June 24, 1958 H. LANCASTER 2,840,412

ZIPPER PULLER

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Fig. 1.

Fig. 10.

Fig. 9.

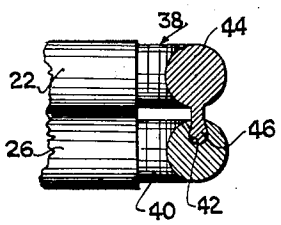


Fig. 8.

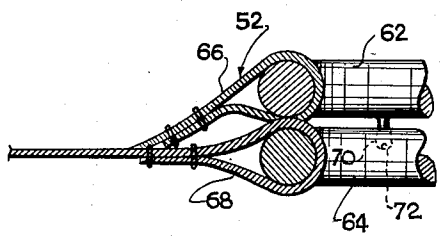


Fig. 11.

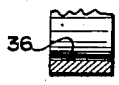


Fig. 5.

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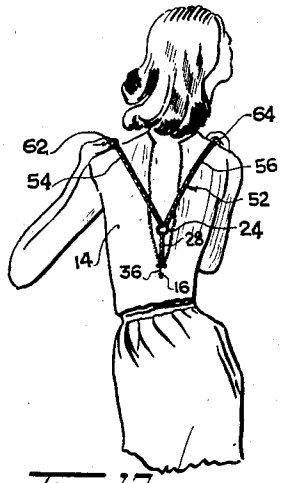


Fig. 1.

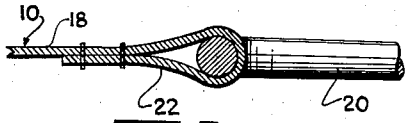


Fig. 8.

Fig. 2.

Fig. 6.

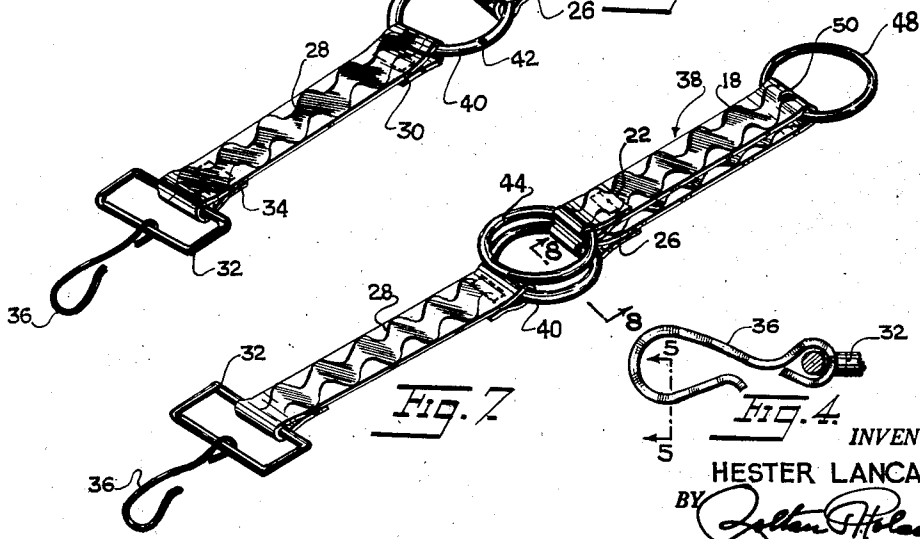


Fig. 7.

Fig. 4.

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United States Patent Office 2,840,412 Patented June 24, 1958

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ZIPPER PULLER

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Application January 14, 1957, Serial No. 634,047

2 Claims. (Cl. 294—26)

This invention relates to a device for operating a slide fastener between open and closed positions, where the fastener is not readily accessible to the user.

In many instances, it is difficult to operate a slide fastener, due to its location upon a garment being worn. For example, dresses often have a slide fastener or zipper extending down the middle of the back, from a location below the waist to the neckline. In such an instance, the wearer finds it difficult to close the slide fastener, and the assistance of another person is often sought in these circumstances. However, such assistance is not available to everyone, and accordingly the main object of the present invention is to provide an actuating device for a slide fastener so designed that one can swiftly and easily operate the same to open or close the fastener.

Another object is to provide a slide fastener operating device that can be readily attached to or detached from a conventional zipper or slide fastener, and located with maximum facility where it can be shifted by the user for the purpose of operating the fastener device to open or closed positions.

