

[54] MEANS FOR OPERATING GARMENT  
SLIDE FASTENER

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[21] Appl. No.: 325,023

Related U.S. Application Data

[63] Continuation of Ser. No. 165,994, July 26, 1971, abandoned.

[52] U.S. Cl. .... 223/111, 294/1 A

[51] Int. Cl. .... A47j 51/06

[58] Field of Search..... 223/111; 294/1 A

[56] References Cited

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2,887,751	5/1959	Lamb.....	223/111 X
2,900,205	9/1959	Cirone.....	294/1 A
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[57] ABSTRACT

A nose-like element is provided with an orifice in its tip to receive and hold a slide fastener or zipper tab. When this element is disposed substantially perpendicularly to the back of a woman desiring to zip or unzip her dress or other garment, and with the zipper tab so inserted in its orifice, is moved in that disposition along the interlocking elements of the slide fastener, the desired zipping or unzipping of the garment is conveniently accomplished. In the preferred embodiment movement of the element is accomplished by its mounting on some type of track means and providing a drawstring to move it up or down on such track means. In a more simple embodiment, the element may be adjustably mounted with a slight cant on the end of an elongated member to be held in one's hand and operated in the manner of a "back scratcher."

5 Claims, 13 Drawing Figures

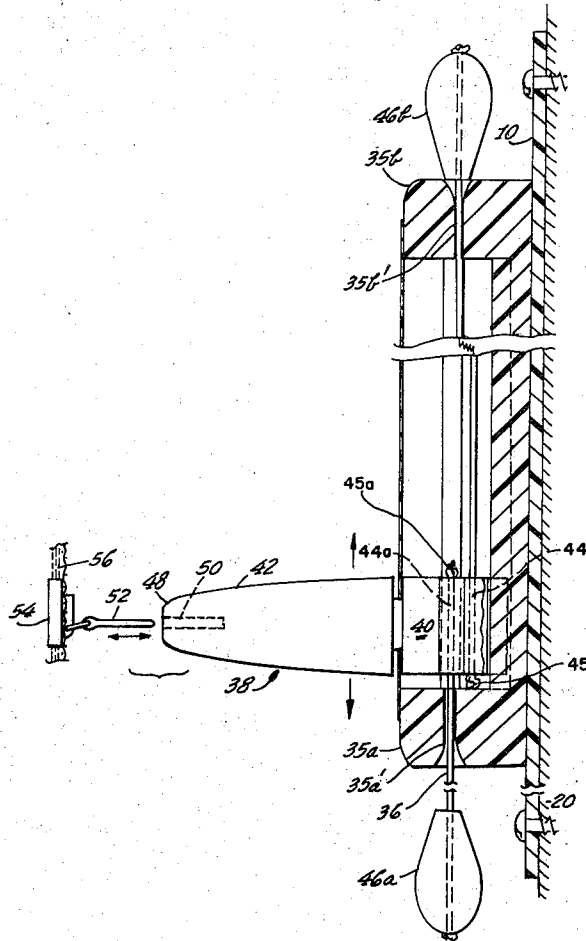
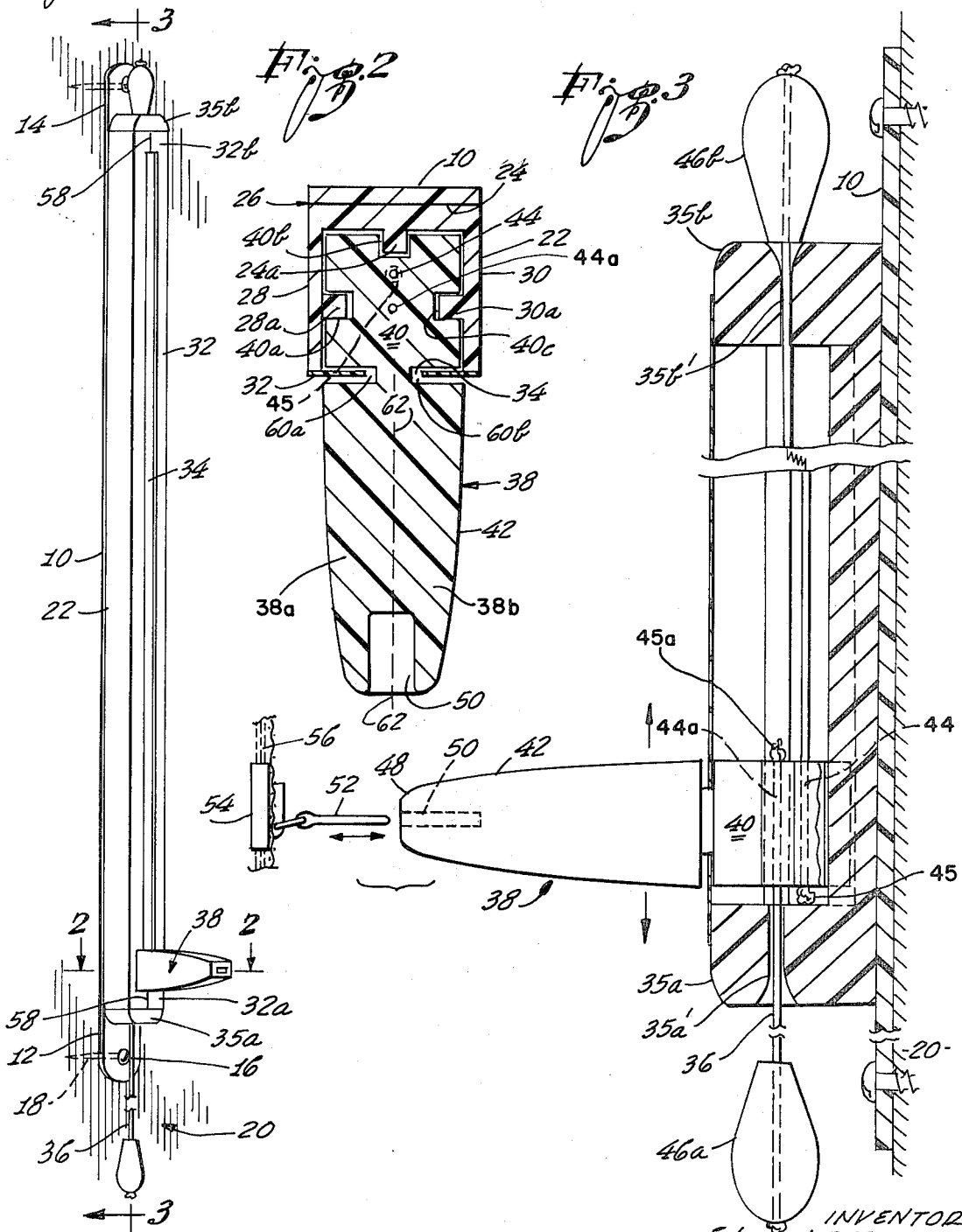


