April 1, 1924. 1,489,217

W. S. JONES

BINDER ATTACHMENT FOR SEWING MACHINES

Filed Jan. 22, 1924

Fig. 1.

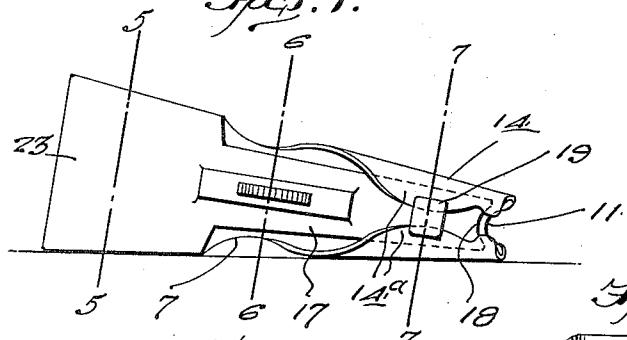


Fig. 6.

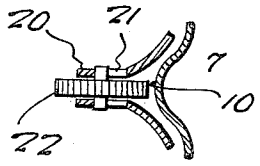


Fig. 11.

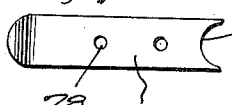


Fig. 2.

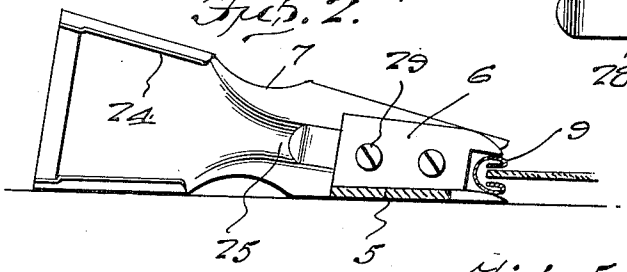


Fig. 10.

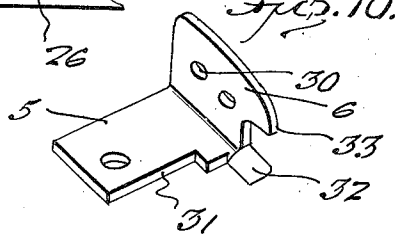


Fig. 8.

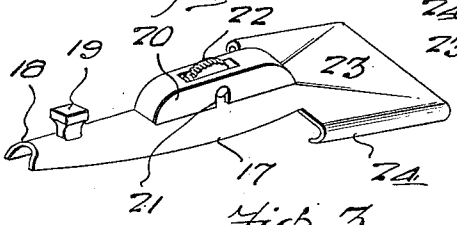


Fig. 5.

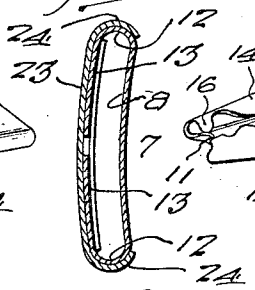


Fig. 9.

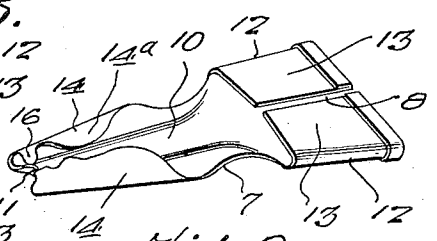


Fig. 3.

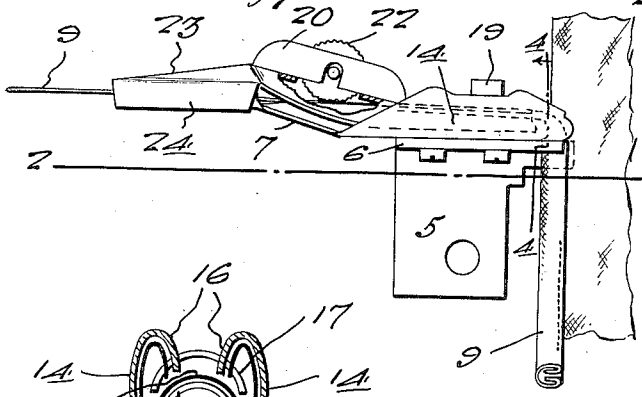


Fig. 7.