A further object is to provide a slide fastener actuating device that will be capable of manufacture at a very low cost, but will nevertheless be efficiently adapted to discharge its duties or functions over a long period of time without possibility of breakage.

Another object is to provide a slide fastener closing device which will be designed to permit grasping of the device at various locations along its length, so that the device can be used for closing fasteners not only on the backs of dresses, but also on the backs or sides of girdles, corsets, etc. In other words, by the provision of a handle-defining connector intermediate opposite ends of the actuating device, one can grasp either a handle at an end of the device so that the device will be of maximum length or alternatively, grasp the intermediate handle so that the effect will be that of shortening the actuating device, so that it can be used with ease for actuating to closed positions relatively short slide fasteners. The arrangement, further, has the desirable effect of permitting one to shift from one handle to another during the actuating of the slide fastener to closed position, so that the over-all length of the actuating device can be conveniently shortened when the slide fastener has been partly closed.

Another object, in one form of the invention, is to provide means in association with the longitudinally spaced handles one located at one end of the device and another intermediate the ends of the device, for providing for a second length adjustment. In this instance, a third handle is provided which ordinarily is inoperatively disposed. However, by detachable connection of the end and intermediate handles to each other, the overall length of a flexible member incorporated in the device will be shortened and the third handle will be operatively located. By reason of this arrangement, the device can be used either at full length in which instance the end handle would be used, at a short length in which event the handle nearest the slide-fastener-engaging hook of the

device is used, and an intermediate length between the maximum and short lengths, in which event the ordinarily inoperative handle is located at the end of the shortened actuating member.

Another object is so design the slide fastener closing device that it can be engaged with any of various slide fastener handles now in use, with the construction being such that a hook on the actuating device can be readily connected to the slide fastener handle before the garment is put on, said hook being designed to be readily detached from the slide fastener handle when the fastener has been moved to a fully closed position.

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 view showing the device in use during the closing of a slide fastener, the fastener being shown in a fully open position.

Fig. 2 is an enlarged perspective view of the slide fastener actuating device per se.

Fig. 3 is a detail sectional view, still further enlarged, on line **3—3** of Fig. 2, showing the connection of the end handle to the longer flexible strip.

Fig. 4 is a detail sectional view on the same scale as Fig. 3, taken substantially on line **4—4** of Fig. 2, showing the connection of the hook to the hook support loop.

Fig. 5 is a transverse sectional view on the same scale as Fig. 4, through the hook, taken on the line **5—5** of Fig. 4.

Fig. 6 is a view like Fig. 2 showing a modified construction.

Fig. 7 is a perspective view of the device shown in Fig. 6, adjusted for use at an intermediate length.

Fig. 8 is a greatly enlarged, detail sectional view on line **8—8** of Fig. 7.

Fig. 9 is a detail sectional view on the same scale as Fig. 8, taken substantially on line **9—9** of Fig. 6.

Fig. 10 is an enlarged perspective view of a second modification, wherein the outer strip member includes side by side, separable strip portions, said portions being shown in full and dotted lines in positions to which the same are adjusted, permitting the device to be used either in the same manner as the form of Fig. 2 or alternatively, in a form including divergent strip portions extendible over the shoulders of the user.

Fig. 11 is an enlarged, fragmentary longitudinal sectional view on line **11—11** of Fig. 10.

Fig. 12 is a view like Fig. 1 showing the modified form of Fig. 10 in use, with the strip portions separated to provide a V-shaped yoke.

Referring to the drawings in detail, in the form of the invention shown in Figs. 1–5, the slide fastener actuating device **10** constituting the present invention has been illustrated applied to a conventional slide fastener **12** provided at the back of a dress **14**, said slide fastener including the usual slide **16** having a handle formed with an opening in the conventional manner.

As will be noted from Fig. 1, a slide fastener such as shown extends vertically up the middle of the back of the dress, usually from the small of the back to the neckline. It is difficult to close a fastener of the type shown, without the assistance of another person. Ordinarily, one can initiate movement of the slide **16** from the lower end of the fastener for a distance upwardly along the length of the fastener, without particular difficulty. Further, movement of the slide from a location a short distance below the neckline, fully to the neckline, is also accomplished without great difficulty. Difficulty exists,

however, in moving the slide over the intermediate portion of the length of the slide fastener.

