Oct. 5, 1948. T. J. HORWATH 2,450,663

BINDING ATTACHMENT FOR SEWING MACHINES

Filed Dec. 27, 1945 2 Sheets-Sheet 1

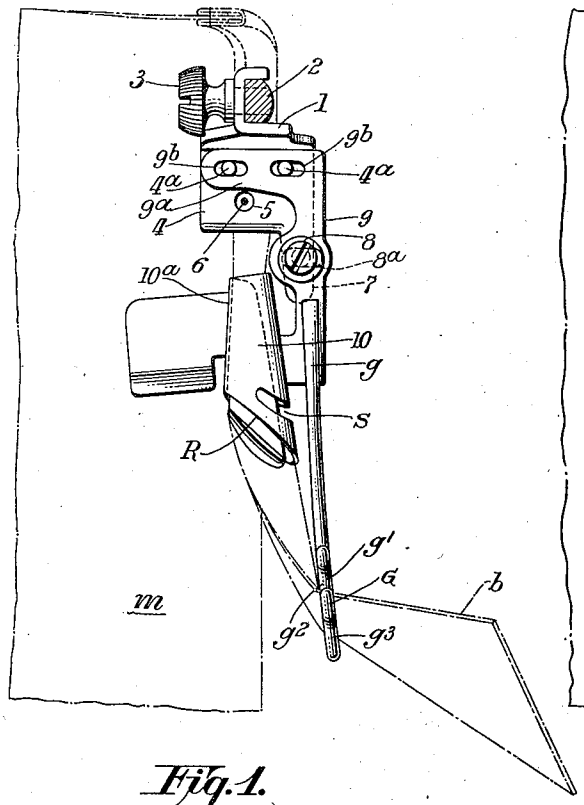


Fig. 1.

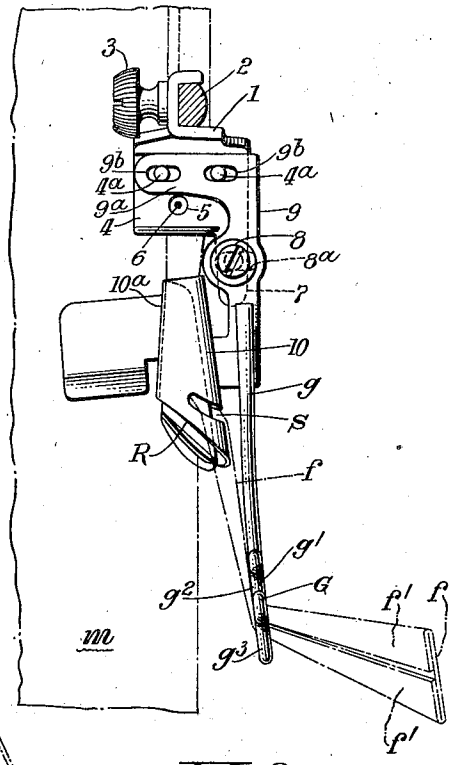


Fig. 3.

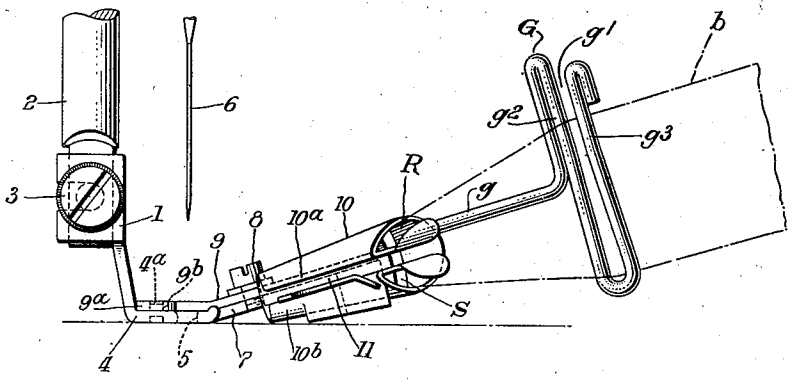


Fig. 2.