Fig. 1

Fig. 2

Fig. 3



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Fig. 4

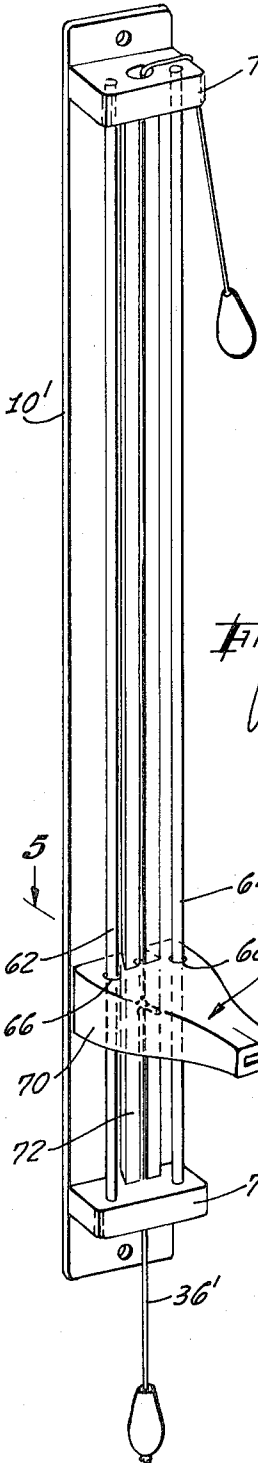


Fig. 5

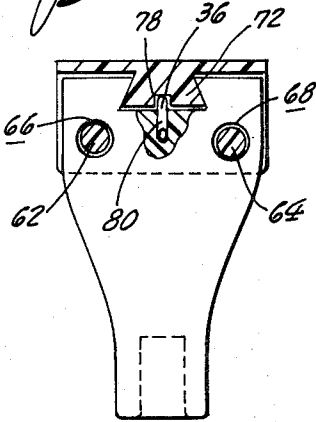


Fig. 12

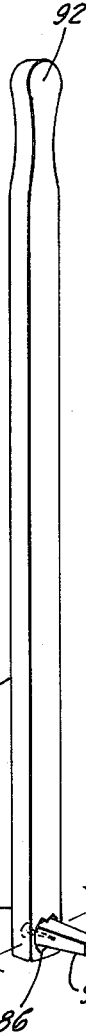


Fig. 13

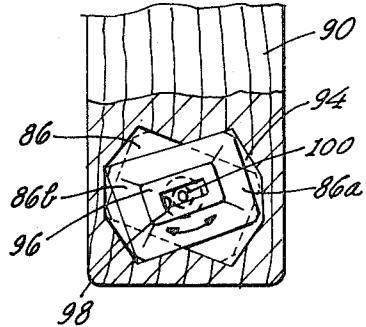


Fig. 6

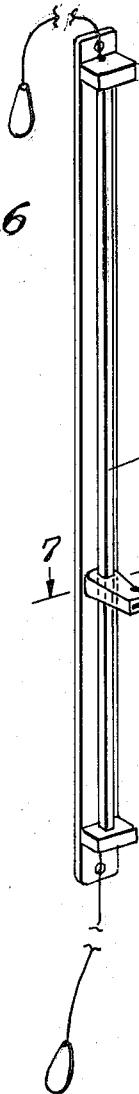
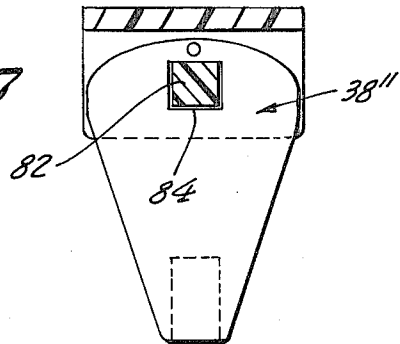


