Feb. 20, 1951 J. SCHAAD 2,542,212

SEWING MACHINE ATTACHMENT

Filed May 2, 1947 2 Sheets-Sheet 1

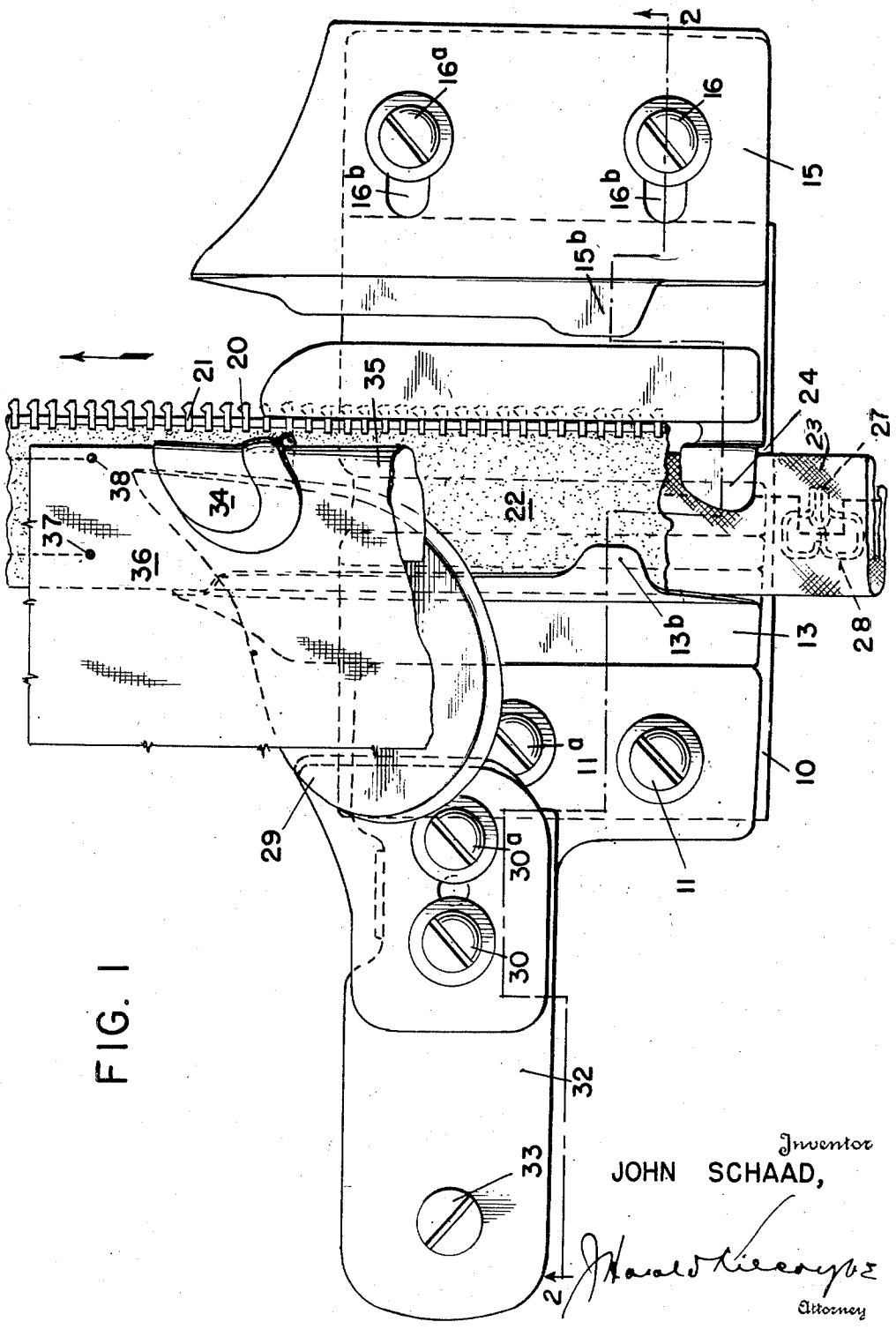


FIG. 1

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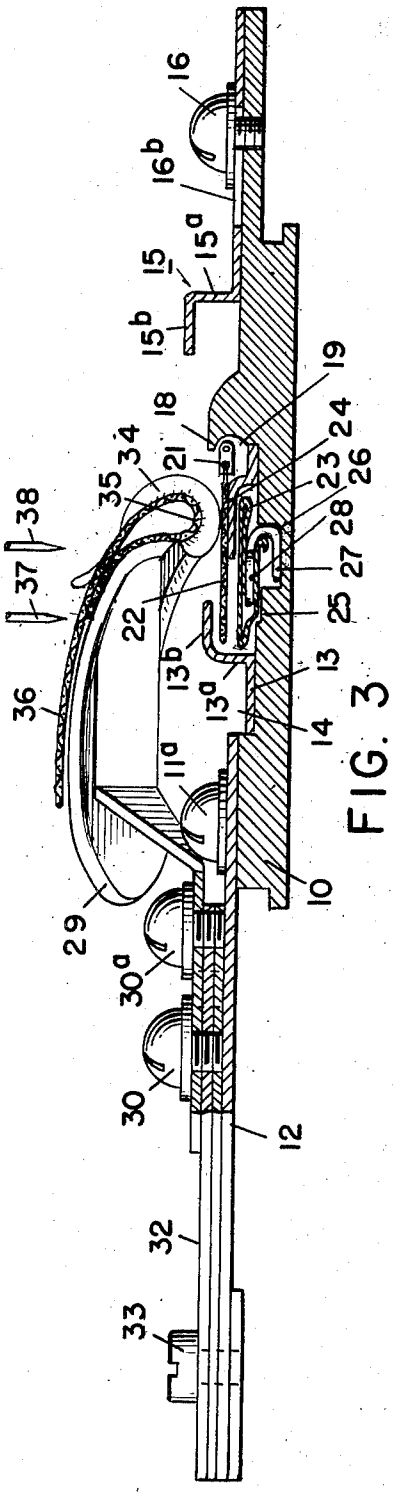


FIG. 2

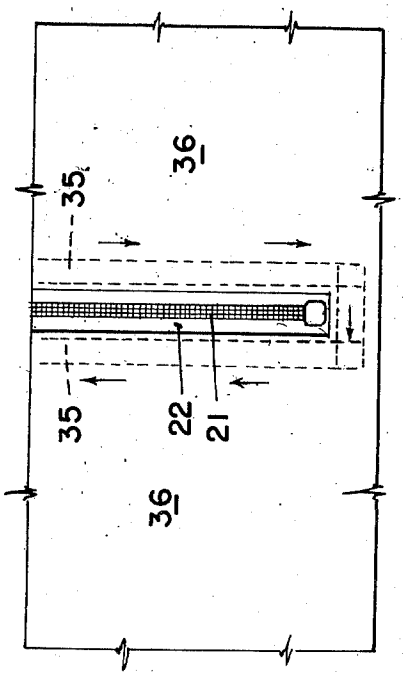


FIG. 3

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SEWING-MACHINE ATTACHMENT

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8 Claims. (Cl. 112—152)

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This invention relates to improvements in sewing machine attachments, and more particularly to a sewing machine attachment for sewing both a hook-and-eye and a slide fastener closure to the placket of a garment in a single sewing operation proceeding along one edge of the placket, across the crotch portion, and thence along the other side edge thereof.

In certain garments such as girdles, corsets, and the like, the conventional slide fastener closure is required to be supplemented by occasional hook-and-eye fasteners because of the unusual tension forces exerted on such garments in their normal use. The hooks and eyes are commonly carried by tapes known and commercially sold as hook-and-eye tapes, which are sewn to the garment along the edges of its placket in manner similar to the attachment of the slide fastener thereto. Given a hook tape and eye tape, a slide fastener made up of two fastener chains and a garment, several operations were heretofore required for assembling and sewing these pieces together and different machines were required as well. The present invention relates to an attachment for a two-needle sewing machine, by means of which the aforesaid separate operations may be performed in a single, continuous operation capable of being carried out on one sewing machine.

It is therefore a principal object of the present invention to simplify the manufacturing process of attaching both slide fastener and hook-and-eye type closures to a garment placket through the provision of an attachment that can be applied to a conventional two-needle sewing machine.

More particularly, it is an object of this invention to provide a new and improved attachment capable of being secured to the bed plate of a sewing machine in a manner similar to that employed for securing other commonly employed sewing machine attachments, by which the respective slide fastener and hook-and-eye chains or tapes are so positioned and arranged with respect to the material of the garment along the edges of its placket that such tapes may be properly secured to the garment when fed in the usual way through a sewing machine provided with two parallelly disposed needles.

