No. 753,834. PATENTED MAR. 8, 1904.

W. R. ABERCROMBIE.

BINDER FOR SEWING MACHINES.

APPLICATION FILED OCT. 29, 1901.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

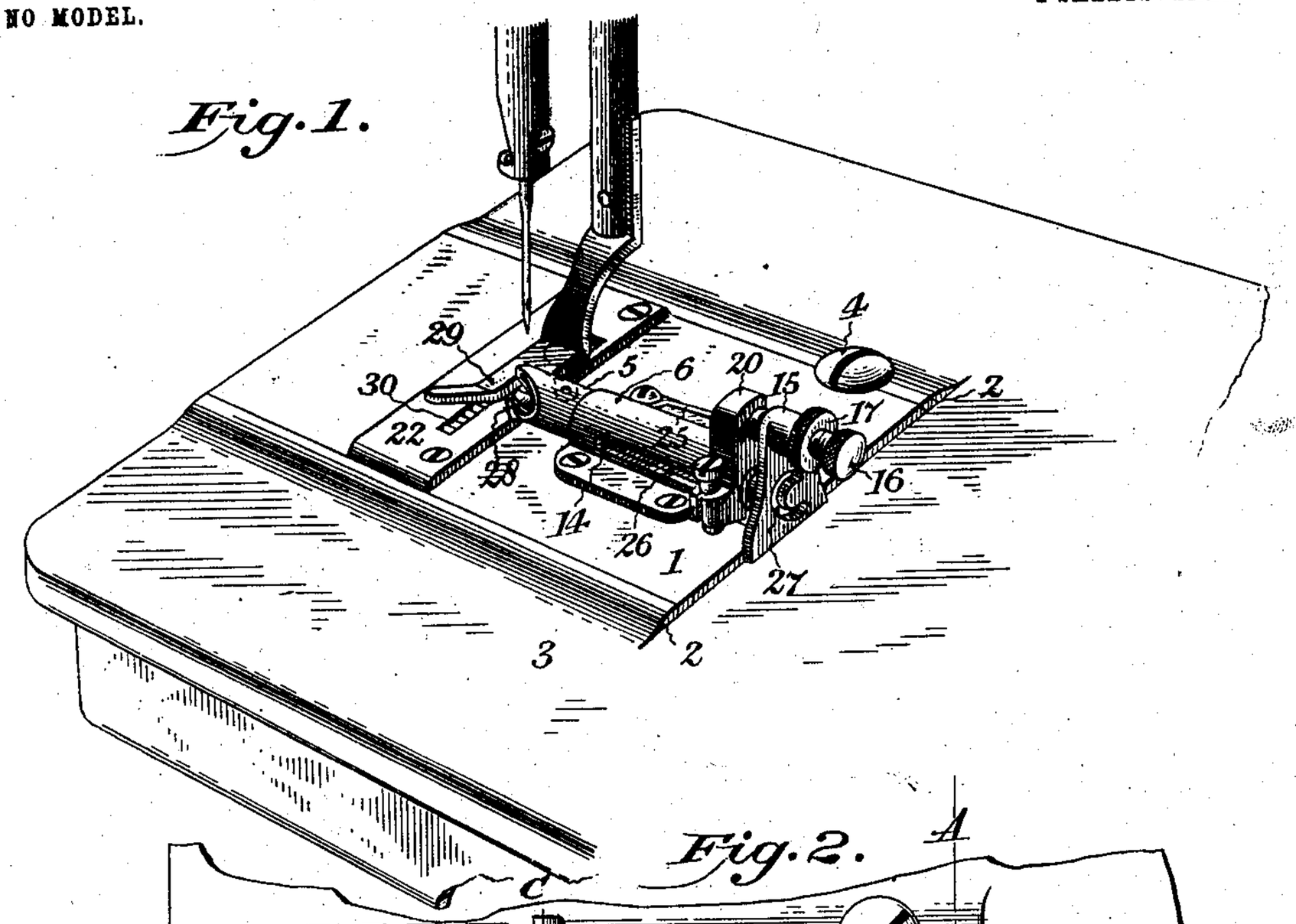


Fig. 2.