Fig. 7



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Fig. 8

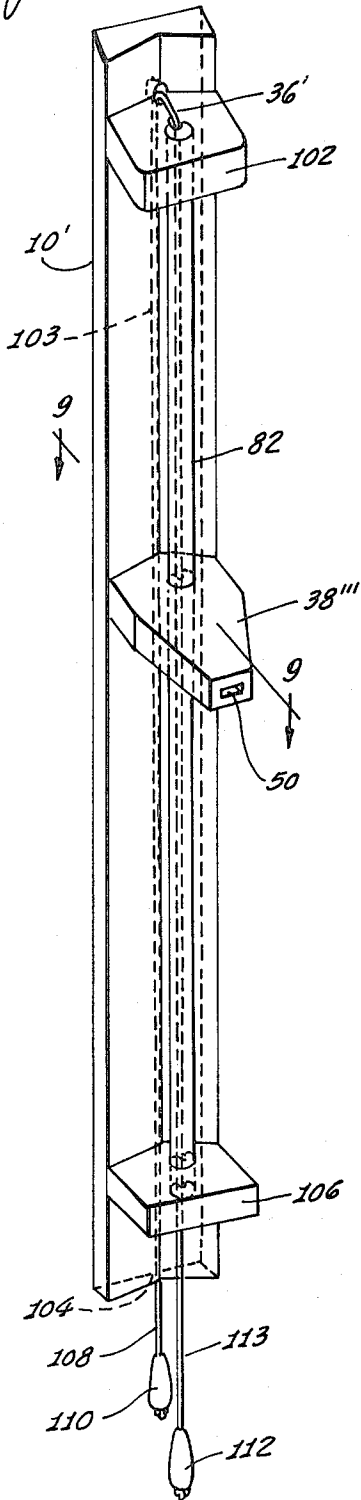


Fig. 9

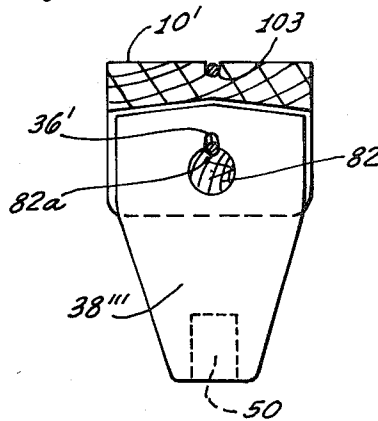


Fig. 10

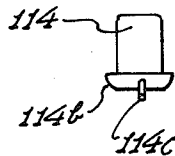
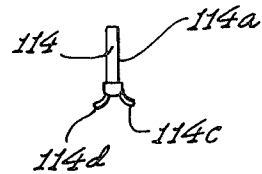


Fig. 11



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## MEANS FOR OPERATING GARMENT SLIDE FASTENER

### RELATED APPLICATION

This is a continuation of application Ser. No. 165,994, filed July 26, 1971, now abandoned.

### BACKGROUND OF THE INVENTION

#### 1. Field of the Invention

This invention relates to mechanisms for operating slide fasteners commonly known as zippers, and particularly those located on the back of a woman's dress or other garment.

#### 2. Description of the Prior Art

The problem of providing some type of mechanism for operating the slide fasteners which seem to be necessarily inconveniently disposed in the middle of the back of a woman's dress, has been attacked by several prior inventors, as may be seen in the following patents:

Inventor	Patent No.	Issue Date
R. S. Vahan	2,604,242	July 22, 1952
H. L. Robertson, et al.	3,199,753	Aug. 10, 1965
Lewis F. McNitt	3,568,901	Mar. 9, 1971

While each of the mechanisms of these several prior art patents does provide for a vertical movement of a zipper tab through a wall-mounted pulley arrangement, none of the mechanisms appears thus far to have received wide-spread consumer acceptance. This lack of consumer acceptance may possibly be because each prior art mechanism appears to be somewhat complicated to install and maintain; further, because of its complexity, each would appear to be costly to produce and, hence, would have to be sold at a fairly high price; also, because each mechanism requires the woman to locate behind her both the hook of the mechanism and the zipper tab, and insert the former in the latter; and lastly, the inclusion in each prior art mechanism of a hook could produce undesirable catching in the dress fabric or the user's skin. Thus, although the basic idea of the expired Vahan patent, namely, providing a wall mounted device for gripping a zipper tab behind a woman and enabling her, by pulling a flexible element, the end of which is conveniently located in front of her, to cause the thus-gripped zipper tab to be moved up or down as desired, is a good one, the prior art devices which have been devised to carry out this basic idea have apparently been unsatisfactory.

### SUMMARY OF THE INVENTION

The present invention obviates the problems inherent in the prior art mechanisms by providing a greatly simplified drawstring device which operates to pull up or down a blocklike element mounted for movement along at least one track. Integral with the block-like element is a nose which projects perpendicularly to the direction of movement of the block and is orificed to receive and grip the zipper tab. If desired, hook means could be employed in conjunction with, or as a substitute for, the nose.

A drawstring attached to the block and extending from each side thereof through an end of the device is employed by the user to pull the block up or down. The block may move on and be held by a plurality of tracks extending into slotting in the blocks, or the track may comprise a keyed cylindrical rod with the block com-

prising an annulus moving coaxially on the rod and having a projection extending into the keyway to prevent the annular block from rotating about the cylindrical rod as it is moved therealong. In another embodiment, the cylindrical rod need not be keyed but one side of the block may be matingly and slidably disposed in abutment with a back-up member extending parallel with the rod.

Alternatively, the rod could be polygonal in cross section and the slidable annulus provided with an orifice similarly shaped slidably to receive such rod and to be moved therealong.

In a still further embodiment, the orificed nose may be adjustably cantedly mounted on the end of an elongated member having a handle, and said nose with the zipper moved vertically by reaching over one's shoulder with this member.

