June 23, 1953 H. SHERMAN 2,642,827

HEMMER

Filed Nov. 9, 1948

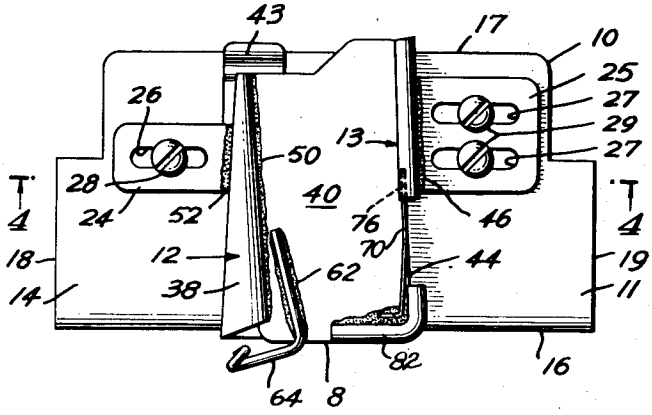


Fig. 1

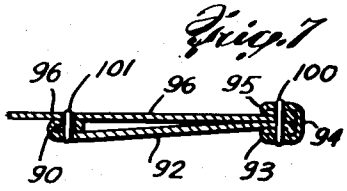
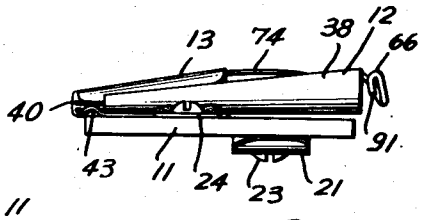


Fig. 7



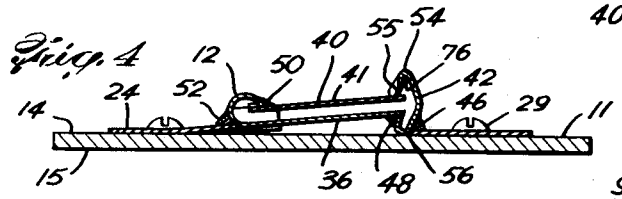


Fig. 4

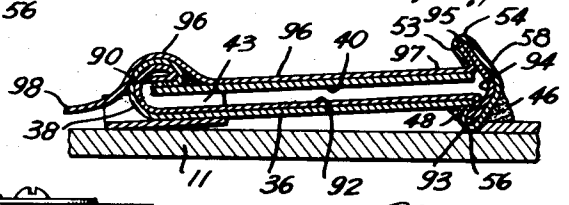


Fig. 3

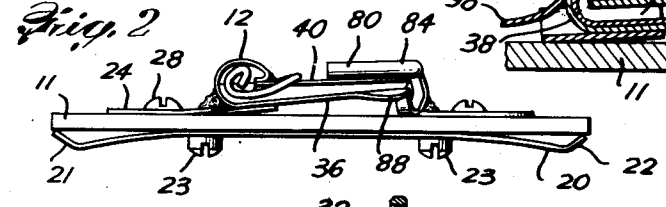


Fig. 2

Fig. 6

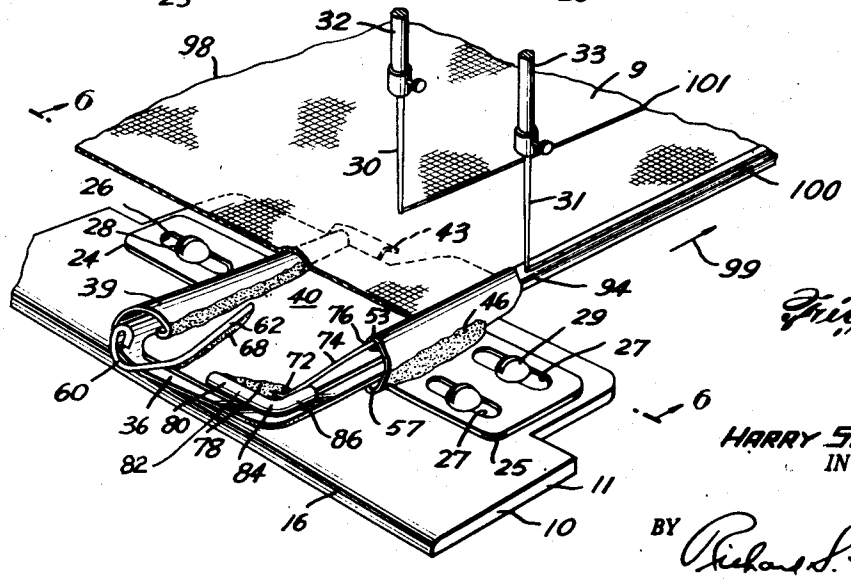


Fig. 5

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Patented June 23, 1953

2,642,827

UNITED STATES PATENT OFFICE

2,642,827

HEMMER

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Application November 9, 1948, Serial No. 59,075