Yet another important object of the invention is the provision of a sewing machine attachment in the nature of a combination guide which insures proper positioning and assembly of the hook tape and the one fastener chain with respect to an edge of the garment placket, and thereupon the proper positioning and assembly of

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the eye tape and the other fastener chain with respect to the other edge of the placket, and which moreover correctly aligns all three pieces in registry with the feed dog and presser foot of a sewing machine for proper feed to the two needles thereof.

The above and other objects and advantages of a sewing machine attachment according to the present invention will be more clearly understood from the following detailed description, taken with the accompanying drawings illustrating a preferred physical embodiment thereof, in which

Fig. 1 is a plan view of a sewing machine attachment of the invention, which also illustrates the fold of the garment along an edge of the placket, a slide fastener chain and the hook tape to be attached to the placket edge simultaneously with the fastener chain in their relative positions for the single sewing operation;

Fig. 2 is a section taken along line 2—2 of Fig. 1; and

Fig. 3 is a partial plan view of a section of garment fasteners applied thereto, illustrating the sewing diagram followed in the use of an attachment as herein proposed.

The sewing machine attachment according to the invention has a base plate 10 which is adapted to be secured to the bed plate of a conventional two-needle sewing machine in any approved manner. Secured to the base plate 10 as by screws 11, 11a so as to extend laterally therefrom is a plate extension 12. A double-flange angle member 13 is set into a front-to-rear extending recess 14 which is machined or otherwise formed in the upper face of the plate 10, the upright web 13a of the angle member forming a left-side edge guide, and the overhanging flange of the member being provided with at least one hold-down prong 13b which positively prevents lifting of the work feeding through the channel formed in part by said member. A right-side edge guide for the purpose to be described is provided by a reversely arranged, double-flange angle member 15 having an upright web 15a, said angle member being secured to the base plate 10 along its right edge as by securing and adjusting screws 16, 16a operating in slots 16b formed in the base flange of the member. The overhanging flange of the right-side guide 15 is provided with a hold-down prong 15b, arranged to prevent lifting of the work feeding through or disposed along the right side of the attachment. The spacing between the side guides 13, 15 is adjustable to correspond to the overall width of the "work piece," which term as herein used means the placket portion of the garment,

with intermediate slide fastener and underlying hook and eye closures therefor.

As seen in Fig. 2, the slide fastener chain being sewn to the garment placket along one side edge thereof extends between the left-side edge guide 13 and a tongue 18 formed integrally on the base plate 10, as shown, which together form a front-to-rear channel. The tongue overhangs a right-edge recess 19 which is of sufficient depth to accommodate the coupling heads or elements 20 of the fastener elements 21 secured to a fastener tape designated 22, said slide fastener parts being collectively referred to herein as a fastener chain. Hence, by the above described arrangement, the left side guide 13 and the overhanging tongue 18 provide an effective guide channel for one of the fastener chains including tape 22 and fastener elements 21.

As also seen in Fig. 2, the fastener chain aforesaid is disposed at a higher level in the guide channel than the hook tape 23 which is in turn guided along its edges by the upright web 13a of the left-side guide and an angled right-side guide tongue 24 set into the plate recess 14. The bottom wall of the guide channel is recessed as at 25 to accommodate the folded over left-edge portion of the hook tape 23, a deeper recess or sub-channel 26 being provided to receive the bills 27 of the hooks 28 carried by the hook tape. It will be observed that the hook tape 23 is preferably so folded that the bases of the hooks 28 lie between folds of the tape, with only the bills protruding, and that the tape is arranged in the guide channel so that its hook-carrying side or face is disposed downwardly, with the hooks pointing to the left, as in Fig. 2.

A folder or hemmer 29 is secured as by set screws 30, 30a to an arm 32 overlying the base plate extension 12, the arm being pivotally mounted thereon to swing about a fulcrum 33. The folder is of conventional construction and forms a fold in the garment along the edge of its opening when the latter is fed therethrough in upward direction (Fig. 1). Due to its swing mounting, the folder 29 is movable from its working or folding position shown to a retracted or out-of-the-way position, as when the crotch portion of the placket is being sewn.