It may be seen, thus, that the present invention eliminates the hook of the prior art mechanisms and greatly simplifies the drawing arrangement with consequent ease of use and substantial reduction in the cost of manufacture.

### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of one embodiment of the present invention.

FIG. 2 is a horizontal section taken on the line 2—2 of FIG. 1.

FIG. 3 is an enlarged vertical section taken on the line 3—3 of FIG. 1.

FIG. 4 is a perspective view of another embodiment of the invention.

FIG. 5 is a horizontal section taken on the line 5—5 of FIG. 4.

FIG. 6 is a perspective view of another embodiment of the invention.

FIG. 7 is a section on the line 7—7 of FIG. 6.

FIG. 8 is a perspective view of a still further embodiment of the invention.

FIG. 9 is a section taken on the line 9—9 of FIG. 8.

FIG. 10 is a plan view of a hook carrying tab insert.

FIG. 11 is a side elevation of the tab insert of FIG. 10.

FIG. 12 is a perspective view of a still further embodiment of the invention.

FIG. 13 is a section taken on the line 13—13 of FIG. 12.

### DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIGS. 1 and 2, the embodiment of the invention there shown comprises an elongated wall-mounting strip 10, the ends 12, 14 of which are orificed at 16 to permit screws 18 to be passed therethrough in order to screw the stripends 12, 14 onto a wall or door 20.

A rectangularly shaped housing 22 is secured by one side 24 to the outer face of the strip 10 as, for example, by adhesive 26. This housing 22 may be square in cross-section and formed of three closed sides 24, 28 and 30, and one outer wall 32 which is slotted at 34 for most of its length intermediate its ends 32a, 32b. Each of the sides 24, 28 and 30 may have an inwardly projecting rib 24a, 28a, 30a respectively centrally disposed to extend for the length of the side. The ends of the housing are

closed by bevelled caps **35a**, **35b**. Each cap **35a**, **35b** is centrally orificed at **35a'**, **35b'** respectively, to permit a cord **36** to be passed therethrough.

Slidably fitting within the housing is a zipper tab carrier member **38** which may be formed integrally to include a track riding block section **40** and an outwardly projecting noselike element **42**. The block section **40** is vertically grooved on each of three sides at **40a**, **40b**, **40c**, slidably to receive respectively ribs **28a**, **24a** and **30a**, and has a pair of orifices **44** **44a** extending through it. A pair of cords **36**, **36a**, each of which terminates at one end in a knob **46a** or **46b** is passed through an orifice **35a'** or **35b'** in the end caps **35a**, **35b** respectively and through an orifice **44** or **44a** in block **40**, where it is knotted at **45** or **45a** respectively.

The noselike projection **42** is formed to taper to a blunt tip **48** into which extends a flat recess **50** which is adapted to receive a zipper tab **52** of a zipper **54** attached to the fabric **56** of a woman's dress, blouse or other garment.

The device of the FIGS. 1-3 embodiment could be constructed of wood, but it lends itself more readily to being constructed of molded plastic components which may be either molded together integrally, or where necessary to assemble in the final form, may be adhesively secured together in proper sequence. For example, the plate **10** and back side **24** of the housing **22** could be molded together integrally. On the other hand, in order that the carrier member **38** may be fitted within the housing **22**, one end cap **35a** or **35b** must be placed on the end of the housing **22** after the block section **40** of the carrier member **38** has been slipped into the end of the housing, which is to be closed by each cap **35a** or **35b**. Also, the slotted wall **32** may be separately formed from the remainder of the housing and in two halves **32a**, **32b** divided along the line **58-58** and inserted into the lateral slots **60a**, **60b** in the carrier member **38** after it is slipped into the other walls **24**, **28**, **30** of the housing to receive ribs **24a**, **28a** and **30a** in its slots **40a**, **40b** and **40c**, whereupon the halves **32a**, **32b** may be adhered to the edges of the sides **28** and **30**.

Also, the carrier member **38** may be formed of two halves **38a**, **38b** divided along the plane **62-62** through the orifices **44**, **44a** thereby to permit insertion of the cord **36** into said orifice. The halves **38a**, **38b** may then be adhered together.

