, if one attempts to grasp the slide handle with the hand, and accordingly, the main object of the present invention is to provide a generally improved device that can be connectable to the slide handle, and brought over the shoulder or shoulders of the wearer of the garment, so that the wearer, by pulling upon said means, can shift the slide handle upwardly in a fastener-closing direction, fully to the neck of the dress, or to open the fastener by reversing the motion.

Devices for the purpose stated above are not new per se, but heretofore, some such devices have in some instances been so formed as not to operate with full efficiency by reason of a tendency of the same to pull the slide fastener laterally, and in other instances have been excessively complicated.

Accordingly, among important objects of the invention are to provide a device of the character referred to which will operate with considerable efficiency, will be capable of manufacture at low cost, and will be attachable to and detachable from a slide fastener handle with speed and ease.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view of a slide fastener closing or opening device formed according to the present invention.

Fig. 2 is an enlarged sectional view on line 2—2 of Fig. 1.

Fig. 3 is a fragmentary top plan view of the device, as seen from the line 3—3 of Fig. 2.

Fig. 4 is a view showing the back of a garment, the device being illustrated as it appears when in use for closing the slide fastener of the garment.

Fig. 5 is a perspective view of a modified form, portions being broken away.

Fig. 6 is a view similar to Fig. 4, showing the modified device in use.

Fig. 7 is an enlarged sectional view through the device on line 7—7 of Fig. 6.

Fig. 8 is a fragmentary sectional view on line 8—8 of Fig. 7.

In the form shown in Figs. 1—4, the device includes

2

an elongated flexible element such as a braided cord 10, one end of which is formed into a loop 12, the loop-forming portions of the cord being connected together by a clamping sleeve 14.

At its other end, the cord has a flattened, approximately circular perforated portion 16, in which is mounted a small grommet 18, having a radial slit 20 to facilitate entrance into the grommet of the spring loop 22 of a conventional safety pin 24.

In use of the device, before the dress is put on, the safety pin 24 is connected to the slide handle 26 of a slide fastener 28. Thereafter, the dress is put on, and the cord is extended over one shoulder with the loop being grasped in one hand. On the exertion of an upward pull upon the cord, the slide of the fastener will be shifted upwardly in a direction to close the fastener, and when it is at its upper limit of its travel, will be located where the user can conveniently detach the safety pin from the slide handle.

In the form shown in Figs. 5—8, the device has been generally designated 30, and includes an elongated block 32 of rectangular cross section having rounded ends, formed of molded plastic or the like and provided, adjacent its ends, with transversely extending bores 34 receiving the opposite extremities of an elongated cord 36, the ends of the cord being knotted at 38 to securely connect the cord to the ends of the block. The midlength or bight portion of the cord can be grasped for the purpose of shifting the block in an upward direction.

Formed medially between the ends of the block is a through opening 42 extending between the opposite faces of the block adjacent the leading edge of the block, said opening being perpendicular to the transverse openings 34. Intersecting with the opening 42, intermediate the opposite ends of the opening, is a slot 40 formed in the underside of the block, and disposed in a plane oblique to that of the opening 42.

A leaf spring 44 is secured by a screw 46 or equivalent fastening element to the top surface of the block, and is disposed transversely of the block, in parallelism with the end portions of the cord 36. Intermediate its ends, the leaf spring is formed with a depending, pointed tongue 48 extending into opening 42, the tongue being struck out of the material of the leaf spring. Forwardly of the tongue, the leaf spring is extended beyond the leading edge of the block to provide a handle 50 used for shifting the spring outwardly to the dotted line position of Fig. 7 to partially withdraw the tongue from opening 42.

In use of this form of the device, before the dress is put on the handle 26 of the slide is inserted in slot 40, so that its opening registers with opening 42. This is done with the spring 50 held in the dotted line position of Fig. 7. The spring is then released, and springs back to its normal full line position shown in Fig. 7, against the top surface of the block, and in this position of the spring, the tongue 48 at its free end will project through the opening of the slide handle 26, thus interengaging the slide handle with block 32. Thereafter, the dress is put on with the end portions of the cord 36 at opposite sides of the neck of the dress as shown in Fig. 6, and the bight portion is now grasped and pulled outwardly to pull the end portions upwardly, the block 32 will travel upwardly along the slide fastener, the block being disposed transversely of the slide fastener and projecting laterally in opposite directions from the fastener a substantial distance. The slide handle, being interengaged with the block, will move upwardly therewith to close the slide, and when the slide fastener is fully closed, the spring 50 will be conveniently located at the back of the neck to be grasped and shifted outwardly to its

dotted line position of Fig. 7, to release the slide handle 26.

