

June 27, 1961

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2,989,802

METHOD FOR ASSEMBLING SLIDE FASTENER TO CLOTH ARTICLE

Filed Sept. 15, 1958

2 Sheets-Sheet 1

Fig. 1

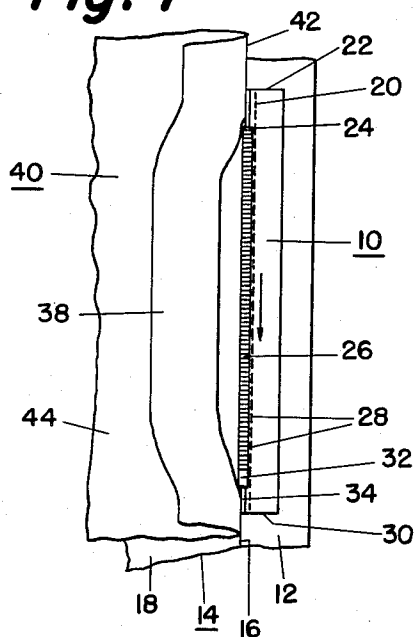


Fig. 2

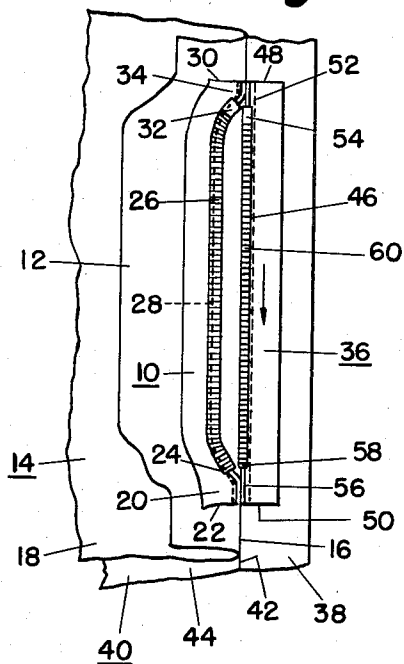


Fig. 3

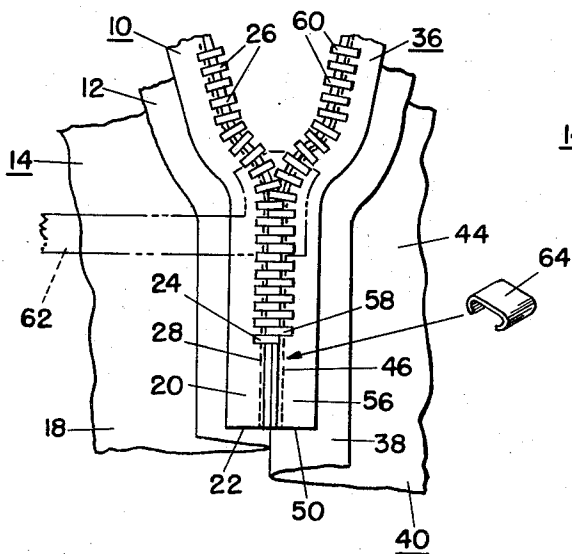
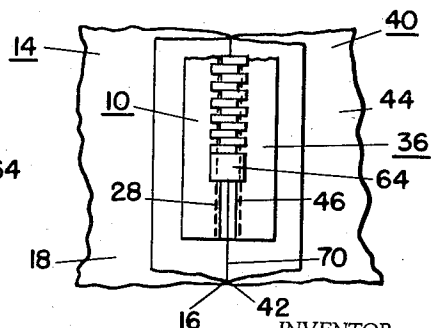


