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J. E. ACKERMAN

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BINDING ATTACHMENT FOR SEWING MACHINES

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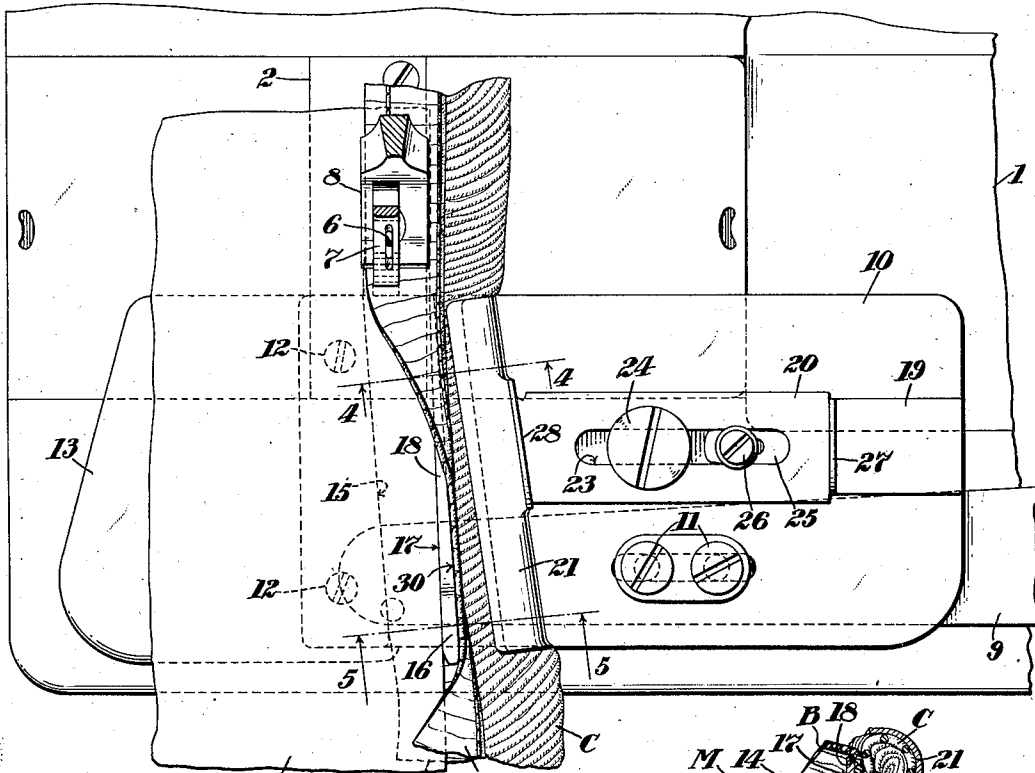


Fig. 1.

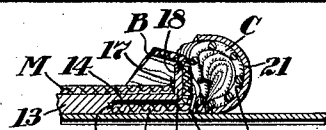


Fig. 4.

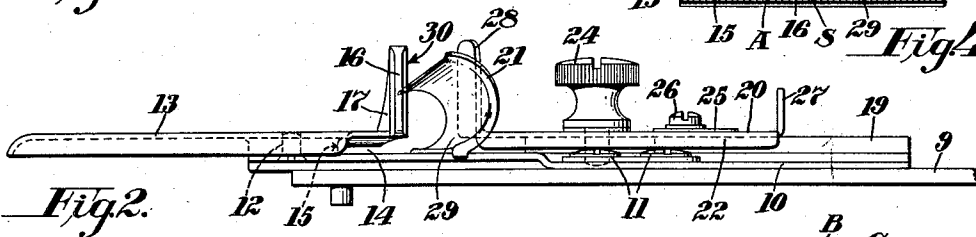


Fig. 2.

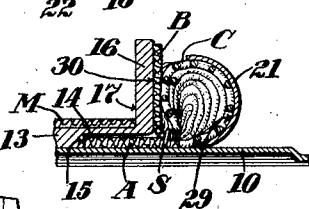


Fig. 5.