In this form of the invention, the construction is designed to cause the slide handle to be extended outwardly at a slight inclination from the vertical as shown in Fig. 7, this being the normal position in which a slide handle is held when it is grasped between the fingers of one's hand and actuated to close a slide handle. Further, in this form of the invention any lateral pull exerted upon the slide handle 26 is minimized, the pull being directly in line with the slide fastener, due to the provision of the connections of the cord at opposite ends of the elongated, transversely disposed block 32. Thus, one can grasp the bight portion of the cord in one hand, and with the other hand, if necessary, hold the dress down at its back while the slide fastener is being closed. Since there is little or no lateral force exerted upon the slide handle, and since the handle is properly disposed in an inclined position and is pulled straight upwardly, the device acts with improved efficiency in shifting the slide to close the fastener, and the chances of the slide binding while it moves in the closing direction is minimized. When the device is moved in the opposite direction, the slide fastener may be opened.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. A device for closing a slide fastener having a slide handle formed with an opening, comprising a flexible member for exerting a pull thereupon, and means carried by said member including an element extending through the opening of said handle to connect the handle to the flexible member for shifting the handle in a fastener-closing direction responsive to the exertion of pull upon the flexible member, said means including an elongated block adapted for disposition transversely of the slide fastener, the block being formed with transverse openings at opposite ends thereof, the opposite ends of said flexible member being extended through said block openings and being engaged therein against removal from the block openings, the block being formed medially between opposite ends thereof with a slot in which the slide handle is inserted, the block further having medially between its ends a second slot intersecting with the first slot, said element extending within the second slot for engagement in the slide handle opening following insertion of the slide handle in the first slot.

2. A device for closing a slide fastener having a slide handle formed with an opening, comprising a flexible member for exerting a pull thereupon, and means carried by said member including an element extending through the opening of said handle to connect the handle to the flexible member for shifting the handle in a fastener-closing direction responsive to the exertion of pull upon the flexible member, said means including an elongated block adapted for disposition transversely of the slide fastener, the block being formed with transverse openings at opposite ends thereof, the opposite ends of said flexible member being extended through said block openings and being engaged therein against removal from the block openings, the block being formed medially between opposite ends thereof with a slot in which the slide handle is inserted, the block further having medially between its ends a second slot intersecting with the first slot, said

element extending within the second slot for engagement in the slide handle opening following insertion of the slide handle in the first slot, said element comprising a leaf spring anchored at one end to the block and formed intermediate its ends with a tongue, said tongue comprising the portion of said element extending within the second slot.

3. A device for closing a slide fastener having a slide handle formed with an opening, comprising a flexible member for exerting a pull thereupon, and means carried by said member including an element extending through the opening of said handle to connect the handle to the flexible member for shifting the handle in a fastener-closing direction responsive to the exertion of pull upon the flexible member, said means including an elongated block adapted for disposition transversely of the slide fastener, the block being formed with transverse openings at opposite ends thereof, the opposite ends of said flexible member being extended through said block openings and being engaged therein against removal from the block openings, the block being formed medially between opposite ends thereof with a slot in which the slide handle is inserted, the block further having medially between its ends a second slot intersecting with the first slot, said element extending within the second slot for engagement in the slide handle opening following insertion of the slide handle in the first slot, said element comprising a leaf spring anchored at one end to the block and formed intermediate its ends with a tongue, said tongue comprising the portion of said element extending within the second slot, the spring at its other end projecting outwardly from the block to provide a handle on the spring.

4. A device for closing a slide fastener having a slide handle formed with an opening, comprising a flexible member for exerting a pull thereupon, and means carried by said member including an element extending through the opening of said handle to connect the handle to the flexible member for shifting the handle in a fastener-closing direction responsive to the exertion of pull upon the flexible member, said means including an elongated block adapted for disposition transversely of the slide fastener, the block being formed with transverse openings at opposite ends thereof, the opposite ends of said flexible member being extended through said block openings and being engaged therein against removal from the block openings, the block being formed medially between opposite ends thereof with a slot in which the slide handle is inserted, the block further having medially between its ends a second slot intersecting with the first slot, said element extending within the second slot for engagement in the slide handle opening following insertion of the slide handle in the first slot, said element comprising a leaf spring anchored at one end to the block and formed intermediate its ends with a tongue, said tongue comprising the portion of said element extending within the second slot, the spring at its other end projecting outwardly from the block to provide a handle on the spring, the second slot extending transversely of the block normally to the block openings, the first slot opening upon one face of the block and extending within a plane oblique to the length of the second slot.

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