March 17, 1936. J. E. ACKERMAN 2,034,672

HEMMER ATTACHMENT FOR SEWING MACHINES

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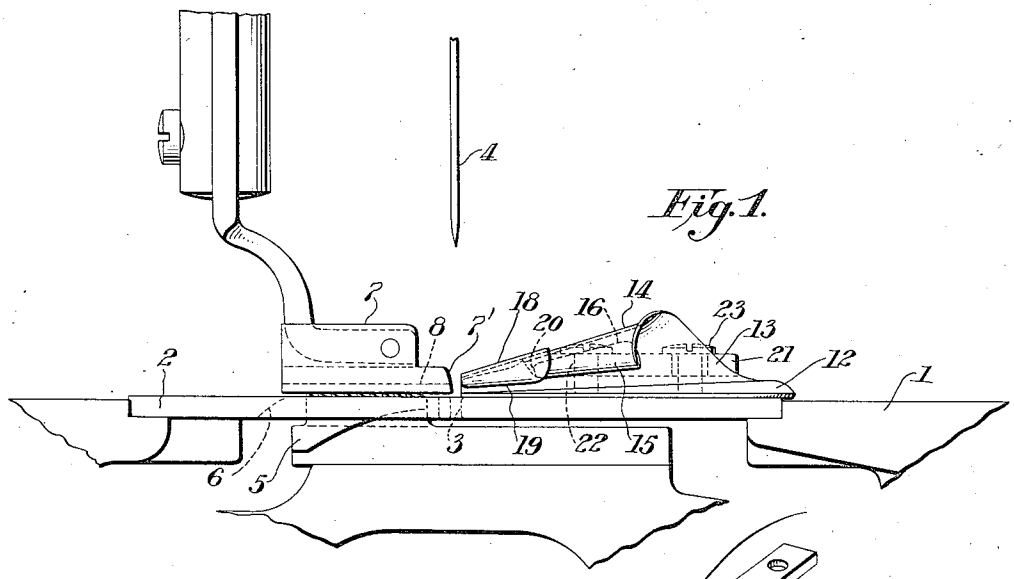


Fig. 1.

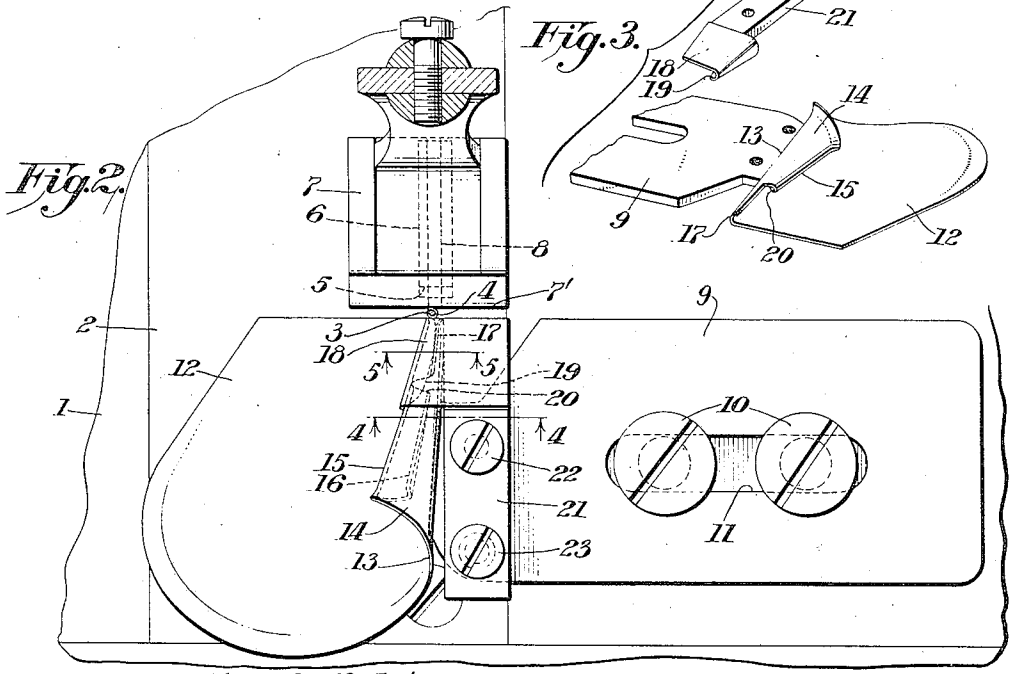


Fig. 2.