In use, after the device is mounted on a wall or door **20**, a woman desiring to zip up her dress where the zipper is located in the middle of her back, backs up to the noselike projection **42** and inserts the zipper tab **52** into the slotting **50**, reaches for the upper cord knob **46b** and pulls the latter. Such pulling draws the carrier member **38** upwardly within the housing along the ribs **24a**, **28a** and **30a** and moves its noselike projection **52** vertically but horizontally oriented, thereby raising with it vertically the zipper tab **52** to close the zipper **54**. In order to effect an unzipping of her dress, a woman simply elevates the carrier member **38** to the proper height for the zipper tab **52**, inserts the latter into the slotting **50** in the noselike projection **42**, and pulls the lower knob **46a**. Thereby, the carrier member **38** is moved downwardly within the housing, taking with it the zipper tab **52** to unzip the dress.

The two embodiments illustrated in FIGS. 4, 5, 6, 7, 8 and 9, differ essentially from that illustrated in FIGS. 1-3 inclusive, and described above, only in the method

of tracking the carrier member and in eliminating the housing **22**. Thus, in the FIGS. 4 and 5 embodiment, the carrier member **38'** rides up and down along the pair of rods **62**, **64**, which are of circular cross-sections and pass through the cylindrical orifices **66**, **68** respectively in the base or block section **70** of the member **38'**. An additional track may be provided in the form of the rib **72** of dovetailed cross-section which extends centrally along the strip **10'** between the orificed terminal block members **74**, **76**. Rib **72** may be grooved at **78** slidably to receive the cord **36'** which only passes through and into the base **70** for a short looping **80** as shown in FIG. 5.

The embodiment of FIGS. 6 and 7 is even further simplified to the extent that the carrier member **38''** rides up and down on only a single longitudinally extending element **82**. However, to prevent the member **38''** from rotating about the element **82**, the latter is made polygonal in cross-section and the orifice **84** through which it passes is formed with a mating cross-section.

The embodiment shown in FIGS. 8 and 9 is quite similar to that shown in FIGS. 6 and 7, but differs in employing a cylindrical rod **82'** as the carrying track for the element **38'''**. In order to prevent the latter from rotating about the rod **82'**, its base **38a** may be formed angularly to seat slidably within the angularly formed front wall **10a** of the strip **10'**. The rod **82'** may be slotted at **82a** to permit the cord **36'** to slide therein as it is pulled to draw the element **38'''** along the rod **82'**. Additionally, in the FIGS. 8 and 9 embodiment, the cord **36'** is looped over the terminal block **102** to return back down in a slot **103** extending the length of the strip **10'** down to an opening **104** below the lower terminal block **106**. The thus returned cord end **108** may be terminated with a knob **110** similar to the knob **112** on the other end **113** of the cord **36'**, or the knobs **110** and **112** may be formed or painted to distinguish each other and thereby indicate to the user which one will raise the zipper tab and which one will pull it down. With this cord arrangement, each cord **108**, **113** end may be pulled downwardly to move the noselike carrier **38'''** upwardly or downwardly.

FIGS. 10 and 11 disclose a hook insert tab **114** which may be utilized if desired with each of the noselike elements **38**, **38'**, **38''** and **38'''**. Tab **114** comprises a flat insert portion **114a** and a gripping portion **114b**. The latter is bulged out so that it can be gripped to insert the portion **114a** into the flat recess **50**, and carries on it an upper hook **114c** and a lower hook **114d**. This tab **114** may be employed if desired by the user to provide hooking means for attachment to the zipper tab in lieu of inserting such tab into the recess **50**.