3 Claims. (Cl. 112—141)

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This invention relates generally to the field of hemmers used in the sewing art and more particularly to improved hemmer construction for providing a self-weighted and self-reinforced edging on strip textile materials, for use as curtain panels.

It is among the objects of the present invention to provide hemmer construction in which the free edge of a textile material is automatically provided with a plurality of folds in predetermined interrelation so that after leaving the hemmer they may be immediately stitched in place to produce a self-reinforced and self-weighted panel edging and border.

Another object herein lies in the provision of structure of the class described which shall permit a relatively easy starting of the fabric edge therethrough so that there is a minimum delay in re-starting of the hemmer feeding between cloth bolt lengths.

Another object herein lies in the provision of a novel and useful hemmer in which certain of the parts are relatively flexible and resilient so that they will automatically accommodate for variations in the thickness, weight, weave, finish and similar qualities in the cloth as it proceeds through the hemmer.

A feature of the invention lies in the fact that it is suitable for use with relatively light-weight textile fabrics such as are used in the production of window curtains, without deleteriously affecting the same as the cloth proceeds therethrough at a rate of speed provided by a high-speed commercial sewing machine.

These objects and other incidental ends and advantages will more fully appear in the progress of this disclosure and be pointed out in the appended claims.

In the drawings similar reference characters designate corresponding parts throughout the several views:

Figure 1 is a plan view of a hemmer showing a preferred embodiment of the invention.

Figure 2 is a forward and elevational view, as would be seen from the lower portion of Figure 1.

Figure 3 is a left side elevational view.

Figure 4 is a transverse vertical sectional view as seen from the plane 4—4 on Figure 1.

Figure 5 is a fragmentary view in perspective showing the hemmer in position and with associated textile and sewing machine parts.

Figure 6 is an enlarged fragmentary sectional view as seen from the plane 6—6 on Figure 5.

Figure 7 is a fragmentary transverse sectional view of the product as produced by the hemmer and after the same has been stitched.

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In accordance with the invention the hemmer generally indicated by reference character 10 includes broadly a base element 11, a folding element 8 having a free edge folding portion 12 and a panel edge folding portion 13.

As best seen in Figures 1 and 2, the base element 11 is preferably in the form of a flat plate having an upper surface 14, a lower surface 15, a front edge 16, a rear edge 17, a left side edge 18, a right side edge 19, and an attaching member 20. The member 20 is preferably in the form of an elongated spring strip having clamping fingers 21 and 22. The member 20 is detachably secured to the lower surface 15 in a suitable manner as for example by the screws 23. The base element 11 has the upper surface 14 thereof smooth, and the front edge 16 is downwardly and forwardly bevelled (see Fig. 5) so that the easy entrance of the cloth base fabric 9 is facilitated.

The portions 12 and 13 are integral and are shiftable in position with respect to the base element 11 by the adjustable mounting members 24 and 25 which are provided with elongated slots 26 and 27 through which are passed the screws 28 and 29. By the manipulation of said screws, the folding element 8 may be shifted in a direction parallel to the front edge 16 to adjust the same in position with respect to the sewing needles 30 and 31 of a sewing machine (not shown), the needle bars of which are indicated by reference characters 32 and 33.

The folding element 8 includes a bottom plate 36, the left portion of which continues into a cone 38. Secured to the lower inner edge of the cone 38 is a top plate 40. Secured to and extending outwardly to the right of the right-hand edge of the bottom plate 36 is the panel edge folding element 42. The upper free edge of the element 42 overlies the right-hand free edge 44 of the top plate 40.