Fig. 3.

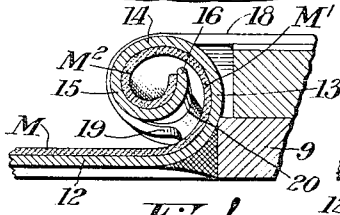


Fig. 4.

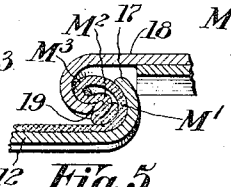


Fig. 5.

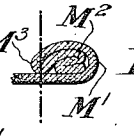


Fig. 6.

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HEMMER ATTACHMENT FOR SEWING MACHINES

Filed Jan. 2, 1935 2 Sheets-Sheet 2

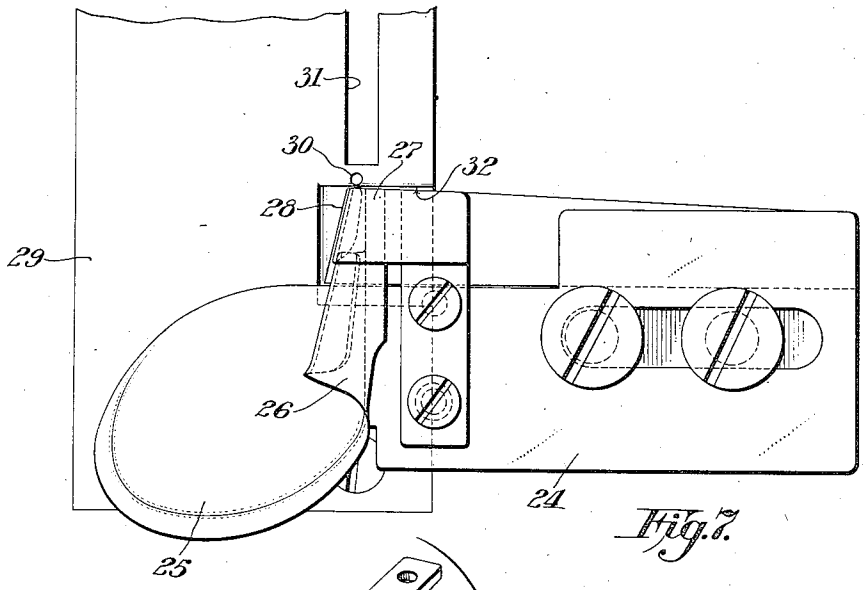


Fig. 7.

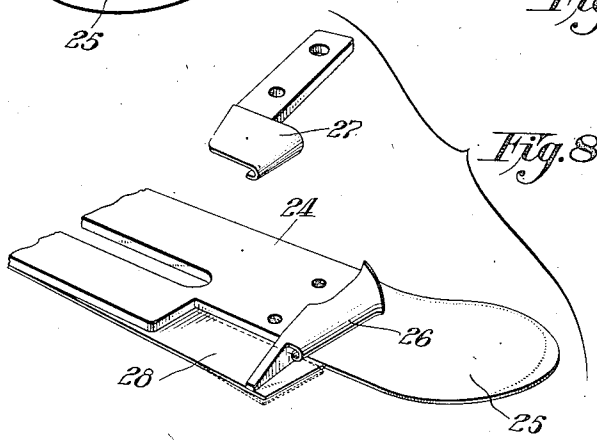


Fig. 8.

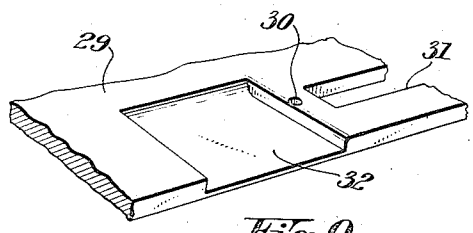


Fig. 9.

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UNITED STATES PATENT OFFICE

2,034,672

HEMMER ATTACHMENT FOR SEWING MACHINES

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Application January 2, 1935, Serial No. 15

7 Claims. (Cl. 112—141)

This invention relates to improvements in hemmer attachments for sewing machines and has for its primary object to provide means whereby a body material margin may be folded and secured by stitches to produce a bead-like finish presenting the appearance of a rolled edge. Another object of the invention is to provide a scroll-type hemmer having a constricted delivery-end with improved means for handling work having cross-seams or the like.

With the above and other objects in view, as will hereinafter appear, the invention consists in the hemmer improvements described in connection with the accompanying drawings which illustrate two embodiments of the invention.