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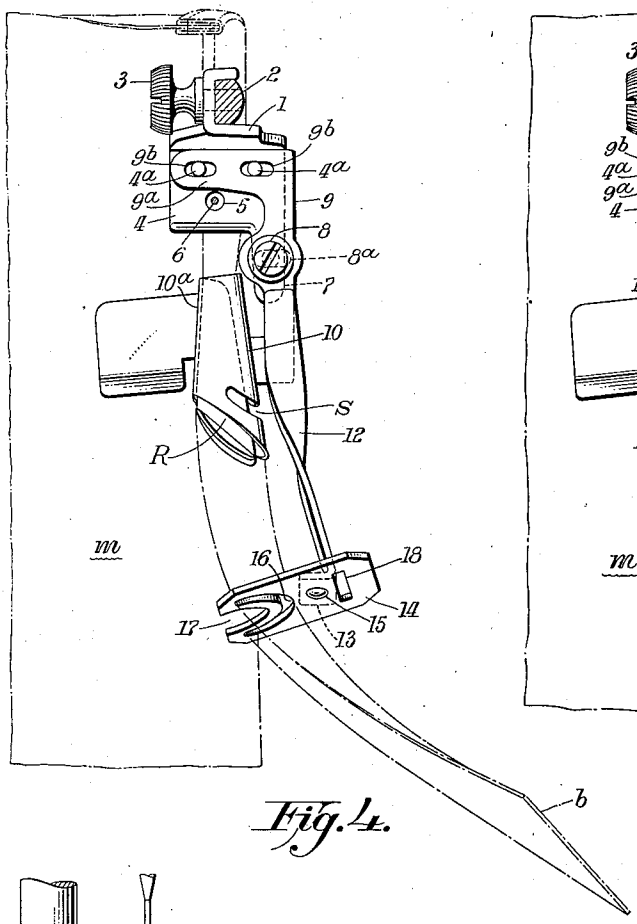


Fig. 4.

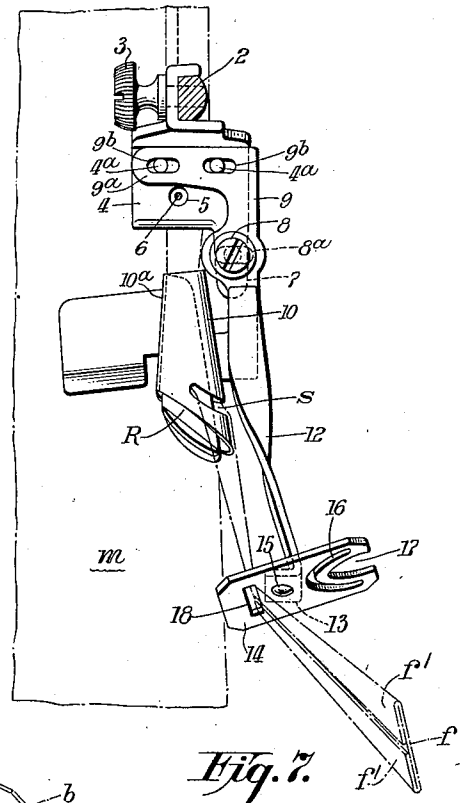


Fig. 7.

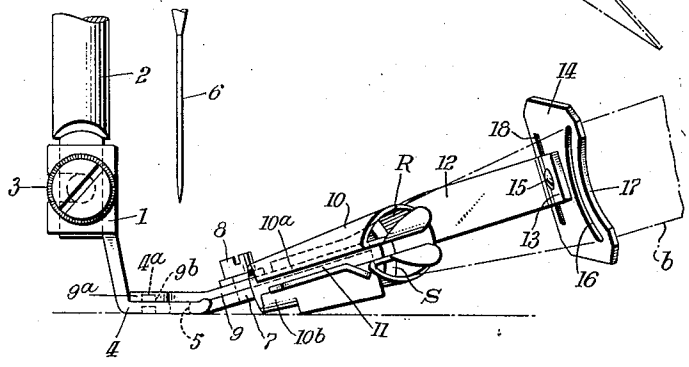


Fig. 5.

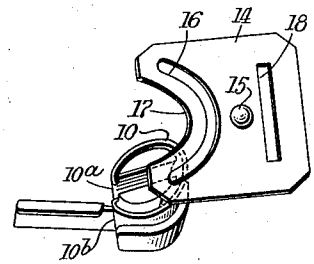


Fig. 6.

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UNITED STATES PATENT OFFICE

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BINDING ATTACHMENT FOR SEWING MACHINES

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4 Claims. (Cl. 112—137)

1

This invention relates to binding attachments for sewing machines and more particularly to binding attachments of the type which are adapted to be secured to the presser-bar of a conventional family sewing machine, and adjusted laterally relative to the line of seam formation.

It has long been the practise to furnish binding attachments of this nature to purchasers of family sewing machines but, because of the fact that the use of such attachments necessitates the simultaneous holding and guiding of both the work and the binding strip during the operation of the machine, only a small percentage of the users of the machines have become proficient in the use of such attachments.

