

No. 882,480.

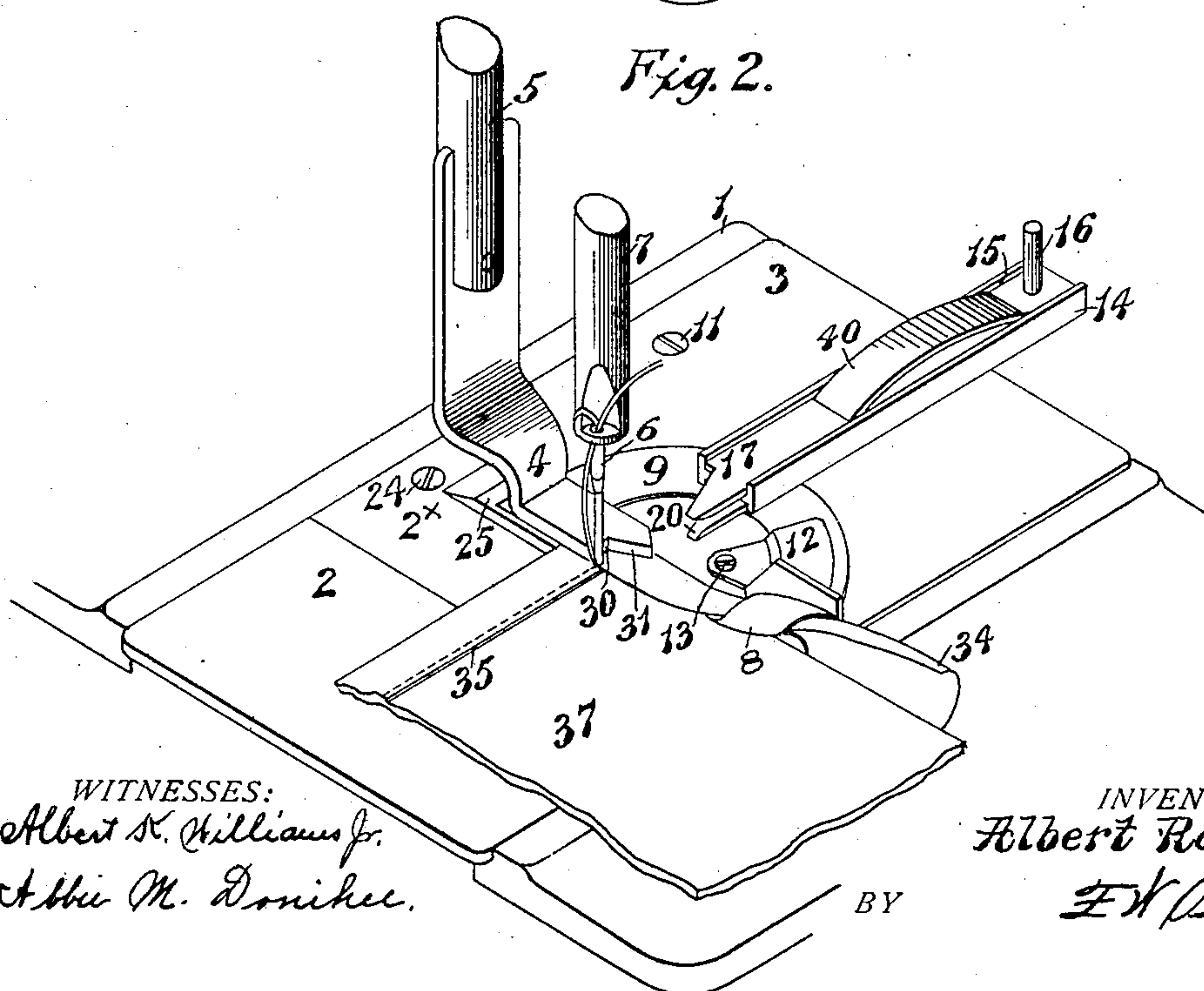
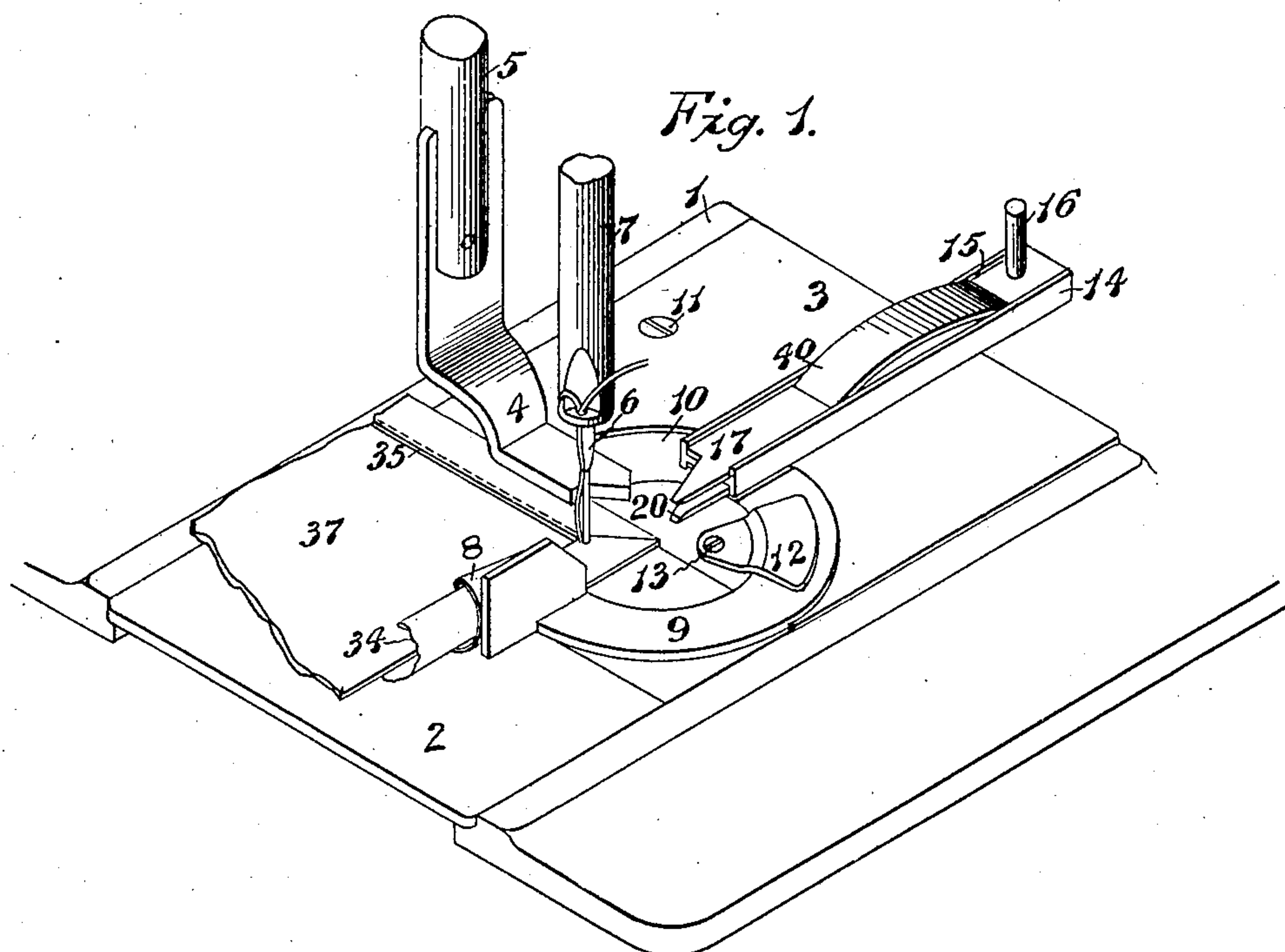
PATENTED MAR. 17, 1908.