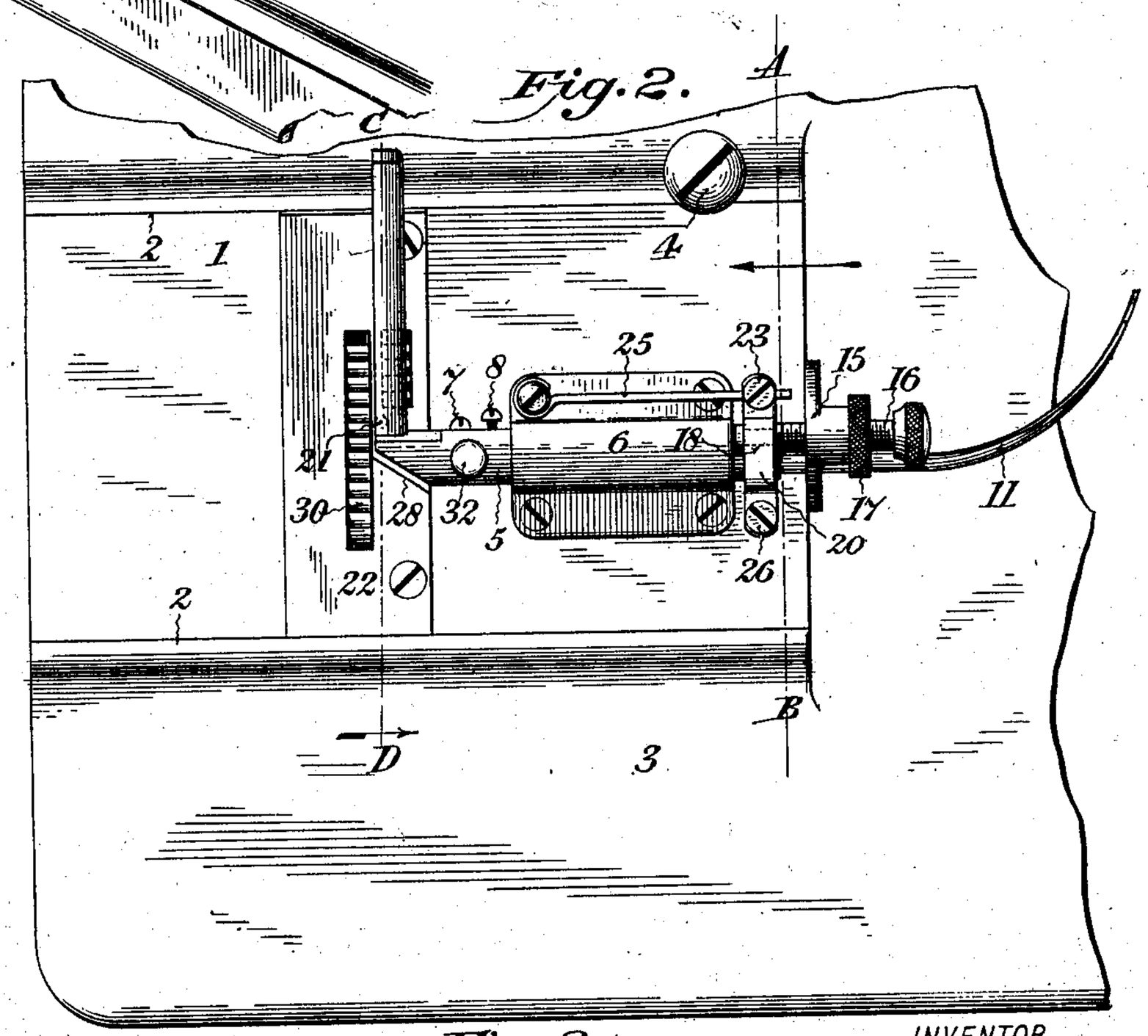
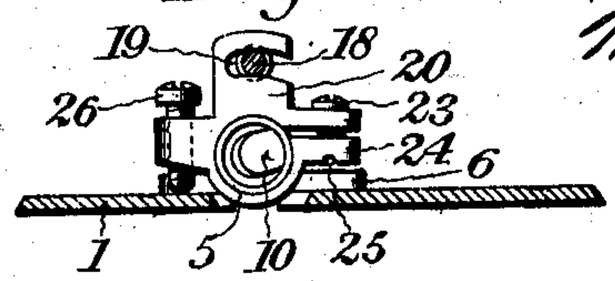


Fig. 3.