This invention has as an object to improve binding attachments of this nature so that binding material of various widths, and whether plain or with pre-folded margins, will be automatically guided into an intake aperture in the binder, without the assistance or attention of the operator, thereby enabling the operator to concentrate on the running of the machine and the guiding of the work-piece.

This has been attained by providing the attachment with a lead-in guide for the binding strips, which guide is so constructed and so located with respect to the intake end of the binder that binding strips of various widths may be passed therethrough and directed into any one of a plurality of intake apertures in the binder.

Preferably, the lead-in guide is located forwardly and to one side of the receiving end of the binder and is mounted on the supporting arm of the binder so as to maintain a constant position relative to the receiving end of the binder in all of the adjusted positions of the binder relative to the line of seam formation.

Drawings depicting two embodiments of this invention have been annexed as a part of this disclosure and in such drawings:

Fig. 1 is a plan view of a binder for a family sewing machine, showing one form of binding guide attached thereto and illustrating, in dotted lines, its use in guiding a plain or unfolded binding strip to the intake end of the binder.

Fig. 2 is a left side view of the parts shown in Fig. 1.

Fig. 3 is a view similar to Fig. 1, but illustrating the use of the device when guiding a pre-folded binding strip.

Fig. 4 is a view similar to Fig. 1, but showing a modified form of binding guide attached to the binder and illustrating its use in guiding a plain

2

or unfolded binding strip to the intake end of the binder.

Fig. 5 is a left side view of the parts shown in Fig. 4.

Fig. 6 is a front end view of the binder shown in Fig. 5.

Fig. 7 is a view similar to Fig. 4, but illustrating the use of the modified binding guide when guiding a pre-folded binding strip.

Referring more specifically to the drawings, and first to Figs. 1, 2 and 3, the invention is disclosed as embodied in a binder comprising a shank 1 adapted to be secured upon the lower end of a sewing machine presser-bar 2, as by a clamp-screw 3, in place of the conventional presser-foot with which the machine is normally fitted for plain sewing. The shank 1 carries a foot-portion 4 which bears upon the work and is provided with a needle-hole 5 for the passage of a reciprocating eye-pointed needle 6, which cooperates with a loop-taker (not shown) in the formation of stitches.

The foot 4 is provided with a forwardly projecting upturned portion 7 to which is adjustably secured, by a screw 8, a slotted arm 9. At its forward end, the arm 9 carries a binder-head 10 having edge-folding scrolls 10^a and 10^b for a binding strip and between which is a central longitudinal channel 11 for passage of the body material *m*. At its rear end the arm 9 is formed with a laterally off-set portion 9^a provided with two aligned slots 9^b adapted to receive studs 4^a punched upwardly from the foot 4. The studs 4^a and slots 9^b, together with a slot 8^a in the arm 9 through which the clamp screw 8 passes, afford means for adjusting the arm 9, and the binder-head carried thereby, laterally of the line of seam formation produced by the needle 6 and its complemental loop-taker, in conjunction with the usual work-feeding mechanism.

As is common in this form of attachment, the binder-head is formed with an open binding-strip receiving end R adapted to receive a plain unfolded strip *b* of binding material and to fold the strip into substantially C-shape. As the strip passes through the binder, the marginal portions are inturned and the body material is led therebetween, whereupon the binding strip is secured to the body material as indicated in the upper portion of Fig. 1.

Each binder of this nature is also commonly provided, in its outer side wall, with one or more slots S into which may be directed a narrower strip of binding material *f* having its marginal portions pre-folded, as indicated at *f'* in Fig. 3.

As the pre-folded binding strip passes through the binder-head, it is folded along its center line with the pre-folded marginal portions extending inwardly and the body material is led therebetween to have the binding secured thereto as above described. The finished product is the same as that shown in Fig. 1.

As hereinbefore stated, considerable difficulty heretofore has been experienced by the average user of a family sewing machine in properly positioning and guiding both the body material and the binding strip while operating the sewing machine.

This invention has relieved the operator of one of these tedious and annoying duties, viz: the guiding of the binding strip into the intake end of the binder.

In the construction shown in Figs. 1, 2 and 3, there is provided a binding strip lead-in guide G located forwardly of and slightly to one side of the receiving end of the binder-head. This guide is formed of bent wire and has a rearwardly extending arm *g* soldered or otherwise secured upon the binder-head supporting arm 9. By this construction, the entire guide is adjustable laterally with the binder-head and maintains a constant position relative to the intake end of the binder.

