

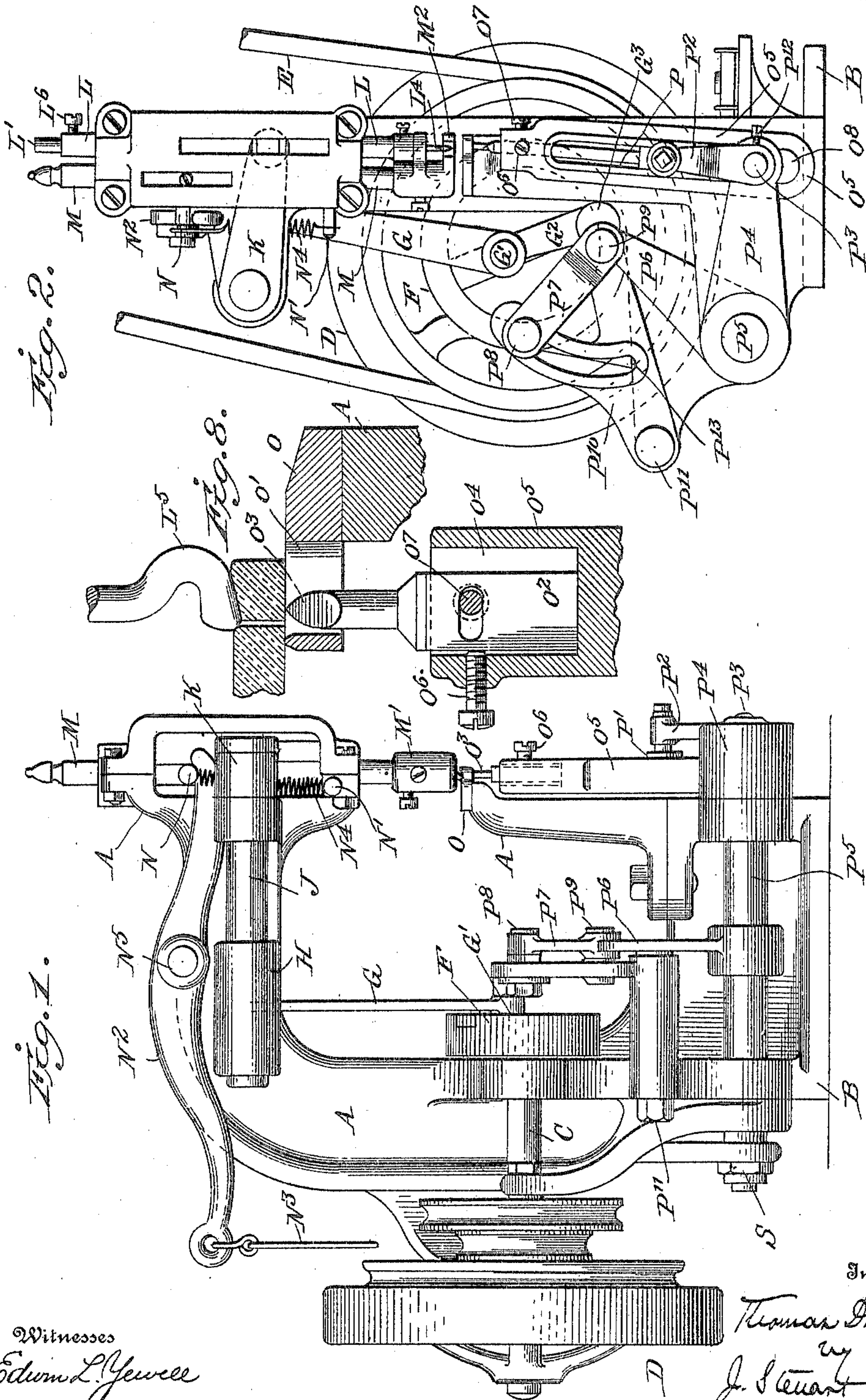
No. 811,997.

PATENTED FEB. 6, 1906.

T. D. BARRY.
STITCH SEPARATOR AND PRICKING UP MACHINE.

APPLICATION FILED MAY 22, 1905.