WITNESSES:

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INVENTOR

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ATTORNEY

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 4.

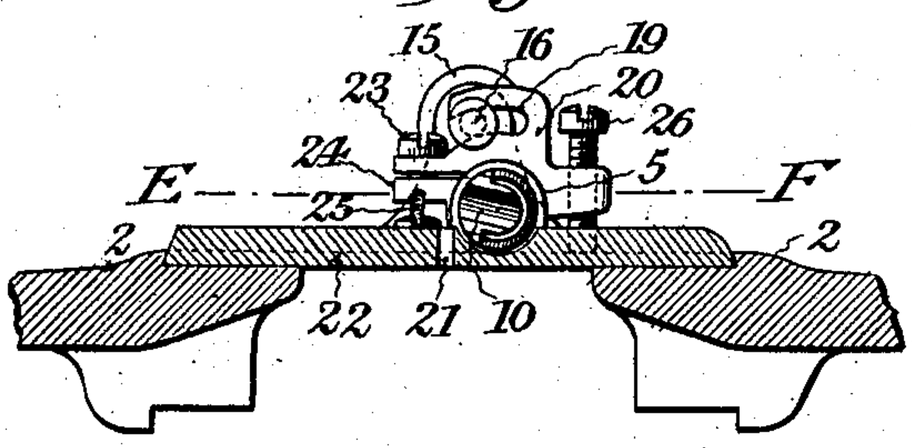


Fig. 5.

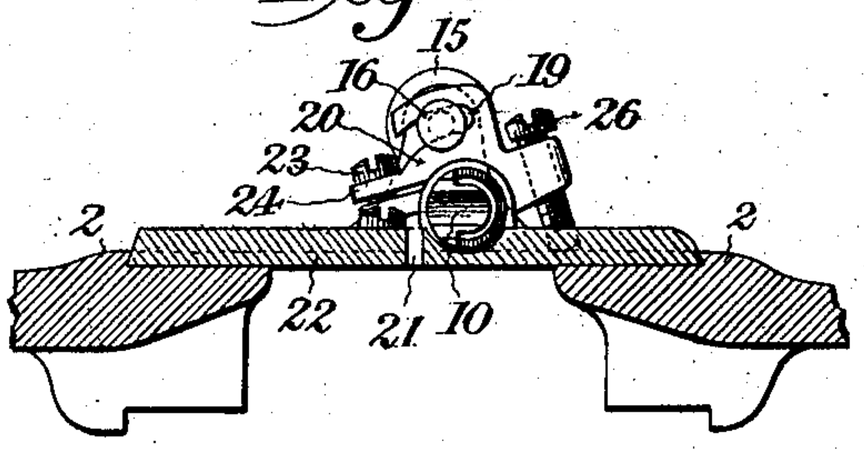


Fig. 7.

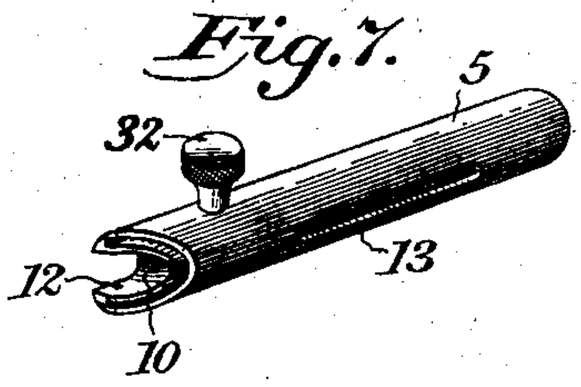


Fig. 8.

Fig. 6.