Fig. 4



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Fig. 5

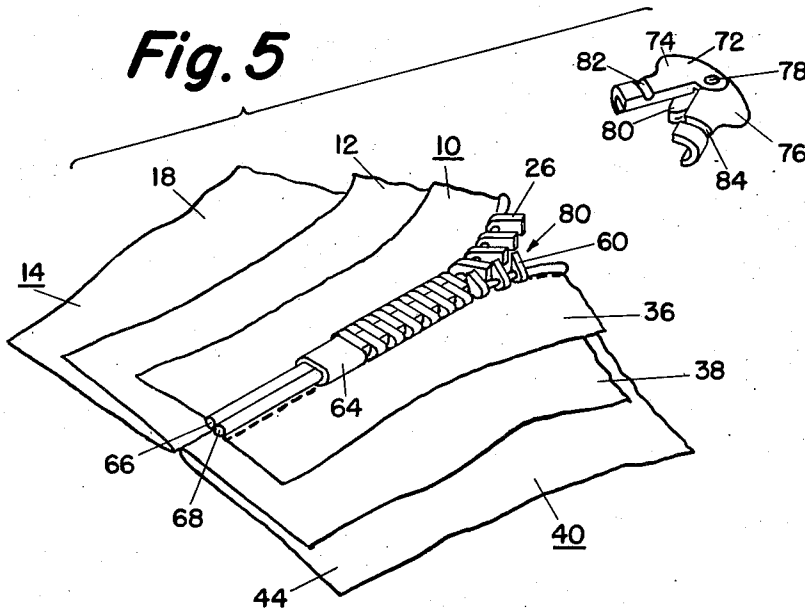
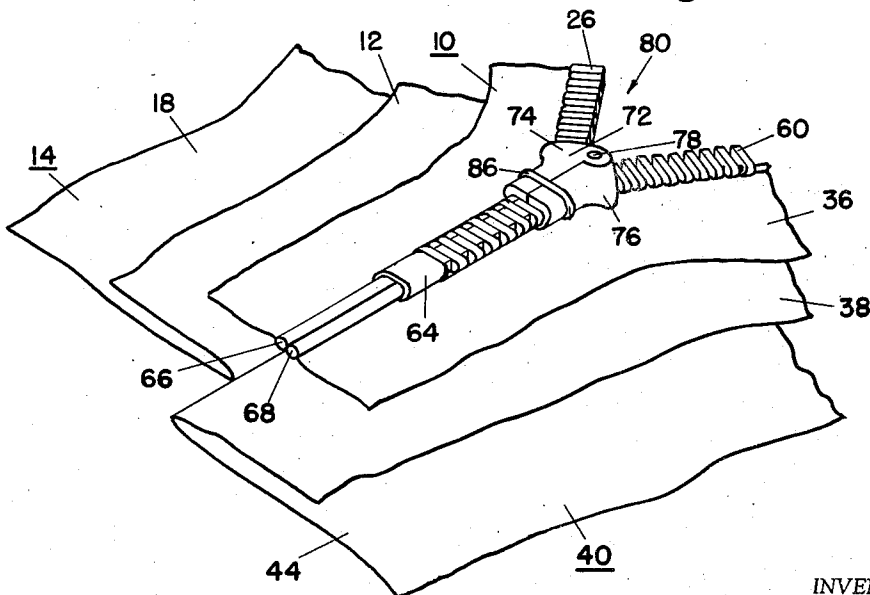


Fig. 6



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METHOD FOR ASSEMBLING SLIDE FASTENER TO CLOTH ARTICLE

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Filed Sept. 15, 1958, Ser. No. 761,094

3 Claims. (Cl. 29-408)

The present invention is directed to a method for assembling a slide fastener to a cloth article, and more particularly to a method for assembling a slide fastener which is stitched to a cloth article by lines of stitching that are closely adjacent to the elements of the element carrying tapes of the slide fastener.

It has become necessary in the attachment of slide fastener element carrying tapes to cloth articles to secure each of the tapes of the slide fastener by a line of stitching which is closely adjacent to the slide fastener elements carried by such tape. Particularly has this proved to be the case in the mounting of concealed slide fasteners. Thus, in some of the most important concealed slide fastener applications, it is absolutely essential that the line of stitching joining each of the slide fastener element carrying tapes to its juxtaposed cloth article be disposed as closely adjacent as possible to the slide fastener elements. Under these circumstances the presence of the slider on the slide fastener during the sewing operation interferes with the positioning of the line of stitching to the desired position closely adjacent to the fastener elements.