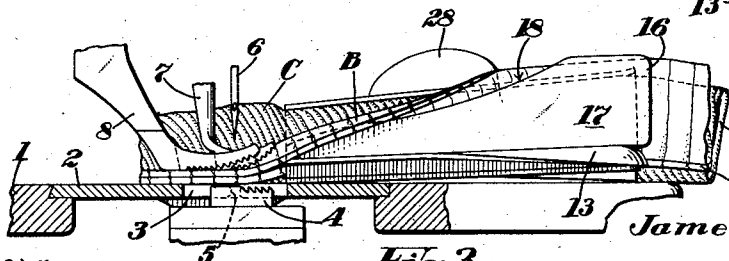


Fig. 3.

Inventor

James E. Ackerman

Witness:

John H. Cave

By Henry J. Miller

Attorney

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BINDING ATTACHMENT FOR SEWING MACHINES

James E. Ackerman, Devon, Conn., assignor to
The Singer Manufacturing Company, Elizabeth,
N. J., a corporation of New Jersey

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4 Claims. (Cl. 112—137)

This invention relates to improvements in binding attachments for sewing machines and has for an object to provide simple guiding means adapted to direct a body material margin and a binding, having an ornamental edging, in coordinated relationship to the stitch-forming mechanism of a sewing machine.

With the above and other objects in view, as will hereinafter appear, the invention comprises the devices, combinations and arrangements of parts hereinafter set forth and illustrated in the accompanying drawing of a preferred embodiment of the invention, from which the several features of the invention and the advantages attained thereby will be readily understood by those skilled in the art.

Fig. 1 is a top plan view of a binding attachment embodying the invention and applied to a sewing machine, the work being shown in its passage through the attachment and machine. Fig. 2 is a front elevation of the attachment. Fig. 3 is a left side elevation, partly in section, of the machine and the attachment illustrated in Fig. 1, with the body material omitted. Fig. 4 represents a transverse section of the binder and of the work, taken substantially on the line 4—4, Fig. 1. Fig. 5 represents a transverse section of the binder and the work, taken substantially on the line 5—5, Fig. 1.

Referring to the drawing, a sewing machine to which the present improvement has been applied, has a work-supporting bed 1 upon which is suitably secured a throat-plate 2 having a feed-slot 3. Operating through the feed-slot 3 of the throat-plate is a lower feed-dog 4 having a needle-aperture 5 entered by a vertically reciprocatory and laterally vibratory needle 6, the needle being vibrated laterally in the line of feed of the work. Opposed to the feed-dog 4 is an upper feeding foot 7 and a lifting presser-foot 8 which alternately engage the work, the presser-foot being raised during the feed of the work and being lowered to detain the work during the return movements of the feeding elements comprising the needle 6, feeding foot 7 and feed-dog 4. Any suitable mechanism may be employed as complementary to the needle in the formation of stitches.

Mounted upon the bed-plate 1 of the machine is an attachment-holder 9 upon which the base-plate 10 of the present binder is secured by screws 11 for adjustment of the binder crosswise of the line of seam-formation. Secured upon the base-plate 10, by screws 12, is a work-supporting apron 13, said apron being recessed in its under face from one edge thereof to provide a binding-mar-

gin guideway 14 and an edge-guide 15 for said binding margin. The portion of the apron 13 overhanging the guideway 14 is provided with an upstanding flange 16 of which one side face 17 serves as an edge-guide for a body-material M, said edge-guide 17 being inclined rearwardly toward the line of seam-formation. The flange 16 is rearwardly tapered, preferably both widthwise and edgewise, the free upper edge 18 of said flange being rearwardly inclined downwardly toward the plane of the apron 13 from a point adjacent to the front end of the flange.

The base-plate 10 is provided upon its upper face with a guide-rib 19 extending lengthwise in a direction transverse to the line of seam-formation. Slidably mounted upon the guide-rib 19 is the shank 20 of a binder backing-member 21, said shank 20 having side-flanges, as 22, confining the shank to endwise movements upon the guide-rib. The shank 20 has a longitudinal slot 23 receiving the securing screw 24 and a stop-block 25, the latter being adjustably secured by a screw 26 upon the guide-rib 19 to predetermine the operative position of the backing-member 21. The shank 20 is provided at its opposite ends with upstanding ears 27 and 28, the backing-member 21 being soldered or otherwise suitably secured to the ear 28.

