Aug. 8, 1950 P. LEVINE ET AL 2,518,340

FEEDING GUIDE FOR SEWING MACHINES

Filed Sept. 25, 1947 2 Sheets-Sheet 1

FIG. 1.

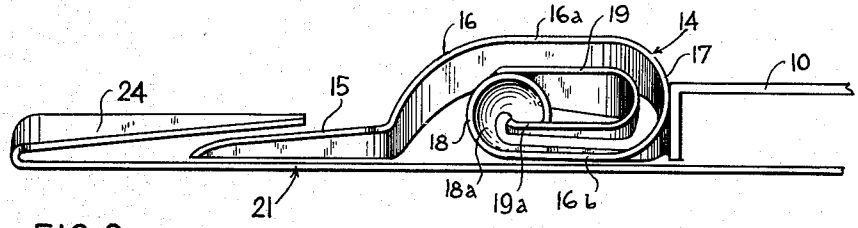


FIG. 2.

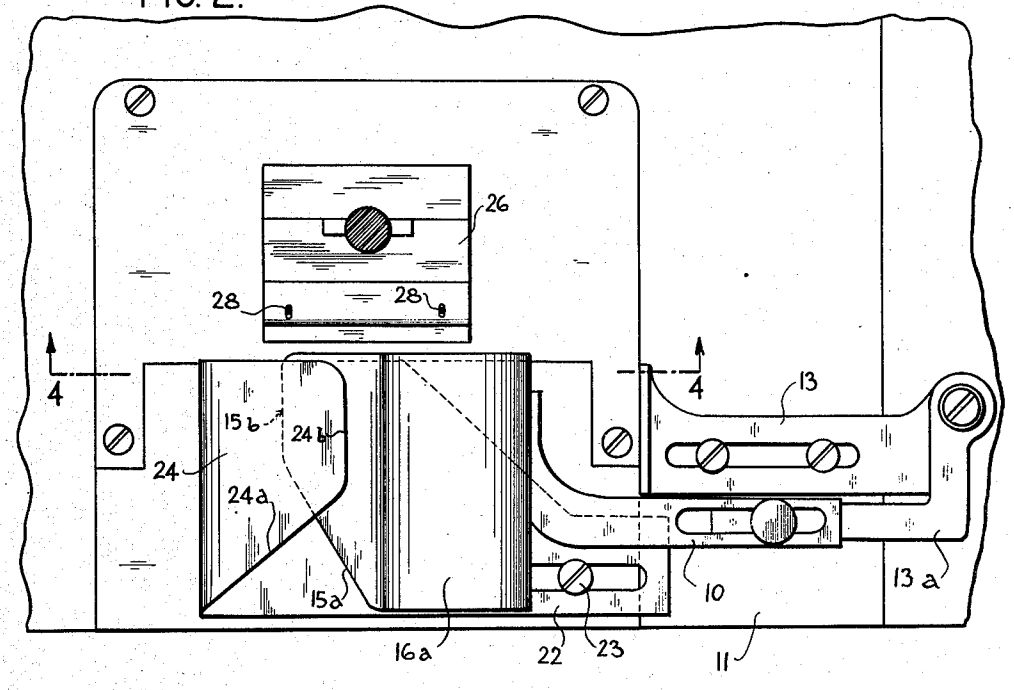
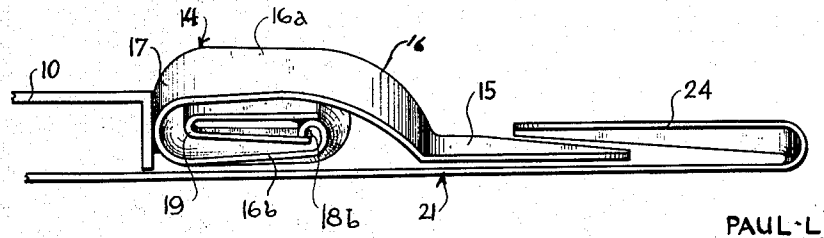


FIG. 3.



INVENTORS.
PAUL LEVINE &
TED LEVINE

BY

Eric Y. Munson

ATTORNEY

Aug. 8, 1950 P. LEVINE ET AL 2,518,340

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Filed Sept. 25, 1947 2 Sheets-Sheet 2

FIG. 4.