In the drawings, Fig. 1 is a front end elevation of a portion of a sewing machine, with the improved hemmer in one of its embodiments mounted upon the cloth-plate. Fig. 2 is a top plan view of the same, with the presser-bar and presser-foot shank in section. Fig. 3 is a disassembled perspective view of constituent parts of the hemmer in the same embodiment thereof as in Fig. 1. Fig. 4 represents an enlarged cross-section of the hemmer-scroll on substantially the line 4—4, Fig. 2, and including a corresponding cross-section of the work. Fig. 5 represents a cross-section, similar to Fig. 4, but taken on substantially the line 5—5, Fig. 2. Fig. 6 represents an enlarged cross-section of the completed hem as delivered to the needle. Fig. 7 is a top-plan view of a portion of a sewing machine throat-plate and of the improved hemmer in a modified form. Fig. 8 is a disassembled perspective view of constituent parts of the modified hemmer. Fig. 9 is a perspective view of a portion of a sewing machine throat-plate preferably employed in connection with the modified hemmer.

The hemmer illustrated in Figs. 1 to 5, inclusive, of the drawings is shown as applied to a sewing machine having a cloth-plate 1 upon which is suitably secured a throat-plate 2 provided with an aperture 3 for a vertically reciprocatory needle 4. A work-advancing feed-dog 5, of the lower four-motion type, operates through a slot 6 in the throat-plate 2, and yieldingly opposed to said feed-dog is a presser-foot 7 having its work-engaging face provided with a groove 8 extending in the direction of feed in the seam line. The presser-foot is disposed entirely rearward of the path of needle-reciprocation and has its front edge or toe 7' vertically inclined to serve as a needle-guide.

The attachment comprises a base-plate 9 secured upon the cloth-plate 1 by screws 10 passing through a slot 11 formed in said base-plate to provide for adjustment of the hemmer crosswise of the line of seam formation. Carried by the base-plate 9 is a hemmer having a work-supporting apron 12 curving into a primary scroll constituted by an upturned outer fold-edge forming wall 13 merging into a roof portion 14, from which depends a downwardly curving inner fold-edge forming wall 15 terminating in a marginal-edge supporting wall having its free edge 16 underlying and directed upwardly toward the roof portion. The roof portion 14 of the scroll, together with its inner fold-edge forming wall 15, is cut away in advance of the delivery end of the hemmer, leaving a concave upstanding flange 17 as a continuation of the wall 13.

Replacing the cut-away portion of the hemmer-scroll is a supplementary scroll having a substantially flat overhanging wall 18 extending across the upper edge of the flange 17 and then curving downwardly and inwardly to provide an inner-fold indenting lip 19. The lip 19 extends from the cut-away end 20 of the wall 15 to the delivery-end of the hemmer below and in spaced relation to the wall 18, said lip having its free edge opposed to and gradually approaching the flange 17 from the cut-away end 20 of the wall 15 toward the delivery-end of the hemmer. Furthermore, the free end of the lip 19 preferably curls slightly upwardly.

The described supplementary scroll extends laterally from a supporting shank 21 secured, by screws 22 and 23, upon the base-plate 9 adjacent to the primary scroll wall 13, the aperture in the shank 21 for the screw 23 being enlarged to provide for a slight adjustment of the supplementary scroll crosswise of the line of seam formation, whereby the size of the hem cavity at the delivery-end of the hemmer may be adjustably restricted to meet requirements.

As will be observed from Fig. 4 of the drawings, the primary hemmer-scroll serves to roll the margin of a body material M to form a complete hem, the concave wall 13 forming the outer fold-edge M' of the hem and the wall 15 forming the inner fold-edge M^2 of the hem. Beyond the cut-away end 20 of the primary scroll, the inner fold-edge M^2 of the hem is engaged by and gradually indented by the lip 19 of the supplementary scroll, said lip 19 being so spaced from the wall 18 that the slightly upwardly curled edge of said lip crowds the lower portion of the indented hem-fold inwardly toward the flange 17, leaving the wider upper portion or final inner fold-edge M^3 of the hem to overhang and extend beyond the

indented portion at the body material side of the hem. When delivered to the needle **4** in this fashion, the needle penetrates only the three plies comprising the fold M^3 and the layer of body-material M, while a greater number of plies are disposed within the hem.