The bottom plate 36, the cone 38, the top plate 40, and the folding element 42 are preferably composed of thin strong material which is relatively stiff. This material is desirably of smooth exterior finish so that the base fabric 9 may slide easily thereover. As shown in the drawings, these parts may be formed from sheet metal and may be integrated by brazing or soldering. Thus the element 42 may be soldered at 46 to the adjustable mounting member 25 and to the right-hand edge of the bottom plate 36 at 48. Also the inner free edge portion of the cone 38 may be soldered to the lefthand edge of the top plate 40 at 50, and the lower outer portion of the cone 38 may be soldered to the inner edge of the adjustable mounting member 24 at 52.

The panel edge folding element 42 is of irregular configuration best seen in the drawings and includes an upper inverted U-shaped portion 54, a lower U-shaped portion 56, and a lateral V-shaped portion 58. The arms of the last mentioned V-shaped portion merge into the outer arms of the U-shaped portions 54 and 56.

Extending upwardly and forwardly from the top plate 40 is a first inner fold surface supporting member 60. The member 60 is of irregular configuration best seen on the drawings and includes a base portion 62 which is secured to the upper surface of the top plate 40, a laterally directed portion 64 and a curled portion 66. The member 60 is preferably composed of relatively stiff metallic wire. The base portion 62 may be secured to the upper surface of the plate 40 in any suitable manner as for example by the solder 68.

Secured to the upper surface of the plate 40 and extending rearwardly therefrom is a second inner fold surface supporting member 70. The member 70 includes a base portion 72, a rearwardly and upwardly directed portion 74 and a terminal portion 76. The base portion 72 is secured to the forward right corner of the top plate 40 in any suitable manner as for example by the solder 78. The member 70 is preferably composed of spring metallic wire which under the condition of equilibrium positions the terminal portion 76 above the upper inverted U-shaped portion 54, so that with said terminal portion 76 located within or below the upper inverted U-shaped portion 54, said terminal portion is normally urged in an upward direction. Located at the forward outer righthand corner of the top plate 40 is a third inner fold surface supporting member 80. This member 80 is preferably formed from a right angled bent piece of relatively thick metallic wire to produce a base portion 82, a bend portion 84 and a rearwardly extending portion 86. The member 80 may be secured to the top plate 40 by the solder 78 previously referred to.

The bottom plate 36 in the area below the supporting member 80 is downwardly bent to form an entrance lip 88. This is best seen in Figures 2 and 5.

While the top plate 40 is composed of relatively stiff material, the cone 38 is resilient to a degree sufficient to permit the top plate 40 to be pushed downwardly in the direction of the bottom plate 36 to allow the upper surface 41 of said plate to become disengaged from the free edge 55 of the upper inverted U-shaped portion 54 to permit the insertion therebetween of the base fabric 9 and as will more fully appear, during the operation of the hemmer, the upper surface 41 and the terminal portion 76 exert an upward pressure upon the base fabric 9 against the hemmer parts lying thereabove, namely the edge 55 and the groove 53 formed on the inner lower surface of the upper inverted U-shaped portion 54.

One mode of operation of the present device is as follows:

The base fabric 9 is initially fed manually into the hemmer 10 so that the said fabric takes the position shown in Figures 5 and 6. Thus the free edge 90 lies beneath the terminal 91 on the curled portion 66 of the supporting member 60 and as viewed from the front of the device, the base fabric 9 is rolled in a counter-clockwise direction with a part 92 resting upon the bottom plate 36. The fabric 9 continues to the right and at portion 93 is pushed downwardly by the entrance lip 88 into the groove 57 of the lower U-shaped portion 56. The fabric is assisted in falling into the groove 57 by gravity. The fabric 9 then continues upwardly and at portion 94 is brought into engagement with the trough of the laterally V-shaped portion 58. The portion 94 is assisted in assuming this position by the bend portion 84 and the rearwardly extending portion 86 of the third supporting member 80.

The next portion 95 is folded within the groove 53 and is urged there by the terminal 76 and the portion 74 of the second supporting member 70. Thence the fabric 9 extends to the left at portion 96 overlying the upper surface of the top plate 40. The fabric 9 then extends outwardly to the left and at portion 96 rides or rests upon the crowned surface 39 of the cone 38 and at portion 97 is maintained in contact with the upper surface of the plate 40 by the resilient upward urging of said plate as previously described. At 98 the fabric continues outwardly to the left toward the central portion of the panel (not shown).