A. RONTKE.

BINDING ATTACHMENT FOR SEWING MACHINES.

APPLICATION FILED MAR. 18, 1907.

2 SHEETS—SHEET 1.



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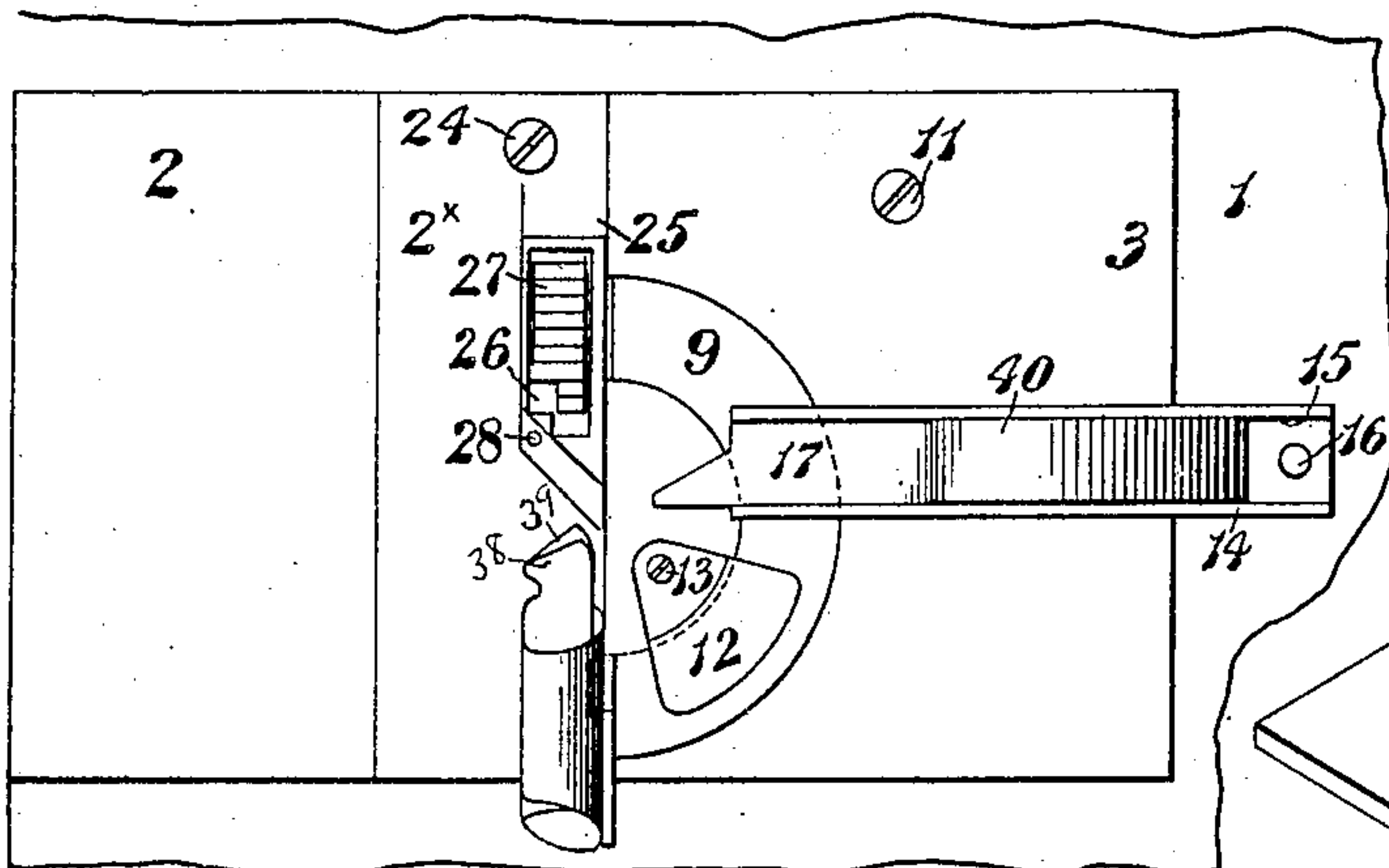