The actuating device **10** constituting the present invention obviates the difficulty mentioned above, and comprises a flexible device having a hook at one end engageable in the opening of the slide fastener handle, said flexible device being adapted to be positioned over one shoulder of the user so that the user can exert pull upon the closing device **10** at her shoulder, which pull will be translated into upward movement of the slide fastener handle for the purpose of closing the slide fastener.

As shown in Fig. 2, the closing device **10** includes an elongated, outer flexible strip member **18** made preferably of twill tape or braid. This may be formed from a length of cloth tape or the like, and at one end, there is connected to the strip member **18** a closed metal loop **20** providing an end handle. The metal loop **20** is connected to the member **18** through the provision of folding one end of the strip member **18** upon itself and stitching the same, thus to provide a transverse hem **22** at the outer end of the strip member **18**, through which hem the loop **20** extends.

At its other end, the strip member **18** is connected to an inner handle **24**, through the provision of a hem **26** similar to the hem **22**. Loop **24** is identical to loop **20**, and at a location diametrically opposite the hem **26** is connected to an inner flexible strip member **28** of twill tape or braid, through the provision of hem **30** provided upon the strip member **28**. Strip member **28** is substantially shorter than the member **18**, for a purpose to be made presently apparent.

Strip member **28**, at the end thereof remote from the inner handle **24**, is connected to a transversely extending, oblong, closed metal loop **32**, through the provision of a stitched, transversely extending hem **34**.

Loosely connected to the loop **32** is a hook **36** which may be of flat cross section as shown in Fig. 5, although this is not essential to successful operation of the device.

In use, before the dress is put on, the hook **36** is engaged with the handle of the slide fastener, after which the dress is put on and the actuating device is pulled over one shoulder as shown in Fig. 1 with the hand grasping the end handle **20**. Of course, the device could be attached to the slide fastener handle even after the dress is put on, although this may be somewhat more inconvenient so far as the user is concerned, due to the difficulty of extending a hook through an opening when one is unable to view the opening of the slide of the fastener **12**.

In any event, with the dress put on and the fastener still open as in Fig. 1, one need only pull forwardly upon the handle **20**. This causes upward movement of the slide of the fastener **12**, the slide thus being readily shifted to its upper position, in which the zipper or slide fastener is fully closed. While one is pulling forwardly, one can also pull upwardly, to locate the closing device substantially in longitudinal alignment with the slide fastener.

In this connection, the device can also be used for opening the slide fastener, in which event the hook would be inserted in the opening of the fastener handle with the fastener handle at the neckline. Then, a downward pull would be exerted, tending to shift the slide of the zipper handle to its lowermost position.

If desired, after the handle of the slide fastener has been moved part way to its closed position, one may grasp the inner handle **24**, since this will now be located approximately at the shoulder and may be more conveniently grasped. This shortens the overall distance over which the pulling force is exerted along the length of the closing device.

Further, the handle **24** is available whenever it is desired to use the closure device at a shorter length, as for example when one is closing a slide fastener on a girdle or corset, which may be designed in such a manner that a shorter closure device is not only easily usable, but is in fact usable with more efficiency than a closure device of maximum length.

In Figs. 6–9 there is shown a modified construction wherein the closure device generally designated **38** is identical to the first form of the device, with the exception that instead of the handles **24**, **20**, it includes an inner handle **40** having diametrically opposed, slightly undercut recesses **42** (see Figs. 6 and 8), and an end handle **44** having correspondingly located, headed lugs **46**.

Further, the device differs from the first form of the invention in that a third handle **48**, which can be appropriately termed an intermediate handle, receives the strip member **18**, substantially medially between the ends of the strip member, being loosely tacked to the strip member by a thread loop **50**. The handle **48** ordinarily is inoperatively disposed as in Fig. 6, and in these circumstances the device is used in the same manner as in the first form of the invention, with either the outer handle **44** or the inner handle **40** being available, depending upon whether one desires the device at maximum or at minimum length.

In this form of the invention, however, the device can be used at an intermediate length. In this instance, one merely shifts the handle **44** along the length of the strip member **18** from its Fig. 6 to its Fig. 7 position. The handle **44** is turned over to locate the lugs **46** in confronting relation to the recesses **42**. Then one presses the handles **40**, **44** toward one another with said handles in registration as in Fig. 7. The lugs **46** snap into the recesses **42** so as to separably but fixedly connect the handles **40**, **44** to each other.