The backing-member 21 has a vertically concave binding-guiding face 29 opposed to and spaced from the side face 30 of the apron-flange 16 opposite to the edge-guiding face 17 of said flange, said guide-wall 29 being preferably lengthwise inclined rearwardly toward the flange-face 30. The lower edge of the backing-member guide-wall 29 rests upon the upper face of the base-plate 10.

The binding illustrated in the drawing is prepared from a strip of woven material having marginal bands A and B connected by crinkly cords C. In a separate operation, this binding strip is doubled longitudinally, and the bands A and B thus superimposed are secured together by a line of stitching S adjacent to the cords C, which latter then comprise fringe loops. Ornamental bindings of this character are commonly employed to finish the edges of cushions and, while the structure of one type of binding has been herein described, it is to be understood that the present invention is not limited to any specific binding, as it is obvious that the described attachment is adapted to handle various types of bindings, and particularly bindings having fringes, cords, or the like at the fold margin.

In operation, the body-material M is placed

upon the apron 13, with an edge of said body-material in engagement with the edge-guiding face 17 of the flange 16. The lower band A of the binding is inserted in the guiding recess 14
 5 with an edge of said band A in engagement with the edge-guide 15. The other band B of the binding is placed flatwise against the vertical side face 30 of the flange 16 at the front portion of the latter and is gradually bent over the down-
 10 wardly inclined upper edge 18 of said flange, whereby the two bands A and B of the binding are caused to embrace the margin of the body-material M and are presented in this fashion under the presser-foot and feeding foot of the
 15 machine. The ornamental fringe of the binding is embraced by the backing member 21 which is lengthwise substantially parallel to the binding edge-guide 15. The backing-member provides a guiding passageway for the binding fringe and at the same time serves to hold the binding
 20 margins A and B in engagement with the edge-guide 15 and the flange-face 30. The backing-member may be retracted from operative position for insertion and removal of work, the stop-block
 25 25 providing for conveniently returning the backing member into a predetermined operative position.

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

30 1. A binding attachment for sewing machines comprising, a body-material supporting apron, a body-material-edge guiding wall provided upon and disposed substantially normal to said apron,
 35 said wall having a free upper edge inclined downwardly toward the plane of said apron in a direction toward the delivery end of said attachment, guiding means underlying said apron for a binding-margin, and a backing-member hav-
 40 ing a concave binding-guiding face opposed to and spaced from said wall at the side thereof opposite to said apron, said backing-member face being lengthwise inclined toward the deliv-
 45 ery end of said wall.

2. A binding attachment for sewing machines

comprising, a body-material supporting apron, a body-material-edge guiding wall provided upon and disposed substantially normal to said apron, said wall having a free upper edge inclined down-
 5 wardly toward the plane of said apron in a direction toward the delivery end of said attachment, guiding means underlying said apron for a binding-margin, a binding backing-member disposed in spaced relation to and at the side of said wall
 10 opposite to said apron, and supporting means providing for adjustment of said backing-member transversely of said wall.

3. A binding attachment for sewing machines comprising, a base-plate, a work-supporting apron having an upstanding flange providing an edge-
 15 guide for a body-material supported by said apron, the flanged portion of said apron being disposed in spaced relation above said base-plate to provide therebetween a binding-margin guid-
 20 ing recess underlying the body-material margin, said flange having a free upper edge rearwardly inclined downwardly toward the plane of said apron, a binding-confining backing-member spaced from said flange at the side thereof op-
 25 posite to said apron, and means for securing said backing member upon said base-plate for adjustment of the backing member transversely of and relatively to said flange.

4. A binding attachment for sewing machines comprising, a base-plate, a work-supporting
 30 apron having an upstanding flange providing an edge-guide for a body-material supported by said apron, the flanged portion of said apron being disposed in spaced relation above said base-plate
 35 to provide therebetween a binding-margin guiding recess underlying the body-material margin, said flange having a free upper edge rearwardly inclined downwardly toward the plane of said apron, and a backing-member disposed in en-
 40 gagement with said base-plate having a concave binding-guiding face spaced from said flange at the side thereof opposite to said apron.

JAMES E. ACKERMAN.