Fig. 3

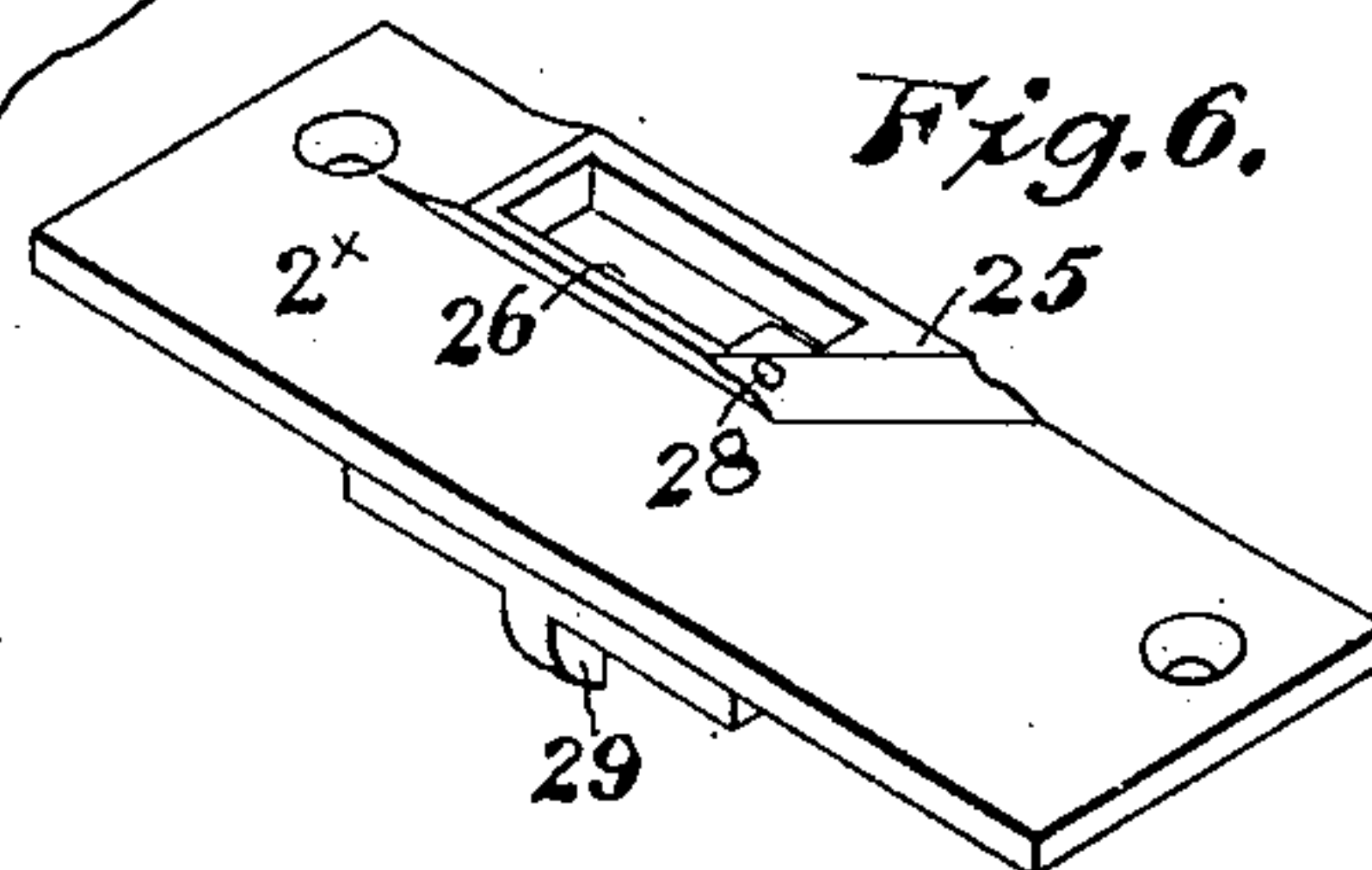


Fig. 6.