This folds the strip member **18** upon itself to form the strip member **18** to an overall length half its normal length of Fig. 6. Further, the arrangement locates the handle **48** at the end of the now folded member **18**, as shown in Fig. 7.

The device is thus adjusted to a length midway between its maximum and its minimum lengths, so as to in effect permit the closure device to be used at an intermediate length shown in Fig. 7. The handles **40**, **44** can of course be readily separated from one another with little difficulty, whenever it is desired to use the device in the arrangement shown in Fig. 6.

In Figs. 10–12, another form of the invention has been shown, wherein the closure device has been generally designated at **52**. In this form of the invention, the device is identical to the first form with the exception that the strip member **18** is composed of a pair of side-by-side strip portions **54**, **56** made of twill tape or braid, having inner ends hemmed at **58**, **60** for connection to the inner loop handle **24**. Portions **54**, **56** are connected at their outer ends to loops **62**, **64** through the provision of hems **66**, **68**.

The loops **62**, **64** are adapted to be separably connected in superposed relation as shown in full lines in Fig. 10 and also shown in Fig. 11. This is accomplished through the provision of diametrically opposed lugs **70** on the loop **62**, engageable in the recesses **72** of the loop **64** in the same manner as the handles **40**, **44** are connected in the second form of the invention.

When the handles **62**, **64** are connected to each other as shown in full lines in Fig. 10, the device is used identically to the first form of the invention. Thus, the connected loops **62**, **64** cooperate to define an end handle, and the portions **54**, **56** cooperate to define a strip member like the member **18** of the first form.

In this form of the invention, however, the device is adapted to permit spreading of the portions **54**, **56** to the positions thereof shown in Fig. 12 and also in dotted lines in Fig. 10. One accomplishes this by separating the handles **62**, **64**. When the handles are separated, the portions **54**, **56** may be extended in diverging rela-

tion from the handle **24**, one over each shoulder, and one may grasp the loops **62**, **64** in her hands, so that on pulling forwardly upon the loops **62**, **64** the slide fastener will be closed.

The purpose of the arrangements of Figs. 10–12 is to hold the slide handle of the slide fastener in centered position and assure its movement upwardly in a straight vertical line, without tendency of the same to be pulled laterally to one side more than to the other side. In other words, the line of pull is straight upwardly along the length of the slide fastener, and this may serve to prevent jamming of the slide during the movement thereof to a closed position.

Thus, the device of Figs. 10–12 can be used like the first form of the invention or alternatively, might be adjusted to provide a yoke-like arrangement that will provide for balancing of any forces tending to shift the slide handle laterally while it moves along the length of the slide fastener.

In all forms of the invention, there is the common characteristic wherein the device can be manufactured at a very low cost. As will be noted, it mainly comprises flexible members, and inexpensive closed loops. Thus, the closure device can be purchased at low cost, but will nevertheless be efficiently adapted for use in closing, or for that matter opening, various slide fasteners. Further, the device is adapted for trouble-free operation, so as to be used for an indefinite period of time, despite its adaptability to be manufactured and sold at a very low cost.

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. An actuating device for a slide fastener having an element with an opening therein, said device comprising a hook member adapted to engage said opening, a rectangular-shaped closed loop hingedly mounting said hook member, an elongated flexible and pliable straplike member attached at one end to the rectangular-shaped loop, a continuous circular loop hingedly attached to the other end of said strap-like flexible member, a second elongated flexible and pliable strap-like member attached at one end to said circular loop, said second strap-like member being longer than the first-named strap-like member, a second continuous circular loop hingedly connected to the other end of said second strap-like member, said latter loop serving as an end handle, and a third continuous circular loop hingedly connected to said second strap-like member midway its ends, said strap-like members when aligned being of a length sufficient to extend approximately from the waist to the shoulder of an average sized person whereby the user may manipulate a slide fastener up or down at the back of the garment worn by the user without having to maintain manually a grasp on the fastener element, by engaging said hook end in said opening in the fastener element and drawing said strap-like members upwardly to raise the fastener element or downwardly to lower the fastener element and means for fastening the second circular loop to the first circular loop, said last-named circular loop serving as an end handle when the second circular loop is fastened to the first circular loop.

2. An actuating device as defined in claim 1 wherein the holding means includes radial lugs on said second circular loop, said first named circular loop having recesses releasably to receive said lugs.

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