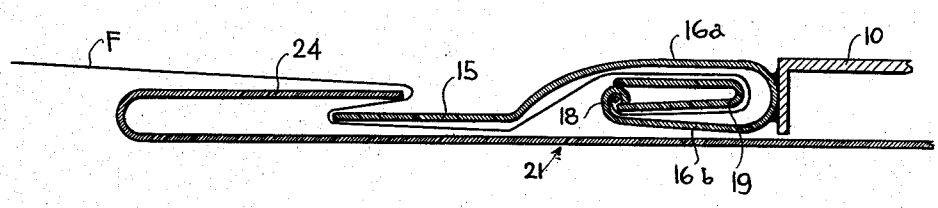
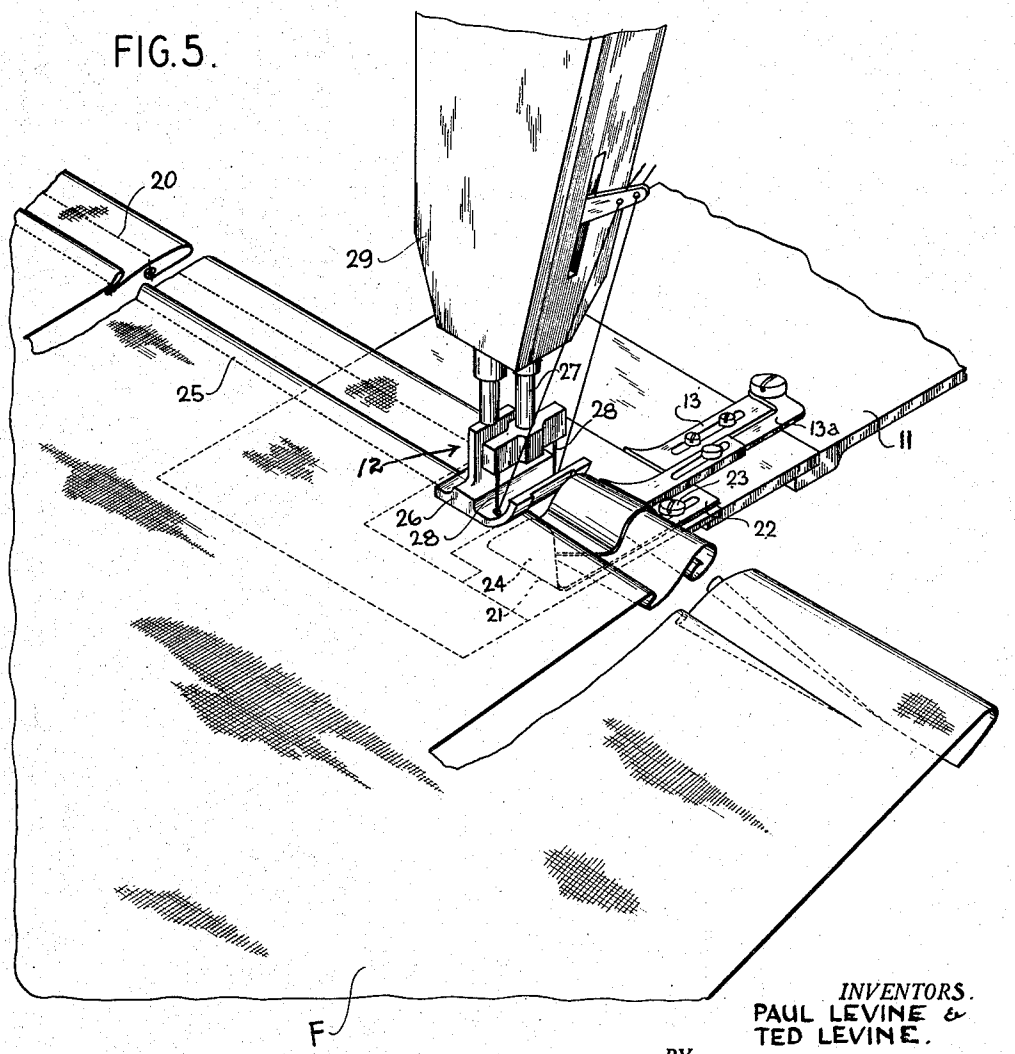


FIG. 5.



INVENTORS.
PAUL LEVINE &
TED LEVINE.
BY
Eric M. Thomson
ATTORNEY.

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FEEDING GUIDE FOR SEWING MACHINES

Paul Levine, Jamaica, and Ted Levine, Brooklyn, N. Y., assignors to House Beautiful Curtains, Inc., New York, N. Y., a corporation of New York

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6 Claims. (Cl. 112—136)

1

This invention relates to a sewing machine attachment, and more particularly to a feeding guide attachment for simultaneously forming a hem and a pleat spaced from said hem on material fed to the machine.