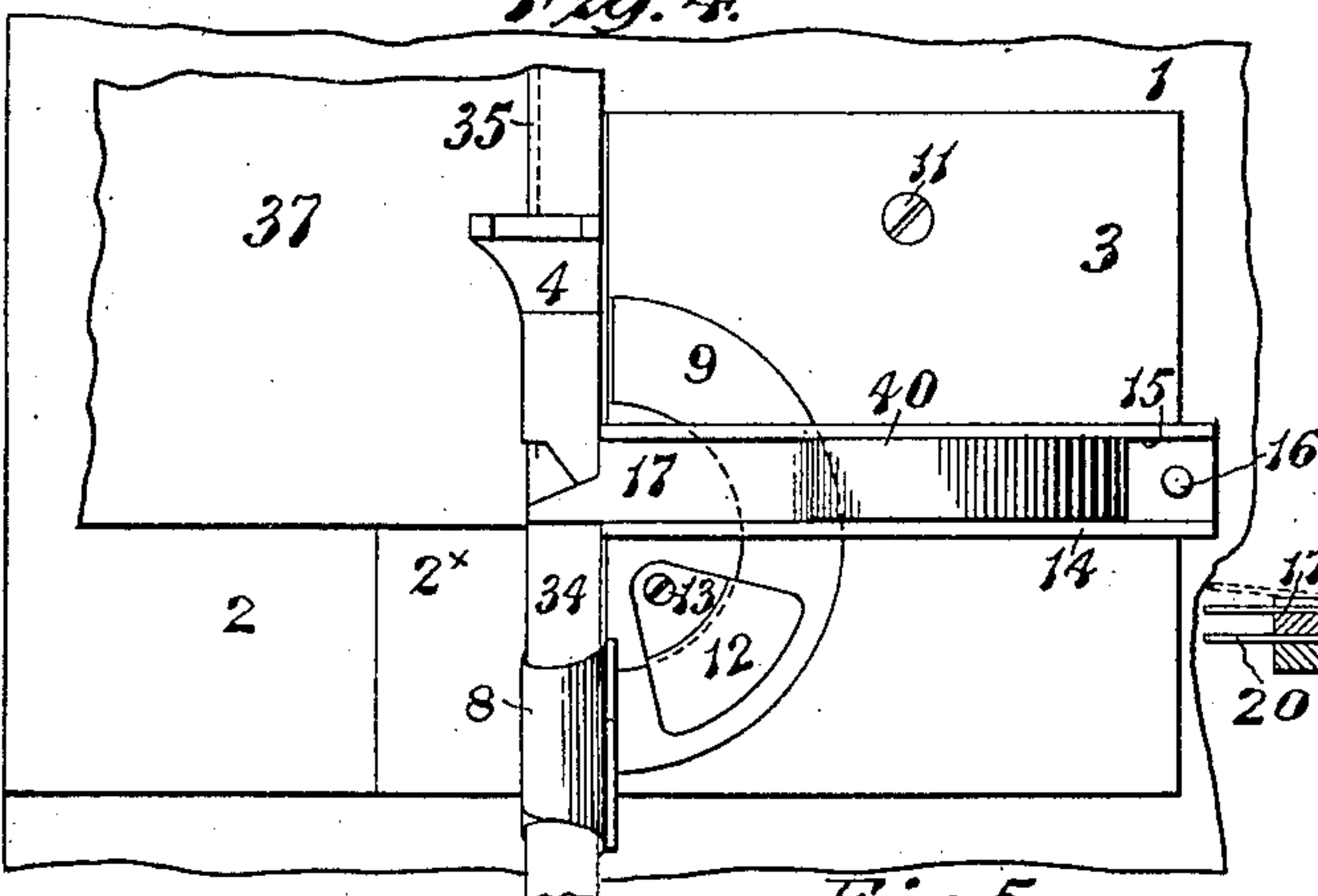


Fig. 4.