This invention has as an object the provision of a method for rapidly mounting slide fasteners onto cloth articles in which the slider is not disposed on the slide fastener element carrying tapes until after the same have been stitched to the cloth article on which they are carried.

This invention has as another object the provision of a method for mounting slide fasteners in which each of the slide fastener tapes is secured to its juxtaposed cloth by a line of stitching that is as close as possible to the slide fastener elements carried by such tape.

Other objects will appear hereinafter.

For the purpose of illustrating the invention there is shown in the drawings a form which is presently preferred, it being understood, however, that this invention is not limited to the precise arrangements and instrumentalities shown.

Referring to the drawings wherein like reference characters refer to like parts:

FIGURE 1 is a perspective view revealing the first stage in the process of the present invention.

FIGURE 2 is a perspective view revealing a later stage in the process of the present invention.

FIGURE 3 is a perspective view revealing a still later stage in the process of the present invention than that shown in FIGURE 2.

FIGURE 4 is a fragmentary plan view revealing the bottom stop after the same has been clamped onto the slide fastener element carrying tapes.

FIGURE 5 is a perspective view revealing the mounting of the slider onto the stitched-in slide fastener element carrying tapes.

FIGURE 6 is a perspective view revealing the completed assembly effected by the process of the present invention.

The process of the present invention has prime utility for the insertion of concealed slide fasteners wherein it is desired to have the line of stitching joining a fastener element carrying tape to the cloth article be as close as possible to the fastener elements. Thus, the process of the present invention obviates the necessity for sewing around the slider or taking other measures during the sewing operation so as to achieve a line of stitching that is as close

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as possible to the fastener elements, and preferably is disposed beneath the fastener elements when the same are in their engaged disposition, that is the disposition assumed by the fastener elements when the fastener elements of one tape engage the fastener elements of the other tape.

In the first stage of the process, the slide fastener element carrying tape 10 is secured to the folded inside flap 12 of the cloth member 14. The cloth member 14 is folded along the fold line 16 to produce the inside flap 12 and the outside flap 18. When the slide fastener is fully installed and is in its closed disposition, the inside flap 12 will be hidden behind the outside flap 18, as will be explained more fully below.

The slide fastener element carrying tape 10 is a so-called gap tape in which there is an appreciable gap 20 comprising an empty space intermediate the bottommost end 22 of the tape 10 and the bottommost slide fastener element 24. The general construction of the slide fastener elements and of the tape 10, except in respect to the specific matters herein set forth may be that of the device disclosed in United States Letters Patent 2,738,560 issued March 20, 1956, to Jacques Hug entitled "Concealed Slide Fasteners."

The slide fastener elements 26 may be pivoted to an upright disposition enabling the line of stitching 28 to be placed as close as desired to the slide fastener elements 26. It will be seen from FIGURE 1 that the line of stitching 28 extends from the bottommost end 22 of the tape 10 to the topmost end 30 of tape 10.

The first stage of the process of the present invention is effected with the cloth member 14 and the tape 10 held upside down, namely the line of stitching 28 is effected in the direction of the arrow shown in FIGURE 1. Such line of stitching 28 is commenced at the bottommost end 22 of the tape 10 and proceeds therefrom to the topmost end 30 of the tape 10.

The tape 10 is provided with a top stop 32 which resembles the slide fastener elements 26 in that it may be pivoted from a position in which it is superposed to the tape 10, which position is assumed when the slide fastener elements 26 of the tape 10 are in locking engagement with the slide fastener elements of the other tape of the slide fastener, to a position in which such top stop 32 is substantially upright. In the latter position of the top stop 32 the line of stitching 28 may be continued past the top stop 32 without deviation.

A gap 34 is provided intermediate the top stop 32 and the topmost end 30 of the tape 10.

When the tape 10 has been secured to the inside flap 12 of cloth member 14, the cloth article into which the slide fastener is being inserted is reversed so that the topmost end 30 of tape 10 is at the top position. This position is shown in FIGURE 2.