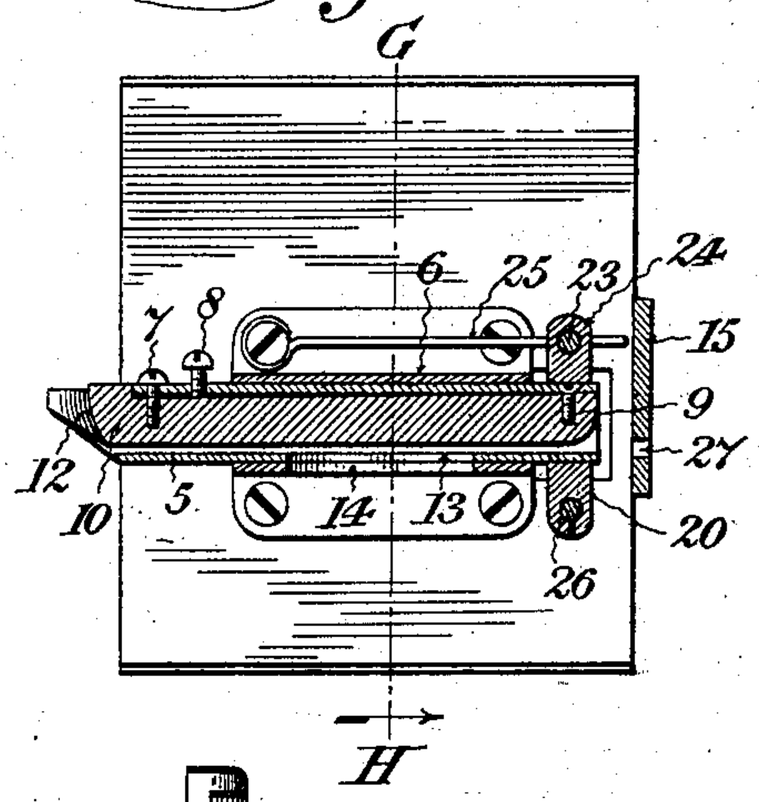


Fig. 10.

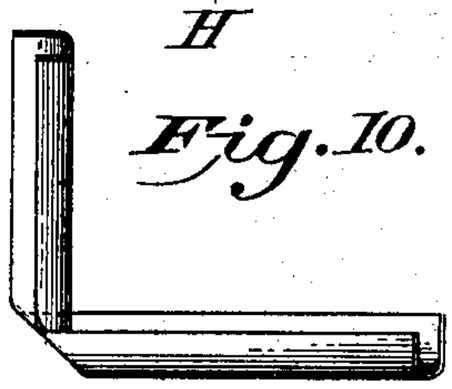


Fig. 9.

Fig. 11.

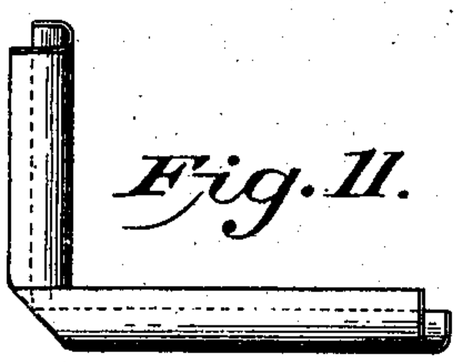
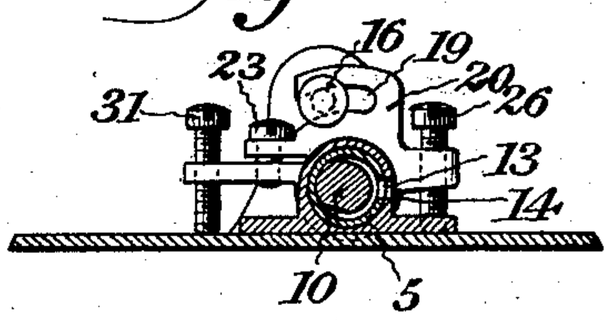


Fig. 12.



WITNESSES:

J. L. Finch.

Adall Briggs.

INVENTOR

William R. Abercrombie

BY Wm. P. Finch

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No. 753,834. Patented March 8, 1904.

UNITED STATES PATENT OFFICE.

WILLIAM R. ABERCROMBIE, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO WHEELER & WILSON MANUFACTURING COMPANY, OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF CONNECTICUT.

BINDER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 753,834, dated March 8, 1904.