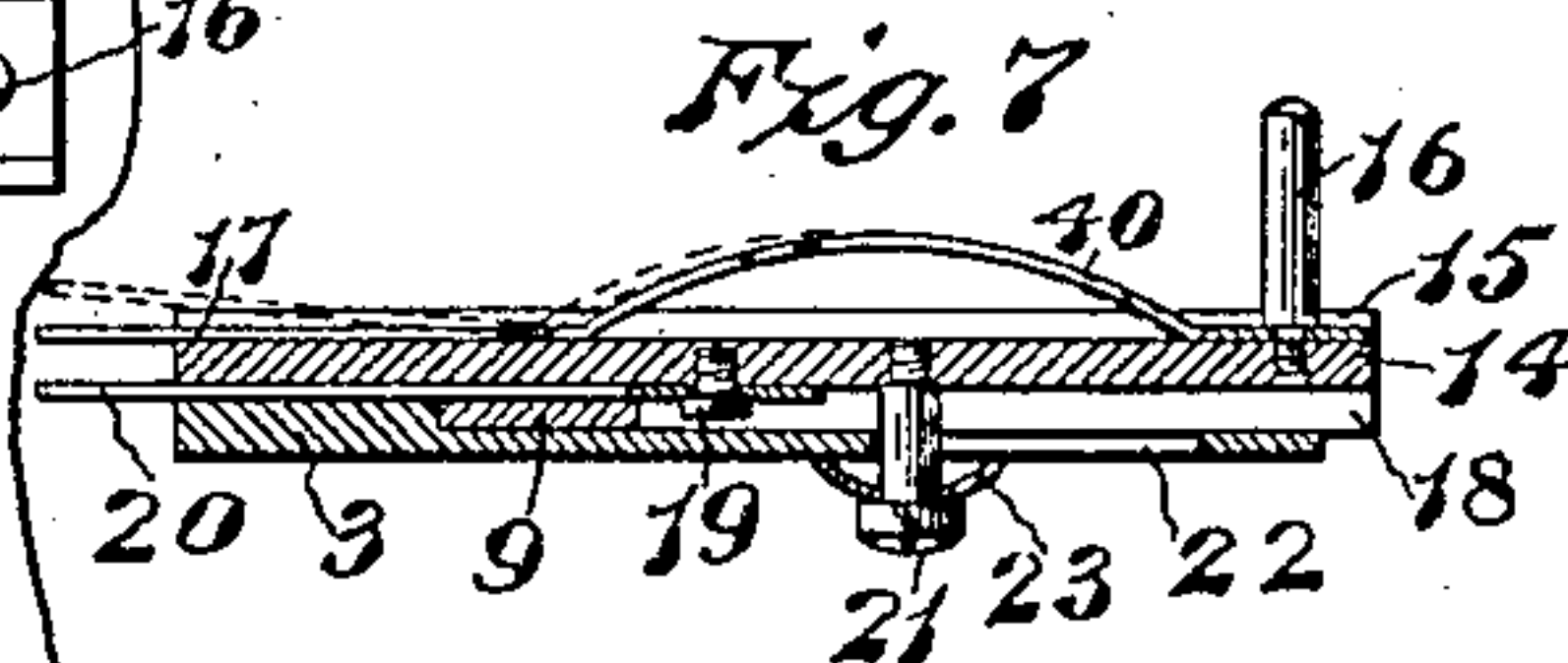


Fig. 7

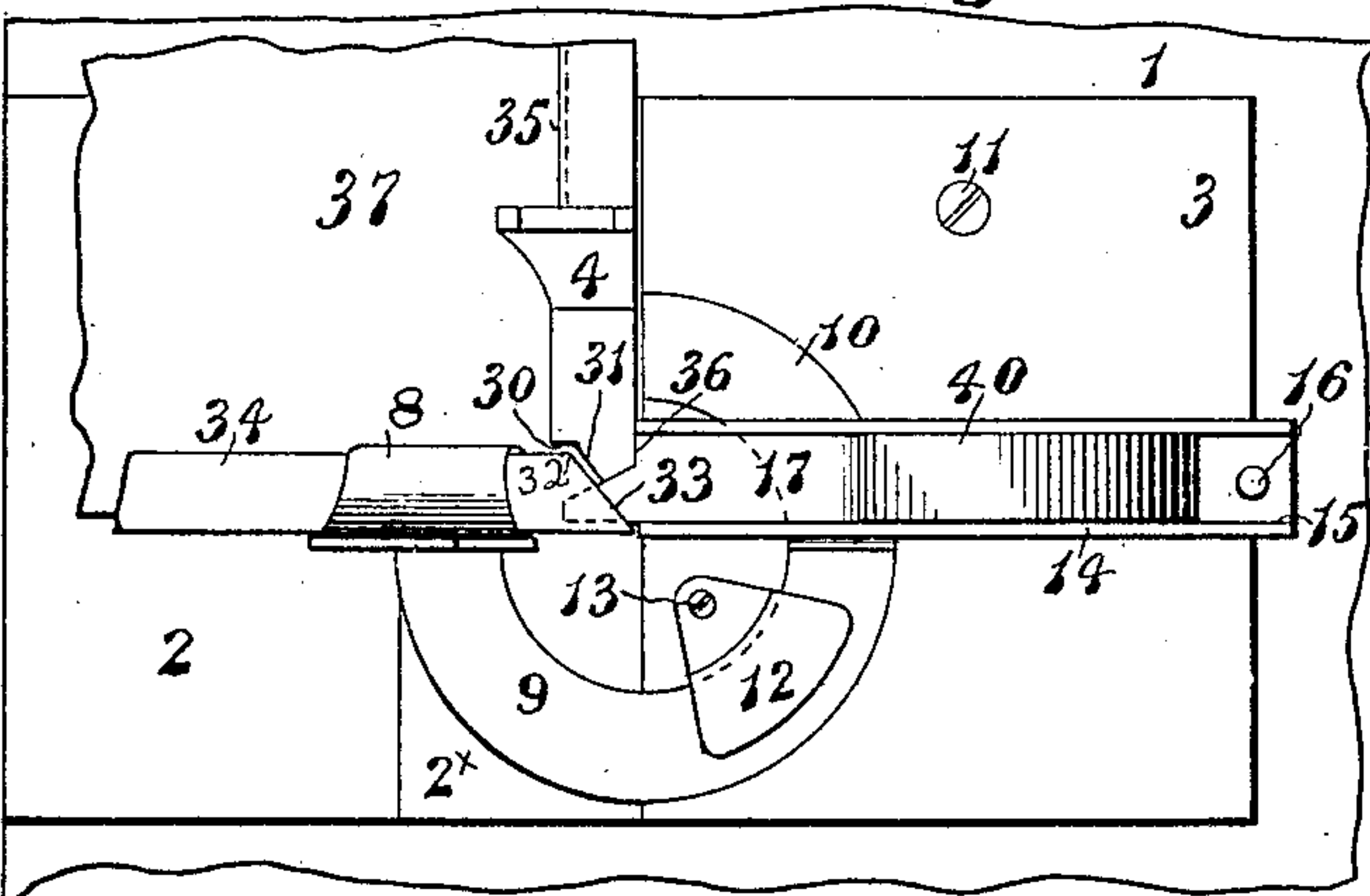


Fig. 5.

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BINDING ATTACHMENT FOR SEWING-MACHINES.

No. 882,480.

Specification of Letters Patent.

Patented March 17, 1908.

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To all whom it may concern:

Be it known that I, ALBERT RONTKE, a citizen of the United States, and a resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Binding Attachments for Sewing-Machines, of which the following is a specification.

This invention relates to improvements in binding attachments for sewing machines, and has for its object to provide means for adjusting the binding strip at an angle to the line of feed of the material, and to this end I provide means for adjusting the binder-head to the desired angle relatively to such feed actuation; and to further facilitate the utility of my improved mechanism I provide mechanical means for giving to the binding strip the proper folds when actuated by the adjustment of the binder-head.