In assembling the fastener and hook tapes, the hook tape 23 is laid in the guide channel with the bill of its hooks facing downwardly and pointing to the left. Thereupon, one chain of the fully opened slide fastener, i. e. tape 22 with its coupling elements 21, is inserted in the channel to overlie the hook tape in the manner shown, the guide tongue 24 interleafing the upper fastener tape 22 and the underlying hook tape 23. The folder 29 is now swung to its operative position, in which it is adapted to form a fold 35 in the garment material 36 along the edges of the placket opening. The dimensions of the folder 29, especially of the bent-over part 34 thereof, are such that the edge of the fold 35 formed along the opening will be properly spaced from the beaded right edge of the slide fastener chain, so as not to interfere with the movement of the fastener slider (not shown). An edge of the garment opening, the one slide fastener chain 22, and the hook tape 23 thus being in proper registration, the sewing operation is now commenced, as by feeding the three pieces rearwardly under the double needles indicated at 37, 38. It becomes evident that the three pieces will be simultaneously secured together by two lines of stitching, as said pieces are fed in the direction of the lefthand arrows, Fig. 3. When sewing has progressed up to about three-quarters the length of one longitudinal edge of the placket, the fastener slider is moved to the rear of the needles 37, 38, so as not to interfere with needles or hemmer, the slider thus closing the fastener. Up to this point, the tape 22 of the one fastener stringer being sewn was accommodated between left-side edge guide 13 and tongue 18. However, with closing of the fastener, the latter is now guided between the left-side guide 13 and the right-side guide 15 which together guide the connected fastener chains for the last portion of the sewing of the hook tape and the fastener tape 22 to one longitudinal edge of the placket, such guidance being imperative for proper attachment of said parts. Upon sewing progressing to the end of said one edge, the folder 29 is swung to its out-of-the-way position, and the garment with slide fastener and hook tape secured thereto along one edge of the placket (left side, Fig. 3) is turned 90°. Rearward feed movement imparted to the garment for the width of the crotch now results in the tapes being secured to the crotch portion of the placket with a double line of stitching.

Another 90° turn is now given the garment and attached fastener chain and hook tapes, and the eye tape (not shown) is manually connected to the sewed-on hook tape by passing the hooks of the latter through the eyes of the eye tape, so that proper alignment is guaranteed. The eye tape is now in the position formerly assumed by the hook tape, with the eyes facing upwardly or towards the needle and is laid in the channel with its left edge disposed against the left-side guide 13, it being observed that no guiding of its right or eye-carrying edge is now necessary. The second chain of the slide fastener (not shown) is thereupon arranged above the eye tape in the position formerly held by the first fastener chain operated upon, and similarly to the eye tape its left edge only is guided by the left-side edge guide 13. The folder 29 is swung back to its working position to effect folding and guiding of the still unfolded other edge of the garment placket, which is threaded beneath the folding tongue 34. The second fastener chain, the eye tape, and the unfolded edge of the garment opening or placket now being in proper registration, the entire assembly is fed rearwardly for the length of the placket, as indicated in Fig. 3, with the result that both the second fastener chain and eye tapes are secured to the other folded-over edge of the garment by a double-line of stitching as described. During this latter operation, proper positioning of the parts being sewn is assured by the left-side guide 13.

Without further analysis, it will be appreciated that the invention provides a simple and inexpensive attachment for existing sewing machines which is capable of insuring proper registry of the slide fastener and hook-and-eye tapes with respect to the edges of a garment placket, and by which sewing of both slide fastener and hook-and-eye closures to the placket may be achieved in a single, uninterrupted sewing operation capable of being performed on one sewing machine. Hence, the described sewing machine attachment greatly simplifies the manufacturing process of connecting both slide fastener and hook-and-eye type closures to a garment placket, as compared to prior manufacturing processes, according to which several assembly and sewing operations and the use of different machines were required.

As many changes could be made in carrying out

the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. A sewing machine attachment for sewing a hook-and-eye type closure and an interposed slide fastener closure to the edges of a garment placket in a single operation, including, in combination, means providing edge guides for a hook tape positioned so that the hooks carried thereby are disposed downwardly and an upwardly opening channel for receiving said hooks, and means providing edge guides for a slide fastener chain disposed to overlie said hook tape.