The guide G is bent into generally U-shape and affords an upwardly extending guide slot g^1, defined by the laterally spaced arms g^2 and g^3 thereof. This guide slot is arranged substantially perpendicular to the center line of the binder-head and accommodates both plain and pre-folded binding strips of various widths. Due to the construction and location of the binding guide, the smooth and rounded surfaces of the guide direct the binding strip to the intake end of the binder and place just sufficient friction on the binding strip to keep it under proper control. The position of the guide G and its construction provide for properly directing either the wider strip *b* to the receiving end R of the binder or the relatively narrower pre-folded strip *f* to the slot S in the side wall of the binder. It is obvious that the side wall of the binder could be provided with additional slots along the length of the binder and that the guide G would serve to direct a strip to any one of such additional slots.

The modification shown in Figs. 4, 5, 6 and 7 differs from that shown in Figs. 1, 2 and 3 in that the binding guide is formed of sheet metal instead of wire. The binder and its supporting means are the same as that hereinbefore described and therefore like reference numerals have been applied to like parts thereof.

In this form, the binding-guide comprises a twisted sheet metal supporting shank 12, soldered or otherwise secured upon the binder-head supporting arm 9 and provided, at its forward end, with an off-set portion 13. A sheet metal guide-plate 14 is pivotally attached to the portion 13 by a pivot pin 15 and is adapted to be turned thereon to either of the positions shown in Figs. 4 and 7. The plate 14 is formed, at one side of the pivot 15, with an arcuate guide slot 16 adapted to receive, initially fold and direct to the receiving end R of the binder-head a plain unfolded strip *b* of binding material. The plate 14 is also formed in one end with a clearance aperture 17 for the passage of the edge of the body material *m*. At the opposite side of the pivot 15, the plate 14 is formed with a straight, vertically elongated slot 18 adapted, when the plate is turned to the position shown in Fig. 7,

to receive and guide to the intake slot S in the rear wall of the binder-head a pre-folded binding-strip *f*.

From the foregoing, it will be apparent that this invention has greatly improved that type of binding attachment commonly furnished with family sewing machines, by providing the attachment with means for automatically guiding to the different intake apertures of the binder-head both plain and pre-folded binding strips of various widths.

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

1. In a binding attachment for sewing machines having a supporting member adapted to be secured to the presser-bar of the machine, a binder-supporting arm mounted on said member and adjustable laterally thereof, and a binder-head carried by said supporting arm and provided with a plurality of binding-receiving openings; the improvement which comprises the provision of a plate-supporting member having one end secured upon said supporting arm and its opposite end off-set laterally, a plate pivotally secured to the off-set portion of said plate-supporting member and provided on opposite sides of the pivot with binding guiding slots of different lengths, one of said slots being of arcuate form, said plate being adapted to be turned relative to its supporting member selectively to align said slots with the respective binding-receiving openings in said binder-head to guide binding strips thereto.

2. A binding attachment for sewing machines comprising a supporting member adapted to be secured to the presser-bar of the machine, a binder-head supporting arm mounted on said member and adjustable laterally thereof, a binder-head carried by said supporting arm and provided with a plurality of U-shaped binding-receiving openings, an extension of said supporting arm projecting forwardly of and at one side of said binder-head and spaced laterally therefrom, and a binding guiding means carried by the free end of said extension and forwardly of and spaced laterally from the intake end of the the binder-head for directing a binding strip to any one of said openings.

3. A binding attachment for sewing machines comprising a supporting member adapted to be secured to the presser-bar of the machine, a binder-head supporting arm mounted on said member and adjustable laterally thereof, a binder-head carried by said supporting arm intermediate its ends and having a central longitudinal channel for passage of a body material and a pair of relatively wide and narrow U-shaped binding-receiving openings adapted to receive, respectively, relative wide plain binding strips and relatively narrow pre-folded binding strips, said supporting arm having a portion extending forwardly of the intake end of said binder-head, and a binding guiding member carried by the free forward end of the forwardly extending portion of said supporting arm and having a binding guiding slot arranged substantially perpendicular to the center line of the binder-head and adapted selectively to guide plain and pre-folded binding strips, respectively, to said relatively wide and narrow openings in the binder-head.

4. A binding attachment for sewing machines comprising a supporting member adapted to be secured to the presser-bar of the machine, a binder-head supporting arm mounted on said member and adjustable laterally thereof, a

binder-head carried by said supporting arm and provided with relatively wide and narrow binding-receiving openings, said supporting arm having a forwardly extending portion the free end of which is located forwardly of and at one side of the intake end of said binder-head, and a wire binding guiding member secured to the said free end of said forwardly extending portion of the supporting arm and provided with a binding guiding slot adapted to guide either plain and prefolded binding strips, respectively, to said relatively wide and narrow binding-receiving openings in said binder-head.

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