In the accompanying drawings illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is a perspective view of my improved device, together with the throat-plate, slide-plate, needle, presser-foot, and a portion of the presser-bar, needle-bar and bed-plate of the sewing machine, illustrating the binding strip and material in operative relationship with the stitch-forming mechanism, the binder-head and binding strip being shown adjusted to a position at right angles to the line of feed of the material. Fig. 2 is a view similar to Fig. 1, showing the binder-head and binding strip returned to their normal positions, the material having been adjusted through a like number of degrees. Fig. 3 is a plan view of my improved binding device, together with the throat-plate, slide-plate, feed-dog, and a portion of the bed-plate of the sewing machine, the binder-head occupying its normal or edge-binding position, as in Fig. 2. Fig. 4 is a view similar to Fig. 3, but including the material and binding strip shown in the positions which they occupy just prior to their adjustment to the position shown in Fig. 1, and the folding device adjusted to the position for laying the corner folds in the binding strip. Fig. 5 is a view similar to Fig. 4, the binder-head and binding strip being adjusted to the position shown in Fig. 1, and the free end of the upper folding-blade shown in dotted lines to better illustrate the manner of forming the corner fold in the binding strip.

Fig. 6 is a perspective view of the throat-plate. Fig. 7 is a view in central section through the folding device for laying the corner folds in the binding strip.

In describing my improvements, only such limited reference will be made to the usual well-known parts of the sewing machine as is deemed necessary for a proper understanding of my invention.

1 is the bed-plate of the sewing machine, 2 the front slide-plate, 3 the back slide-plate, 4 the presser-foot, 5 the presser-bar, 6 the needle and 7 the needle-bar.

8 is the binder-head mounted upon the binder-head slide 9 which, in turn, is mounted to slide eccentrically to the vertical axis of the needle-bar in a circular groove formed in the slide-plate 3, said slide-plate being held against accidental adjustment by a screw 11.

12 is a guard-plate secured, by screw 13, to the slide-plate 3 and constructed of thin spring steel which prevents the binder-head slide 9 from moving vertically and also acts as a friction-plate to hold said slide 9 in its adjusted position.

14 is the folding attachment slide-frame, provided at its upper side with a groove into which is secured, by a screw 16, the spring yielding folder-blade 17, a like groove 18 being formed at the underside of said slide-frame into which is secured, by a screw 19, the folding-blade 20, the screw 16 also acting as a convenient means for effecting the adjustment of the folding attachment slide-frame 14.

21 is a stud screw which passes through a slot 22 formed in the slide-plate 3, said screw being threaded into the slide-frame 14. A spring washer 23 mounted between the head of the stud screw 21 and the underside of the slide-plate 3 holds the slide-frame 14, and parts carried by it, against accidental adjustment.

2^x is the throat-plate secured, at its opposite ends, by screws 24 (one only of which is shown), to the bed-plate 1. To better accommodate the adjustment of the folding-blades 17 and 20 to their operative positions relatively to the binding strip, or to the positions shown in Figs. 4 and 5, the throat-plate 2^x is provided with a raised portion 25 immediately surrounding the opening 26 for the feed-dog 27.

28 is the throat-plate needle-hole, and 29 is the usual stop for the commonly employed bobbin-holder (not shown).

The free end of the cloth-presser 4, see Fig. 5, is provided with vertical walls 30 and 31, each arranged at an angle relatively to the other, so as to permit the corner 32 of the fold 33 of the binding strip 34 to be positioned substantially in line with the edge 35 of said binding strip, so that the first stitch taken, after the binding strip has been adjusted to the position shown in Figs. 1 and 5, will be located substantially as shown in Fig. 1, or through the folds in the binding strip. In the present instance, the side wall 36 of the presser-foot is utilized as a stop for the adjustment of the slide-frame 14, but it will be readily understood that a differently located stop would be equally as effective.

When adjusting the folding device from the position shown in Fig. 2 to the position shown in Fig. 4, the free end of the folding-blade 20 passes beneath and the free end of the folding-blade 17 directly over the binding strip 34. To insure the free end of the folding-blade 17 passing freely over the binding strip, such blade is formed of spring steel and provided with a convex portion 40, thus making it convenient for the operator to press down upon said portion and slightly raise the free end of the folding-blade 17, at the same time that the frame 14 is adjusted to the left, or in position to coact with the delivery ends of the binder-head scroll-guides to form the folds in the binding strip.

The binder-head is mounted capable of adjustment eccentrically to the axis of the needle-bar so that its adjustment out of normal position, or to the position shown in Fig. 1, will provide the necessary binding for turning the corner without drawing from the supply or disturbing the material being bound.

Referring to Fig. 2, wherein the binder-head is shown adjusted to its normal position, it will be noticed that it is located a greater distance away from the needle than when adjusted as shown in Fig. 1, such difference in proximity to the needle representing the amount of binding necessary for properly turning the corner; and as the binding is returned to the position illustrated in Fig. 2, the same amount of binding is drawn through the binder-head as was given up in adjusting the binder-head to the position shown in Fig. 1.