The fabric 9 during the operation of the hemmer 10 moves in the direction of the arrow 99 and the portions 93 and 95 are lapped against the portions 92 and 97 to produce a cross-sectional fabric configuration shown in Figure 7, to be there maintained by the row of stitches 100. The portions 90 and 91 are flattened down and secured by the row of stitches 101, said stitches serving to collapse the folds or compress them for the production of the finished article. The stitches 100 and 101 are placed by the needles 31 and 30, respectively and said stitches may be of any suitable type. The flattening of the rolled portion 91 upon the edge 90 is facilitated by the compressing member 43 which extends rearwardly and upwardly from the mounting member 24.

It may thus be seen that I have disclosed a novel and useful hemming device which is adapted to produce at high speed the automatic formation of a plurality of folds to produce a multilaminar edge on a curtain or similar panel and at the same time to produce a desired border and free edge connection of the fabric upon the body thereof. By virtue of the movement of certain of the parts, the starting of the production of the various folds is a simple and convenient matter and owing to the shape and arrangement of the parts and their co-action, minor irregularities in the fabric are automatically compensated for so that continuous high-speed production of panel edges may occur.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art.

I claim:

1. A hemmer comprising: a bottom plate; a top plate; a conically shaped free edge folding element connected to said top and bottom plates, at one edge of said bottom plate; a panel edge folding element spaced from said free edge folding element and disposed parallel thereto; said panel edge folding element having a lower portion interconnected with a second parallel edge of said bottom plate, and being free of interconnection with said top plate; said top plate having means to resiliently urge the same upwardly toward the upper portion of said panel edge folding element; said panel edge folding element having an upper portion disposed substantially above said top plate which is downwardly opening and

having a groove therein, a lower portion which is disposed substantially below said bottom plate and which is upwardly opening and having a second groove therein, and a third portion connecting said upper and lower portions; an inner fold surface supporting member having a base portion which is secured to the upper surface of said top plate and a curled portion which is disposed adjacent the larger end of said conically shaped free edge folding element, and of such configuration as to correspond thereto.

2. A hemmer comprising: a bottom plate; a top plate; a conically shaped free edge folding element connected to said top and bottom plates, at one edge of said bottom plate; a panel edge folding element spaced from said free edge folding element and disposed parallel thereto; said panel edge folding element having a lower portion interconnected with a second parallel edge of said bottom plate, and being free of interconnection with said top plate; said top plate having means to resiliently urge the same upwardly toward the upper portion of said panel edge folding element; said panel edge folding element having an upper portion disposed substantially above said top plate which is downwardly opening and having a groove therein, a lower portion which is disposed substantially below said bottom plate and which is upwardly opening and having a second groove therein, and a third portion connecting said upper and lower portions; an inner fold surface supporting member having a base portion which is secured to the upper surface of said top plate and a curled portion which is disposed adjacent the larger end of said conically shaped free edge folding element, and of such configuration as to correspond thereto; a second inner fold surface supporting member having a base portion which is secured to the upper surface of said top plate at points adjacent said panel edge folding element, and an elongated portion leading to the upper portion of said panel edge folding element.

3. A hemmer comprising: a bottom plate; a top plate; a conically shaped free edge folding element connected to said top and bottom plates, at one edge of said bottom plate; a panel edge folding element spaced from said free edge folding element and disposed parallel thereto; said panel edge folding element having a lower portion interconnected with a second parallel edge of said bottom plate, and being free of interconnection with said top plate; said top plate having means to resiliently urge the same upwardly toward the upper portion of said panel edge folding element; said panel edge folding element having an upper portion disposed substantially above said top plate which is downwardly opening and having a groove therein, a lower portion which is disposed substantially below said bottom plate and which is upwardly opening and having a second groove therein, and a third portion connecting said upper and lower portions; an inner fold surface supporting member having a base portion which is secured to the upper surface of said top late and a curled portion which is disposed adjacent the larger end of said conically shaped free edge folding element, and of such configuration as to correspond thereto; a second inner fold surface supporting member having a base portion which is secured to the upper surface of said top plate at points adjacent said panel edge folding element, and an elongated portion leading to the upper portion of said panel edge folding element; and a third inner fold surface supporting member having a base portion secured to the upper surface of said top plate, and an operative portion which lies parallel to the elongated portion of said second inner fold surface supporting member.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,481,329	Ross	Jan. 22, 1924
1,875,578	Flugel et al.	Sept. 6, 1932
1,932,575	Cooper et al.	Oct. 31, 1933
2,334,685	Almond et al.	Nov. 16, 1943