In the simplest embodiment of the invention of those illustrated in the drawings, as shown in FIGS. 12 and 13, no provision is made for moving a carrier member **38** upwardly and downwardly along track means by a pull cord system. Instead, the member **39**, is attached slightly rotatably in a seating cavity **86** provided in one end **88** of an elongated element **90**, the other end **92** of which is formed as a handle. In this embodiment, the member **39**, as the other carrier members **38**, **38'**, **38''** and **38'''** heretofore discussed and illustrated in FIGS. 1 through 9 inclusive, is similarly formed of a base **94** and a tapered blunt noselike projection **96**, in the end of which is provided a horizontal flat recess **98** to receive the tab of a zipper. In this embodiment of the in-

vention, the user holds the handle over or under her shoulder and brings the end 88 to the zipper tab level. With her other hand she inserts the tab into the slot 98 and then raises the element 90 by the handle 92 to pull up the zipper tab so inserted in the slot 98 in the nose-like projection 96. In order to enable the member 39 to be disposed in substantially normal alignment with the user's back despite the angle at which the element 90 will be held over one's shoulder, whether by a left-handed or right-handed person, there is provided in the end 88 a double rectangular seating cavity 86 with each rectangle 86a, 86b being disposed at about a 35° angular rotation from the other. The base 94 of the member 39 is rotatably secured in the cavity 86 by a pin 100 so that the base may be rotated about the pin axis to seat in either the rectangle 86a or 86b, and would be so disposed, depending upon whether the user employs the FIGS. 11, 12 device with his right hand over his left or right shoulder, or left hand over his left or right shoulder.

It will be appreciated that the present invention may thus be adapted to many convenient forms and may be easily and inexpensively constructed. It is simple to operate and by use of the blunt nose into which the zipper tab is inserted, avoids the possibility of tearing the dress fabric or scratching the user's skin.

I claim:

1. In combination for facilitating the opening and closing of zippers on articles of clothing, such as women's dresses, the zipper having a tab for operating the zipper,

a rigid elongated support strip,  
 guide means extending in the elongated direction along the support strip and fixedly positioned relative to the elongated strip,  
 a carrier member supported on the guide means and slidably displaceable along the guide means, the carrier member having a configuration for cooperation with the guide means to provide for reciprocal movement of the carrier member in the elongated direction, the carrier member including an elongated portion extending outwardly from said strip and maintained normally to the elongated strip direction during displacement of the carrier relative to the strip in said direction; and said elongated portion terminating in a smooth, blunt nose, said nose having a recess extending axially inwardly toward the strip for a predetermined distance to receive and retain the tab of the zipper during displacement of the carrier in the elongated direction relative to the strip,

a pair of cord means, one extending oppositely from the other from each end of the carrier along the strip in the elongated direction, to the ends of the strip, and

means at each end of the elongated strip to support the respective cord means for drawing thereby in

its respective direction beyond the end of the strip.

2. In combination for facilitating the opening and closing of zippers on articles of clothing such as women's dresses, the zipper having a tab for operating the zipper,

a rigid elongated support strip,  
 guide means extending in the elongated direction along the support strip and fixedly positioned relative to the elongated strip,

a carrier member supported on the guide means and slidably displaceable along the guide means, the carrier member having a configuration for cooperation with the guide means to provide for movement of the carrier member in the elongated direction,

the carrier member extending outwardly from the elongated strip in a direction transverse to the elongated direction of the strip,

there being a recess at the outer end of the carrier member to receive the tab of the zipper and retain the tab in the carrier transversely as the carrier is displaced along the guide means,

a first end cap fixedly attached to the strip at one elongated end of the strip, there being an opening in the first end cap,

a second end cap fixedly attached to the strip at the other elongated end of the strip, there being an opening in the second end cap,

a first cord attached to the carrier member and extending in one direction from the carrier member through the opening in the first end cap and operable when activated to slide the carrier member in that direction along the guide means, and

a second cord attached to the carrier member and extending in an opposite direction from the carrier member through the opening in the second end cap and operable when activated to slide the carrier member in the opposite direction along the guide means.

3. The combination set forth in claim 2, wherein the guide means are defined by sides provided on the strip and ribs provided in the sides and the carrier member is provided with grooves to mate with the ribs on the sides.

4. The combination set forth in claim 2, wherein the guide means are defined by a rod fixedly secured to the first and second end caps and disposed in substantially rigid relationship to the strip and said carrier member being provided with an aperture for support on the rod in slidable relationship to the rod.

5. The combination set forth in claim 4, wherein the rod has a cross-sectional configuration different from a circle and the aperture in the carrier member has a mating configuration to prevent the carrier member from rotating relative to the rod.

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