The next stage of the process shown in FIGURE 2 comprises the insertion of the slide fastener element carrying tape 36 onto the inside flap 38 of cloth member 40. The cloth member 40 resembles the cloth member 14 and is folded along the fold line 42. The cloth member 40 includes the outside flap 44 which covers the inside flap 38 when the slide fastener inserted by the method of the present invention is in closed disposition with the slide fastener elements of the tapes 10 and 36 in locked engagement.

The line of stitching 46 which joins the tape 36 to the tape 10 extends from the topmost end 48 of tape 36 to the bottommost end 50 of tape 36.

The construction of tape 36 is identical to that of tape 10. Thus, the tapes 10 and 36 are provided with a similar number of elements, and the top stops and elements on the tapes 10 and 36 are matingly aligned when the tapes 10 and 36 are inserted on their respective cloth member; there is a gap 52 intermediate the top stop 54

and the topmost end 48; and there is a gap 56 intermediate the bottommost slide fastener element 58 and the bottommost end 50. Furthermore, both the slide fastener elements 60 and the top stop 54 of slide fastener element carrying tape 36 resemble the slide fastener elements 26 and top stop 32 of slide fastener element carrying tape 10 in that such slide fastener elements 60 and top stop 54 may be pivoted from a disposition in which they are superposed above the tape 36 to an upright disposition. This enables the line of stitching 46 to be placed as close as desired to the slide fastener elements 60 and the top stop 54 without any deviation in the region of the top stop 54, and with the line of stitching 46 being so disposed that when the slide fastener elements 60 and the top stop 54 assume their disposition which they take when the slide fastener elements 60 are engaged with the slide fastener elements 26 of tape 10 then the slide fastener elements 60 and the top stop 54 will overlie the line of stitching 46.

The direction in which the line of stitching 46 is effected is that shown by the arrow in FIGURE 2. During the sewing of the line of stitching 46, the cloth member 14 with its tape 10 may hang loosely adjacent the cloth member 40.

In the stage of the process of the present invention shown in FIGURE 3, the tapes 10 and 36 have been joined to their respective inside flaps 12 and 38 of the cloth members 14 and 40.

The slide fastener elements of the tapes 10 and 36 comprising the elements in the bottom portions of such tapes, namely the bottommost slide fastener element 24 and the slide fastener elements 26 adjacent thereto on the tape 10 and the bottommost slide fastener element 58 and the slide fastener elements 60 adjacent thereto on the tape 36, are engaged in locking disposition by the zipper closing tool 62 shown in phantom line in FIGURE 3. Any one of a wide variety of conventional zipper closing tools may be used to effect the engagement of the aforesaid slide fastener elements.

It will be noted in FIGURE 3 that the engaged slide fastener elements overlie the respective lines of stitching 28 and 46 which join the tapes 10 and 36 to the respective inside flaps 12 and 38.

After the slide fastener elements in the bottom portion of the tapes 10 and 36 have been engaged, the bottom stop clip is inserted onto the tapes 10 and 36 immediately adjacent the bottommost slide fastener elements 24 and 58 of respective tapes 10 and 36. The bottom stop clip may comprise a conventional bottom stop clip which may be squeezed onto the ends of the tapes 10 and 36 in the gap regions 20 and 56 thereof. The tape construction shown in the illustrated embodiment is of the Hug patent, and comprises a beaded or welted inside edge, such inside edges being particularly well shown in FIGURE 5, namely the welted inside edge 66 of tape 10 and the welded inside edge 68 of tape 36.

In FIGURE 4 there is shown the bottom stop 64 after the same has been clamped onto the tapes 10 and 36, as with suitable pliers or the like, with the slide fastener elements of the tapes 10 and 36 in the bottom portion thereof being in engaged disposition.

It will be seen from FIGURE 4 that if the cloth members 14 and 40 are sewn together by a seam line 70 at the fold lines 16 and 42, the mounted slide fastener in closed disposition will resemble a continuation of the seam line 70 when viewed from the face presented by the outside flaps 18 and 44 of cloth members 14 and 40.