The described arrangement of the presser-foot **7** serves to properly hold the hem delivered by the hemmer until penetrated by the needle, while the groove **8** of the presser-foot affords the necessary guiding clearance for the hem which, when secured by stitches, presents a narrow bead-like appearance, as will be readily understood.

In the modification illustrated in Figs. 7, 8 and 9 of the drawings, the attachment comprises a base-plate **24** carrying a hemmer having a work-supporting apron **25** merging into the upturned wall of a primary scroll **26**. A supplementary scroll **27** adjustably secured to the base-plate **24** coacts with the primary scroll **26** to form a constricted delivery-end functioning to indent the inner fold-edge of a hem as in the previously described hemmer attachment.

The work-supporting apron **25** is cut away so that the delivery-end of the complete hemmer-scroll extends beyond said apron. Replacing in part the cut-away portion of the apron **25** to underlie the delivery-end of the scroll is a flat spring-tongue **28** which is normally substantially coplanar with the apron, said spring-tongue extending from the base-plate **24** and being disposed in a corresponding recess therein so that the free end of the tongue, extending across to underlie the delivery-end of the hemmer, may yield in a direction substantially normal to the work-supporting face of the tongue. It will therefore be understood that the work-supporting apron comprises a primary section **25** integral with the primary hemmer-scroll **26** and an auxiliary section **28** which yieldingly underlies the delivery-end of the hemmer-scroll to thereby provide for the passing of cross-seams and the like in the indented hem-fold through the constricted delivery-end of the hemmer-scroll.

In connection with the modified form of hemmer, it is preferred to employ a throat-plate **29**, having the usual needle-aperture **30** and feed-slot **31**, and provided with a recess **32** in its upper face to afford clearance for yielding movements of the spring-tongue **28**.

Having thus set forth the nature of the invention, what I claim herein is:—

1. A hemmer attachment for sewing machines, comprising guiding walls arranged to fold a margin of a body material and to inturn the edge of the folded margin to thereby form a hem having outer and inner fold-edges, and means for longitudinally indenting the inner fold-edge of the hem formed by said guiding walls.

2. A hemmer attachment for sewing machines, comprising a scroll having guiding walls arranged to fold a margin of a body material and to inturn the edge of the folded margin to thereby form a hem having outer and inner fold-edges, and a lip separable from said scroll and arranged to longitudinally indent the inner fold-edge of the hem formed by said guiding walls.

3. A hemmer attachment for sewing machines, comprising guiding walls arranged to fold a margin of a body material and to inturn the edge of the folded margin to thereby form a hem having outer and inner fold-edges, a lip arranged to longitudinally indent the inner fold-edge of said hem, and supporting means providing for adjustment of said lip crosswise of said inner fold-edge.

4. A hemmer attachment for sewing machines, comprising a primary scroll having guiding walls arranged to fold a margin of a body material and to inturn the edge of the folded margin to thereby deliver a formed hem having outer and inner fold-edges, and a supplementary scroll disposed at the delivery end of said primary scroll and having a lip adapted to engage and longitudinally indent the inner fold-edge of said hem.

5. A hemmer attachment for sewing machines, comprising a primary edge-turning scroll constricted toward its delivery end and including an upturned outer fold-edge forming wall merging into a roof portion from which depends an inner fold-edge forming wall, said roof portion and inner fold-edge forming wall terminating in advance of the delivery end of said upturned outer fold-edge forming wall, and a supplementary scroll disposed to coact with said upturned wall at the delivery end thereof, said supplementary scroll having a lip arranged to longitudinally indent the inner fold-edge of the hem formed by said primary scroll.

6. A hemmer attachment for sewing machines, comprising a base-plate, a primary edge-turning scroll constricted toward its delivery end and including an upturned outer fold-edge forming wall merging into a roof portion from which depends an inner fold-edge forming wall, said roof portion and inner fold-edge forming wall terminating in advance of the delivery end of said upturned outer fold-edge forming wall, a supplementary scroll overhanging said upturned wall at the delivery end thereof and provided with a lip arranged to longitudinally indent the inner fold-edge of the hem formed by said primary scroll, and means for securing said supplementary scroll upon said base-plate for adjustment of said lip toward and from said upturned wall.

7. A hemmer attachment for sewing machines, comprising a scroll having guiding walls arranged to fold a margin of a body material and to inturn the edge of the folded margin to thereby form a hem having outer and inner fold-edges, and means for longitudinally indenting the inner fold-edge of the hem on a line forming a final inner fold-edge overhanging the indented fold-edge.

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