While the feeding guide of the present invention may be used in connection with a wide variety of fabrics, it is of particular advantage in the fabrication of lightweight curtains of netted material having improved hanging properties. It has previously been customary to form curtains of this type with a wide hem which added considerably to the weight along the edge of the curtain and caused the hemmed edge of the curtain to roll and undulate thereby contributing to a distorted and unsightly appearance. It has therefore been found desirable to form the curtain with a hem of reduced width and also with a pleat spaced from the hem in order to distribute the weight of the curtain more evenly, the pleat having the tendency to straighten out any undulations in the hem. It is important that the stitching of the hem and the pleat be done simultaneously so that the hem and pleat will be formed under an even pull to eliminate any possibility of distortion of the pleat with respect to the hem or vice versa.

Accordingly, it is the object of the present invention to provide a feeding guide attachment for a conventional double needle sewing machine for forming the material being fed into a hem fold and a pleat fold spaced from the hem fold, the attachment being securable forwardly of the stitching mechanism of the machine.

It is a further object of the invention to provide a feeding guide attachment of the character indicated which may be easily secured to a conventional double needle sewing machine without modification or alteration of the machine other than the provision of a simple mounting bracket or mounting screw which will not interfere with the normal operation thereof.

Another object of the invention is the provision of a feeding guide attachment wherein the member forming the pleat fold is adjustable with respect to the member forming the hem fold in order to vary the width of the pleat being formed.

The foregoing objects as well as additional objects and advantages inherent in the invention will be readily apparent in the course of the following detailed description taken in conjunction with the accompanying drawings which disclose a preferred embodiment of the invention and wherein:

2

Fig. 1 is a front view of a feeding guide embodying the features of the invention.

Fig. 2 is a top plan view of the feed guide secured to a double needle sewing machine in operative position the presser foot and a portion of the bed plate of the sewing machine being illustrated.

Fig. 3 is a rear view of the feeding guide.

Fig. 4 is a cross sectional view of the feeding guide taken along line 4—4 of Fig. 2 together with material positioned within the guide for forming a hem fold and a pleat fold spaced therefrom.

Fig. 5 is a perspective view showing the feeding guide and a portion of the sewing machine, the material being fed to the guide and machine being shown partly broken away to illustrate the initial formation of the hem and pleat folds and the final formation of the stitched hem and pleat.

Referring in greater detail to the drawings, the feeding guide is formed with a mounting arm 10 for adjustably securing the feeding guide directly to the bed plate 11 of a double needle sewing machine 12 or to a mounting bracket 13 secured to the bed plate 11 and having a supporting arm 13a, the latter arrangement being shown in Figs. 2 and 5.

Secured to mounting arm 10 in any suitable manner, as by soldering, is the hem-forming member of the feeding guide generally indicated by reference numeral 14. Hem-forming member 14 may be conveniently made from sheet metal suitably formed to define a substantially plane, horizontal portion 15 for supporting the fabric and a curved portion 16 looped or turned over upon itself as shown at 17 to define an upper wall 16a and a lower wall 16b. Plane portion 15 is preferably provided with a rearwardly inclined feeding edge 15a terminating in a straight folding edge 15b for forming a pleat as will be fully described hereinafter. The inner end of curved portion 16 is also looped or turned over upon itself inwardly and downwardly as shown at 18 and preferably tapers gradually from an opening of maximum width 18a at the front or mouth of the feeding guide to an opening of minimum width 18b at the back or delivery end of the feeding guide for the purpose to be fully indicated hereinafter. A U-shaped inner member 19 is disposed within curved portion 16 between upper and lower walls 16a and 16b respectively thereof, as by soldering the free ends of said member to the inner looped-over end 18 of curved portion 16. It will be noted that lower wall 19a of inner member 19 projects for some

distance into mouth opening 18a in order to turn the raw edge of the fabric inwardly in forming the hem thereon, as clearly shown in Figs. 4 and 5. Thus a curved, U-shaped recess or channel is formed between curved portion 16 and inner member 19 of forming member 14 whereby the edge of the fabric F, when introduced within said forming member, is folded back upon itself to form a hem fold which is secured by a line of stitching 20 (see Fig. 5) as the fabric is fed through the sewing machine. In its passage through forming member 14, the raw edge of the fabric is turned inwardly over lower wall 19a of inner member 19 and since the inner looped-over end 18 of curved portion 16 tapers gradually from the relatively large mouth or entrance end 18a to the relatively small delivery or exit end 18b, said raw edge of the fabric is progressively tightly rolled inwardly and finally secured in place by the same line of stitching 20 which forms the hem, as clearly shown in Fig. 5.