2. A sewing machine attachment for sewing a hook-and-eye type closure and an interposed slide fastener closure to the edges of a garment placket in a single operation, including, in combination, means providing edge guides for a hook tape positioned so that the hooks carried thereby are disposed downwardly and an upwardly opening channel for receiving said hooks, and means providing edge guides for a slide fastener chain disposed to overlie said hook tape, said last-named means providing a longitudinal recess for accommodating the coupling elements of the fastener chain.

3. A sewing machine attachment for sewing a hook-and-eye closure and an interposed slide fastener closure to the folded-over edges of a garment placket in a single operation, comprising the combination of means for guiding one of the hook-and-eye tapes and one of the slide fastener chains disposed to overlie said one of the hook-and-eye tapes to the sewing machine needles, and an edge folder cooperatively related to said guiding means for forming an edge fold in the material of the garment along an edge of the placket as said garment is fed with the guided tapes to said needles.

4. A sewing machine attachment for sewing a hook-and-eye closure and an interposed slide fastener closure to the folded-over edges of a garment placket in a single operation, comprising the combination of means for guiding one of the hook-and-eye tapes and one of the slide fastener chains disposed to overlie said one of the hook-and-eye tapes to the machine needles, said means providing a channel for the hooks of the hook tape or the eye of the eye tape, depending upon which is being guided, and an edge recess for the coupling elements of the fastener chain, and an edge folder cooperatively related to said guiding means for forming an edge fold in the material of the garment along an edge of the placket as the garment is fed with the guided tapes to said needles.

5. A sewing machine attachment for sewing a hook-and-eye closure and an interposed slide fastener closure to the folded-over edges of a garment placket in a single operation, comprising the combination of means for guiding a hook tape positioned so that the hooks carried thereby are disposed downwardly to the sewing machine needles, means for guiding a fastener chain disposed in overlying relation to the hook tape to said needles, the hook tape guiding means providing a channel for receiving the downwardly disposed hooks of the hook tape, the fastener chain guiding means providing an edge recess for the coupling elements of the fastener chain, and an edge folder cooperatively related to said guiding means for forming an edge fold in the material of the garment along an edge of the placket as said garment is fed with the guided tape to said needles.

6. A sewing machine attachment for sewing a hook-and-eye closure and an interposed slide fastener closure to the folded-over edges of a garment placket in a single operation, comprising, in combination, a base plate, means secured to the base plate providing parallel edge guides for guiding one of the hook and eye tapes and one fastener chain disposed to overlie said one of the hook-and-eye tapes to the sewing machine needles, and an edge folder positioned to form an edge fold in the garment material along an edge of the placket as said garment is fed with the guided tapes to said needles.

7. A sewing machine attachment for sewing a hook-and-eye closure and an interposed slide fastener closure to the folded-over edges of a garment placket in a single operation comprising, in combination, a base plate, means secured to the base plate providing parallel edge guides for guiding a hook tape with its hooks disposed downwardly and a fastener tape disposed in overlying relation to the hook tape to the sewing machine needles, the base plate being provided with a channel for receiving the downwardly disposed hooks of the hook tape, and with an edge recess for accommodating the coupling elements of the fastener chain, and an edge folder positioned to form a fold in the garment material along an edge of the placket as said garment is fed with the guided tapes to said needles.

8. A sewing machine attachment for sewing a hook-and-eye closure and an interposed slide fastener closure to the folded-over edges of a garment placket in a continuous sewing operation proceeding along one edge of the placket in the direction of the crotch portion thereof, thence across the crotch portion, and thence along the other edge of the placket, comprising, in combination, a base plate, side edge guides carried by said plate for guiding a hook tape and one fastener chain disposed to overlie the hook tape to the sewing machine needles, said hook tape being disposed so that the hooks carried thereby face downwardly, the base plate being provided in its upper surface with a channel for receiving the hooks and along one edge with a recess for accommodating the coupling elements of the fastener chain, an edge folder cooperatively related to said guiding means for forming a fold in the material of the garment along the edge of the placket as said garment is fed with the guided tapes to said needles, and an additional side edge guide for guiding said hook tape and said one fastener chain already sewn to one edge of the garment placket while the eye tape and the other slide fastener chain are being sewn to the other edge of the garment placket.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,357,105	McCoy	Oct. 26, 1920
1,603,246	Rocke	Oct. 12, 1926
1,793,334	Rocke	Feb. 17, 1931
1,847,224	Reiter	Mar. 1, 1932
2,131,250	De Voe	Sept. 27, 1938