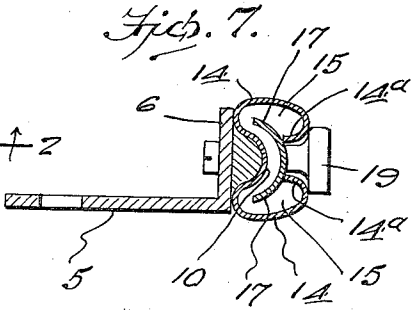
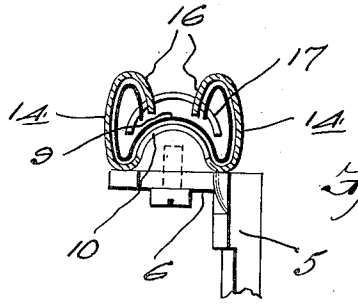


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM S. JONES, OF PITTSBURGH, PENNSYLVANIA.

BINDER ATTACHMENT FOR SEWING MACHINES.

Application filed January 22, 1924. Serial No. 687,769.

To all whom it may concern:

Be it known that I, WILLIAM S. JONES, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Binder Attachments for Sewing Machines, of which the following is a specification.

This invention relates to improvements in binders of the type usually designated as combination right angle binders, by means of which the strip of material is folded and fed in a direction at right angles to its initial direction of feed, and in which the raw edges of the binding strip will also be folded over in readiness to be stitched to the material to be faced or bound, whereby the necessity of first preparing the binding strip with its edges turned and pressed down is avoided.

An object of the invention is the provision of an improved binder of the character described, simple in construction, inexpensive to manufacture and effective and durable in use to accomplish the purposes set forth.

Another object of the invention is to provide practical means for facilitating the starting of the binding strip, or the threading of the same through the guide.

Other objects will become apparent as the nature of the invention is better understood, and the same consists of the novel form, combination, and arrangement of parts hereinafter more fully described, shown in the accompanying drawing and claimed:

In the drawing, wherein like reference characters indicate corresponding parts throughout the several views:

Figure 1 is a front elevation of the binder.

Figure 2 is a sectional view taken substantially on the line 2—2 of Figure 3.

Figure 3 is a top plan view, partly broken away, and in section.

Figure 4 is an enlarged transverse section taken substantially on the line 4—4 of Figure 3,

Figure 5 is a section on the line 5—5 of Figure 1.

Figure 6 is a section on the line 6—6 of Figure 1.

Figure 7 is a section on the line 7—7 of Figure 1.

Figure 8 is a perspective view of the tongue.

Figure 9 is a perspective view of the main folding plate of the binder.

Figure 10 is a perspective view of the bracket member of the support for the main folding plate, and

Figure 11 is a rear elevation of the bar member of said support.

The support includes a bracket embodying a base plate 5 adapted to be mounted on the machine bed and formed with an upright bracket plate 6 on its front edge. A folding plate 7 is secured on the front face of said bracket plate 6 approximately in the plane thereof and formed at its receiving end with a substantially flat receiving face 8, (Figure 9), substantially the width of the binding strip 9. The front face of said folding plate is formed with an axial rib 10, notched as at 11 at its delivery end, and gradually merging into the receiving face 8 intermediate the ends of the folding plate. Said plate 7 is also formed with converging side flanges 12 at its receiving end, which flanges have inwardly projecting flat wings 13 disposed slightly spaced from and parallel to the face 8 and thereby partially forming the binder as a flattened tube at its receiving end. At the delivery end, the plate 7 is formed with converging side flanges 14 that have lips 14^a which extend inwardly and rearwardly and cooperate with the rib 10 to form troughs 15 (Figure 7). At the extreme delivery end of the plate 7, the flanges 14 have inwardly and rearwardly extending tongues 16 which extend across the adjacent end edge of the guide tongue 17 and replace the less efficient and less durable wire-end loops commonly employed at these points.