The next stage of the process of the present invention is that shown in FIGURE 5.

In the stage shown in FIGURE 5 a split slider 72 comprising a pair of wings 74 and 76 is mounted onto the slide fastener elements 26 and 60 of the tapes 10 and 36. Thus, the split slider 72 is mounted onto the slide fastener elements 26 and 60 above the bottom portion of the

tapes 10 and 36 where the slide fastener elements are engaged with each other.

A variety of split sliders may be used in the process of my invention. I prefer the use of the split sliders described in my copending United States patent application Serial No. 742,199 filed on June 16, 1958 entitled: Slider. Thus, the slider constructions disclosed in my aforesaid patent application Serial No. 742,199 comprise the most advantageous split slider constructions for the process of the present invention presently known to me.

In the split slider construction 72 shown in FIGURE 5 the wings 74 and 76 are pivoted about the pin 78, which pin is received within the separator 80.

The wings 74 and 76 are provided with respective semi-grooves 82 and 84 which form a continuous groove when the wings 74 and 76 are brought together.

In FIGURE 6 there is shown the final stage of the process of the present invention in which the slide fastener assembly is completed. Thus, the split slider is positioned on the slide fastener elements 26 and 60 of the tapes 10 and 36 and the wings 74 and 76 are locked together. The locking together of the wings 74 and 76 is accomplished by the use of locking clip 86 which is formed of spring metal which is received within the groove formed by the semi-grooves 82 and 84. With locking clip 86 in position, the split slider 72 will move along the slide fastener elements 26 and 60 and function as a normal slider.

The process of the present invention enables tapes to be secured to underlying cloth by lines of stitching which are contiguous to the slide fastener elements carried by the tapes. Thus, no interference with the lines of stitching is had due to the presence of either the slider or the bottom clip. The presence of the gap above the top stops and the gap below the bottom clip in the slide fastener of the present invention enables satisfactory skeletal positioning of the slide fastener in respect to the cloth members 14 and 40.

The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof and, accordingly, reference should be made to the appended claims, rather than to the foregoing specification as indicating the scope of the invention.

I claim:

1. A method for assembling a slide fastener to a cloth article, said slide fastener including a pair of slide fastener element carrying tapes, each of whose slide fastener elements overlie their tape when engaging the slide fastener elements of the other tape, which method includes the steps of juxtaposing one such tape to a first flap of the cloth article, pivoting the fastener elements of said one tape to a position in which they do not overlie said one tape, stitching said one tape to said first flap of the cloth article by a line of stitching which is so closely adjacent to the fastener elements of said one tape that when said fastener elements of said one tape are so disposed as to engage the fastener elements of said other tape the fastener elements of said one tape overlie said line of stitching, juxtaposing the other tape to a second flap of the cloth article, pivoting the fastener elements of said other tape to a position in which they do not overlie said other tape, stitching said other tape to said second flap of the cloth article by a line of stitching which is so closely adjacent to the fastener elements of said other tape that when said fastener elements of said other tape are so disposed as to engage the fastener elements of said one tape the fastener elements of said other tape overlie said line of stitching, placing adjacent fastener elements of the tapes in non-engaged close proximity to each other and with the tapes arranged so that the fastener elements face upwardly, applying a split slider which is split longitudinally between its flanks and is in its open position into engagement with said adjacent non-engaged fastener elements with the flanks of each portion of the slider extending along and

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embracing some of the fastener elements of a separate one of said tapes, bringing the portions of said split slider into engaging assembled disposition around the fastener elements, and locking the split portions of said split slider in the slider's assembled disposition.

2. A method in accordance with claim 1 in which the tapes are discrete tapes, and in which after the tapes have been stitched to the flaps of the cloth article the tapes are joined together.

3. A method in accordance with claim 2 including the steps of forming an element-free gap on each tape adjacent the bottommost slide fastener element of each tape,

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and then joining the tapes together by applying a backstop which connects such element-free gaps.

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