The pleat forming member 21 may be mounted directly on the bed plate 11 of the sewing machine by means of a slotted arm 22 adjustably secured by a set screw 23, as shown in Figs. 2 and 5 or alternatively may be adjustably mounted on a portion of hem-forming member 14 such as mounting arm 10 thereof or even on an extension (not shown) of mounting bracket 13. In any event pleat forming member 21 underlies hem-forming member 14 and is formed with an inwardly turned, overhanging portion 24 adapted to overlap plane portion 15 of said hem-forming member in order to form a pleat fold in the fabric spaced inwardly from the hem fold.

Portion 24 is preferably formed with a rearwardly inclined feeding edge 24a terminating in a straight folding edge 24b. The width of the pleat fold will be determined by the extent of overlap between folding edge 24b of pleat forming member 21 and folding edge 15b of plane portion 15 of hem forming member 14. The particular width of the pleat to be formed in any given case may therefore be predetermined by adjusting the pleat forming member 21 with respect to folding edge 15b of hem forming member 14 by means of set screw 23 passing through slotted arm 22.

As the fabric or other material is fed through the feeding guide and sewing machine, the pleat fold will be secured by a line of stitching 25 spaced inwardly from and substantially parallel to the line of stitching 20 simultaneously forming the marginal hem. Thus, any undue pull or distortion of the pleat with respect to the hem or vice versa is minimized.

The presser foot 26, needle bar 27, the pair of needles 28, and sewing machine housing 29 are shown in sufficient detail to appreciate the cooperation of the feeding guide therewith.

Since certain modifications may be made in the feeding guide of the invention without departing from the scope thereof, it is intended that all matter contained in the foregoing description and shown in the accompanying drawings be interpreted merely as illustrative and not in a limiting sense.

What is claimed is:

1. A feeding guide attachment for double needle sewing machines for simultaneously forming a hem and a pleat spaced therefrom, comprising a hem-forming member adapted to be secured to the base of the sewing machine, said member being formed with a plane portion and a curved portion looped over upon itself, whereby to form a hem fold in the material passing through the guide and a pleat-forming member underlying said hem-forming member, said pleat-forming member having an inwardly turned, overhanging portion adapted to overlap said plane portion of said hem-forming member for forming a pleat spaced inwardly from the hem of the material.

2. A feeding guide attachment in accordance with claim 1, wherein said pleat-forming member is slidably adjustable with respect to said hem forming member, whereby to adjust the extent of overlap between said overhanging portion of the pleat-forming member and said plane portion of the hem-forming member and vary the width of the pleat being formed.

3. A feeding guide attachment in accordance with claim 1, said pleat-forming member having a mounting arm securable to the base of the sewing machine, said arm having a slot therein and means for securing said arm in adjusted position.

4. A feeding guide attachment for double needle sewing machines for simultaneously forming a hem and a pleat spaced therefrom comprising a hem forming member adapted to be secured to the base of the sewing machine, said member being formed with a plane portion, a curved portion looped over upon itself, the inner end of said curved portion being further turned over inwardly and downwardly and tapering gradually downwardly from the mouth end to the delivery end thereof and a U-shaped inner portion having its respective walls secured to said inner end of the curved portion, the free end of the lower wall of said U-shaped portion projecting within said tapering inner end of said curved portion, whereby to form a hem fold in the material passing through the guide and simultaneously roll the raw edge of the material inwardly, and a pleat-forming member underlying said hem-forming member, said pleat forming member having an inwardly turned, overhanging portion adapted to overlap said plane portion of said hem-forming member for forming a pleat spaced inwardly from the hem of the material.

5. A feeding guide attachment in accordance with claim 4, wherein said pleat-forming member is slidably adjustable with respect to said hem-forming member, whereby to adjust the extent of overlap between said overhanging portion of the pleat-forming member and said plane portion of the hem-forming member and vary the width of the pleat being formed.

6. A feeding guide attachment in accordance with claim 4, said pleat-forming member having a mounting arm securable to the base of the sewing machine, said arm having a slot therein and means for securing said arm in adjusted position.

PAUL LEVINE.
TED LEVINE.

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