A guide tongue 17 deeply notched at the delivery end as at 18 is disposed, at this end, within the folding plate and there conforms approximately to the shape of the rib 10, the tongue 17 being maintained in contact with the lips 14^a by means of a headed stud 19, the stem of which is secured by soldering or the like to the tongue 17, and the head of which overlies said lips 14^a, Figure 7. The tongue 17 is formed with an axially slotted raised intermediate portion 20 which has side slots 21 in which the ends of the shaft of a milled feed roller 22 are mounted, the roller thereby having limited transverse movement to accommodate binding strips of various thicknesses between the same and the folding plate 7. The

roller 22 projects through the axial slot of the raised portion 20 so that the same may be readily manually rotated for starting the feeding of the binding strip.

The tongue 17 is provided with a substantially flat receiving end portion 23 which lies flatly upon the wings 13 and which is formed with converging hook shaped side flanges 24 which embrace the flanges 12 and extend onto the adjacent portions of the flat receiving end of the folding plate 7 to assist in maintaining the parts 7 and 17 assembled.

The folding plate 7 is preferably formed of suitably shaped sheet metal that is bent to provide the rib 10 and to accordingly provide an axial channel or groove 25 in the delivery end portion of the guide plate 7 as shown clearly in Figure 2. The support for the folding plate 7 embodies an elongated bar 26 that is shaped to snugly fit within the groove 25 and that is secured to the folding plate 7 by soldering or the like, the end of the bar 26 adjacent the delivery end of the device being deeply notched as at 27 to provide a curved edge co-incident with the notched edge 11 of the folding plate 7. The bar 26 is provided with screw threaded openings as at 28 for the reception of screws 29 which extend through openings 30 in the bracket plate 6 for rigidly attaching the brackets to the folding plate 7. This insures durability, and in order to facilitate accurate positioning of the base plate 5 upon the bed of the machine, the base plate is notched along one side, or that side nearest the delivery end of the device, as at 31. The bracket plate is further provided with a vertically disposed fork consisting of a bevelled lower prong 32 and an overhanging prong 33 that cooperate to form a throat through which the binding and material to be bound are guided.

By the use of the wheel 22, the separation of the parts 7 and 17 is rendered unnecessary, so that these parts may be substantially permanently united after they are properly related by bending the flanges 24 toward each other and about the flanges 12.

The general operation of the device is substantially the same as that of the device disclosed in United States Letters Patent No. 1,397,853, to John F. Bergen and Jacob Marcus, for binder attachments for sewing machines, dated November 22, 1921.

From the foregoing description, it is believed that the construction and operation as well as the advantages of the present invention will be readily understood and appreciated by those skilled in the art.

What I claim as new is:

1. In combination, a folding plate, a guide member attached to the folding plate and positioned to permit material passed between the same and the folding plate, manually operable means mounted upon one of these parts for facilitating threading of the material through the space between said parts, said manually operable means comprising a feed roller.

2. In combination, a folding plate, a guide member attached to the folding plate and positioned to permit material passed between the same and the folding plate, manually operable means mounted upon one of these parts for facilitating threading of the material through the space between said parts, said manually operable means comprising a feed roller, mounted for limited shifting movement transversely of said members for accommodating material of varying thicknesses.

3. In combination, a folding plate formed with a flat receiving face, an axial rib merging into said face, side flanges provided with inwardly folded lips extending to near the rib, a guide tongue conforming to the shape of the rib and held near thereto by said lips, inwardly folded tongues provided upon the free end portions of said side flanges and extending across the end edge of the tongue at the delivery end of the device, and a headed stud embodying a shank portion attached to the tongue, and a head portion overlying the lip for maintaining the tongue in spaced relation to the rib.

In testimony whereof I affix my signature.

WILLIAM S. JONES.