From the nature of the operation it will be readily understood that if an attempt was made to turn the corner by presenting the transverse edge of the material being bound to a binder-head secured against eccentric adjustment relatively to the axis of the needle-bar, the binding necessary for turning the corner would have to be drawn through the binder-head in opposition to the turning

of the material, or the operator would have to manually draw the necessary binding through the binder-head and then manually manipulate such binding strip so as to properly form the corner. The device herein pointed out provides quick and accurate means for satisfactorily effecting an operation which would otherwise be slow and uncertain in results, unless the operator exercised great care in manipulating the binding while turning the corner.

The operation of my device is as follows:— The material 37 and binding strip 34 are positioned relatively to the stitch formation and the binder-head in the usual manner, and the binding of the edge of the material is thus effected. After the material and binding strip have been advanced under the needle to the position shown in Fig. 4, or to the position for turning the corner, the folding-blades 17 and 20 are adjusted to the positions shown in said figure, and the binder-head and binding strip adjusted to the positions shown in Figs. 1 and 5, the free ends of the folding-blades passing between the upper and lower scroll-guides 38 and 39, respectively, thus laying the fold 33 and the corresponding under fold (not shown). While the parts are in the positions just described, the needle is caused to puncture the binding strip and material substantially at the corner 32 of the fold 33, as shown in Figs. 1 and 2, when the folding-blades are returned to their inoperative positions, as illustrated in Figs. 1 and 2, followed by the raising of the presser-foot, after which the binder-head, binding strip and material are adjusted to their former positions, as shown in Fig. 2, when the presser-foot is lowered and the folding-blades returned to their normal positions, as shown in Figs. 1 and 2, and the binding strip and material again advanced to the action of the stitch-forming mechanism, followed by an adjustment of the folding-blades to their positions for coacting with the delivery ends of the binder-head scroll-guides to again form the folds in the binding strip preparatory to continuing the binding along the straight edge of the material.

What I claim is:—

1. In a binding attachment for sewing machines, a needle-bar, an eye pointed needle carried by said needle-bar, a binder-head, said binder-head normally occupying a position substantially in line with the seam formation, and means for adjusting said binder-head into operative relationship with the transversely arranged edge of the material next to be bound.

2. In a binding attachment for sewing machines, a needle-bar, an eye pointed needle carried by said needle-bar, a binder-head, said binder-head normally occupying a position substantially in line with the seam

formation, and means, including an adjustable slide, for adjusting said binder-head into operative relationship with the transversely arranged edge of the material next to be bound.

3. In a binding attachment for sewing machines, a needle - bar carrying an eye pointed needle, a throat-plate, a feed-dog, a binder-head, and means for adjusting said binder-head into operative relationship with the transversely arranged edge of material next to be bound.

4. In a binding attachment for sewing machines, the following instrumentalities in combination: a throat-plate, a presser-foot, a feed-dog, a needle-bar carrying an eye pointed needle, an adjustable plate, a binder-head mounted on said plate, and means for adjusting said binder-head into operative relationship with the transversely arranged edge of material next to be bound, said throat-plate being provided with an opening for the feed-dog and having a raised portion immediately surrounding said feed-dog.

5. In a binding attachment for sewing machines, a needle - bar carrying an eye pointed needle, and a binder-head mounted capable of adjustment about the vertical line of needle actuation a distance sufficient to permit the binder-head to present the binding strip to the transversely arranged edges of the material, in combination with folding-blades adjustably controlled to co-

act, at times, with the delivery ends of the binder-head scroll-guides to form folds in the binding strip.

6. In a binding attachment for sewing machines, a needle-bar, an eye pointed needle and a binder - head, said binder - head mounted capable of adjustment about an axis eccentric to the vertical axis of said needle-bar, in combination with a folding device comprising an adjustably mounted frame provided with folding-blades for co-acting with the delivery ends of the binder-head scroll-guide to form folds in the binding strip.

7. In a binding attachment for sewing machines, a needle-bar, an eye pointed needle, and a binder-head carried by a slide mounted capable of adjustment about an axis eccentric to the vertical axis of said needle - bar, in combination with folding-blades adjustably controlled to coact with the delivery ends of the binder-head scroll-guides to form folds in the binding strip, the free end of the upper of said folding blades being capable of adjustment in a direction away from the free end of its coacting blade.

Signed at Bridgeport, in the county of Fairfield, and State of Connecticut, this 16th day of March, A. D. 1907.

ALBERT RONTKE.

Witnesses:

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