Application filed October 29, 1901. Serial No. 80,421. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. ABERCROMBIE, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented a certain new and useful Improvement in Binders for Sewing-Machines, of which the following is a full, clear, and exact description.

This invention relates to the class of binder attachments for sewing-machines represented by the device forming the subject of my application Serial No. 70,543, filed August 1, 1901, and it is in the nature of an improvement upon that device.

That which is common to the device of the application referred to and the device of this case is a guide capable of adjustment axially and longitudinally and adapted to lay the binding material in equal or unequal widths upon opposite sides of the material to which the binding material is being applied, and those things wherein the device of this case differs from that of the other are the means for effecting the axial and the longitudinal adjustments of the guide and the assembling and adjustment of the core within the casing, all as I will proceed now more particularly to set forth and finally claim.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a perspective view of a portion of the bed-plate of a sewing-machine with my improved binder in position thereon. Fig. 2 is a plan view of the structure shown in Fig. 1, the needle-bar, presser-bar, and presser-foot being omitted. Fig. 3 is a sectional elevation taken substantially in the plane of line A B, Fig. 2, and looking toward the left. Fig. 4 is a sectional elevation taken substantially in the plane indicated by the line C D, Fig. 2, looking toward the right; and Fig. 5 is a similar view, but showing the binder in a different adjustment, the screws 7 and 8 and knob 32 being omitted from these views for clearness. Fig. 6 is a horizontal section taken substantially in the plane indicated by the line E F on Fig. 4, the throat-plate and broken portions of the bed-plate being omitted. Fig. 7 is a detail perspective view of the binder-head detached. Fig. 8 is a detail perspective view of the internal core or form upon which the binding-strip is folded. Fig. 9 is a detail perspective view of the folded binding-strip in the shape it assumes in passing through the binder. Fig. 10 is a detail plan view of the binding-strip folded so as to cast the greater width on the bottom. Fig. 11 is a similar view, but with the binding-strip folded so as to cast the greater width on top. Fig. 12 is a sectional elevation taken in the plane indicated by the line G H on Fig. 6, illustrating a modified form of adjusting-collar.

1 is the usual sewing-machine cover-plate confined between the usual parallel ribs 2 on the sewing-machine bed-plate 3, by removing which plate access is had to the under parts, such as the loop-taker and bobbin. (Not shown.) Said plate 1 is held in place by a headed screw 4, tapped in the bed-plate.

The binder, or in this case more properly the binder-head, comprises a tubular casing 5, mounted within a tubular bracket or support 6, secured rigidly to the plate 1. Within this casing 5 is adjustably secured, by means of screws 7, 8, and 9, (see Fig. 6,) a core or form 10, U-shaped in cross-section and preferably extending the entire length of the casing 5. Said core 10 is somewhat less in its greatest diameter than the internal diameter of the casing 5, so that sufficient space will be left between the two for the passage of the binding-strip 11, Fig. 2. By loosening the screw 7 and tightening the screw 8 a smaller opening will be left for the binding-strip to pass through, and likewise by reversing this operation a larger opening will be provided, as will be clear by reference to Fig. 6, so that said opening may be adjusted for various thicknesses of tape or binding-strip and a proper tension maintained thereon.

The ends of both the casing 5 and core 10

are beveled at an angle of forty-five degrees, more or less, and said core 10 has a U-shaped groove 12 made in its ends approximately at right angles to the length of the binder, the binding-strip being turned inside out in passing this point, as is usual with binders of this description, and clearly shown in Fig. 9. By partially rotating the binder on its axis, as shown in Figs. 4 and 5, the binding-strip will be delivered upon the garment with the greater width of strip at the top or bottom, as the case may be, according to the direction in which said binder is tilted, the center of the fold being thus shifted nearer to one edge or the other, as clearly illustrated in Figs. 10 and 11.

13 is a slit in the casing 5, (see Fig. 7,) adapted to register with a similar slit 14 in the bracket 6 (see Fig. 1) to facilitate threading the binding-strip through the binder.

15 is an ear secured to or formed integral with the plate 1, and tapped within said ear is an adjusting-screw 16, carrying a lock-nut 17. The screw 16 near one end is somewhat reduced in diameter, as shown at 18, and such reduced portion is fitted within an arcuate slot 19, formed in a pinch-collar 20, secured to the binder-head. The reduced portion 18 on the screw 16 forms shoulders between which the flat vertical faces of the collar 20 loosely fit, and said collar and screw are thus connected together after the manner of a swivel, and by turning said screw 16 said binder-head may be adjusted to or from the needle-hole 21 in the throat-plate 22, whereby the distance between the edge of the binding and the line of stitching is increased or diminished.

The collar 20 is secured to the binder-head by a screw 23, which passes through the split portion 24 and serves to draw the two sections of the latter together, thereby clamping said collar upon the binder-head.

25 is a spring which bears against the under side of the split portion 24 of the collar 20 and exerts a tendency to turn the binder-head in a direction opposite to the feed of the material, which tendency is resisted by an adjusting-screw 26, tapped within the opposite side of the collar and bearing upon the cover-plate 1. By longitudinal adjustment of said screw 26 the binder-head may be turned or tilted, as shown in Figs. 4 and 5, to deliver the binding material, with the greater width of the latter either on the top or bottom edge of the garment or material to be bound, or it may be set level, as in Fig. 3, to lay the binding material in equal widths upon opposite sides of the material being bound.

27 is a U-shaped opening through the ear 15, through which the binding-strip passes on its way to the binder-head, the purpose of which is to partially fold the binding-strip and cause the latter to enter the binder-head in proper condition.

The throat-plate 22 is suitably recessed, as seen at 28, to permit the proper adjustment of the binder-head with respect to the presser-foot 29 and feed-dog 30.

In Fig. 12 I have shown a slightly-modified construction of the means for tilting the binder-head, the spring 25 being omitted and an adjusting-screw 31 substituted, whereby the binder is tilted in either direction and held in such position by positive means.

A knob 32 may be applied to the casing 5 (see dotted lines, Fig. 1, and full lines, Figs. 2 and 7) to enable the operator to obtain an independent or temporary control of the axial or rotary movements of the binder in accordance with the exigencies arising from the nature of the work or material in the progress of the sewing.

What I claim is—

1. A binder attachment for sewing-machines, comprising a binder-head, a support therefor adapted to be fixed to the sewing-machine, a pinch-collar applied to said binder-head, and a set-screw applied to said collar to tilt it and thereby adjust the binder-head axially.

2. A binder attachment for sewing-machines, comprising a binder-head, a fixed support therefor, a collar rigidly applied to said head, means to adjust said collar axially, and means connected with the collar to adjust it and the attached binder-head longitudinally.

3. A binder attachment for sewing-machines, comprising a binder-head, a bearing-bracket therefor, in which it is capable of axial and longitudinal movement, a pinch-collar applied to said binder-head, a set-screw for adjusting the collar axially, and a spring opposing such adjustment, and permitting independent axial movement of the binder-head.

4. A binder attachment for sewing-machines, comprising a binder-head, a support therefor, in which it has capacity for longitudinal and axial movement, a collar applied to the binder-head, and provided with means for effecting the axial adjustment of the binder-head, and an adjusting-screw independently supported and connected with the collar for effecting longitudinal adjustment of the binder-head.

5. In a binder attachment for sewing-machines, a binder-head, comprising a tubular casing 5, a core 10 arranged within said casing and of sufficiently less diameter than the casing to leave a passage-way between them, means for adjustably securing the core to the casing, and a set-screw applied to said casing and adjustable against said core to move said core toward the opposite wall of the casing and permit it to be moved away from such casing to vary the width of the passage-way between the core and casing and thereby adapt the binder-head to binding materials of different thickness.

6. A binder attachment for sewing-machines, comprising a plate, a bracket attached thereto,

a binder-head arranged within said bracket, a collar fixed to the binder-head, and provided with means for adjusting the binder-head axially, an ear rising from the plate, and a set-screw mounted in said ear and connected with the collar to effect longitudinal adjustment of the binder-head.

In testimony whereof I have hereunto set my hand this 28th day of October, A. D. 1901.

WILLIAM R. ABERCROMBIE.

Witnesses:

J. S. FINCH,

DONALD NOBLE.