2 SHEETS—SHEET 1.



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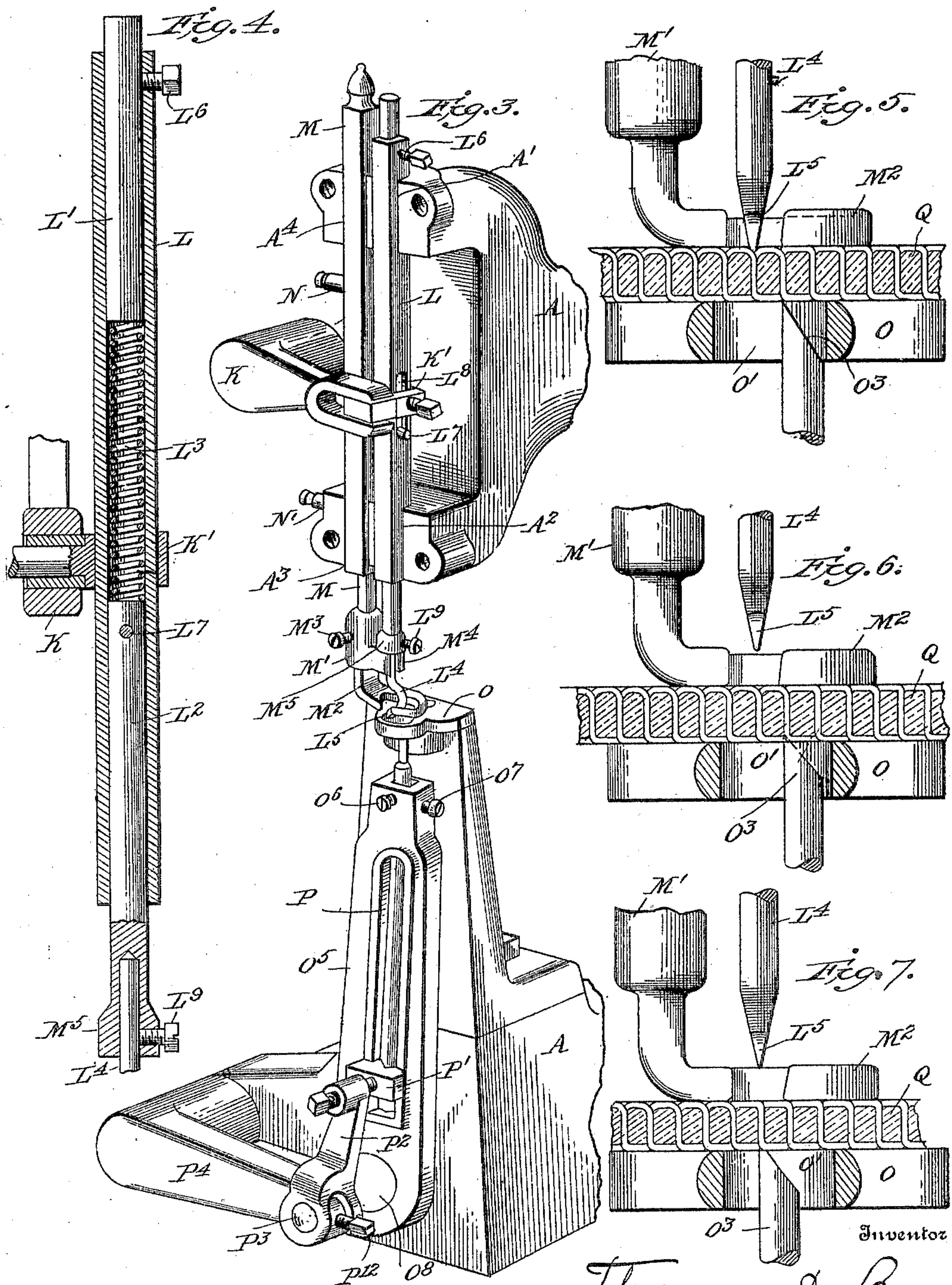
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UNITED STATES PATENT OFFICE.

THOMAS D. BARRY, OF BROCKTON, MASSACHUSETTS.

STITCH-SEPARATOR AND PRICKING-UP MACHINE.

No. 811,997.

Specification of Letters Patent.

Patented Feb. 6, 1906.

Application filed May 22, 1905. Serial No. 261,573.

To all whom it may concern:

Be it known that I, THOMAS D. BARRY, of Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Stitch-Separator and Pricking-Up Machines, of which the following is a specification.

My invention relates to improvements in stitch-separating and pricking-up machines; and it consists in certain novel features hereinafter described, and particularly pointed out in the claims.

The object of my invention is to produce a machine for separating the stitches on the welt attached to the sole around the vamp to produce the appearance of a hand-sewed shoe.

The present application is to the same subject-matter as my former application filed April 4, 1900, bearing Serial No. 11,432.

In the accompanying drawings, which illustrate a construction embodying my invention, Figure 1 is a side view of a stitch-separating and pricking-up machine embodying my invention. Fig. 2 is an end view looking at the front of the machine. Fig. 3 is a perspective view of the front end of the machine, showing mechanism which feeds the work and separates the stitches on the welt attached to the sole around the upper. Fig. 4 is a sectional detail view of the mechanism which operates the stitch-separator. Fig. 5 is a detail view showing the stitch-separator entering between the stitches to separate the same. Fig. 6 is a similar view to Fig. 5 with the stitch-separator in its raised position. Fig. 7 is a detail view showing the work moved from its position as shown in Fig. 6 and with the stitch-separator about to descend to separate the stitches. Fig. 8 is a sectional detail view showing the awl which feeds the work after each separation of the stitches with the presser-foot above resting on the welt of the sole and taken at right angles to the view shown in Fig. 7.

Like letters of reference refer to like parts throughout the several views.

A represents a frame of any suitable construction provided with a base B, and mounted in said frame A is a driving-shaft C, which is operated by the driving-pulley D, driven by the belt E from any suitable source of power. On the inner end of the shaft C and mounted fast thereon is a wheel F, to which is eccentrically connected at G' the link G, secured to a suitable arm on the hub H, fast on

the shaft J, which shaft extends forwardly, and mounted fast thereon, at its front end, is an arm K, secured by the connection K' to the movable stitch-separator bar L, having bearings A' A² in the upper part of the frame A. Within the hollow stitch-separator bar L is the rod L' in the upper end, and against the lower end of this bar rests the upper end of the spring L³, with its lower end against the upper end of the bar L², to which bar, at its lower end, is connected the stitch-separator L⁴, provided with the pricking-point L⁵, and is held in place by a suitable set-screw L⁶. To the upper end of the bar L² is secured the pin L⁷, which moves in the slot L⁸ in the hollow bar L. This slot permits the bar L² to yield when the pricking-point L⁵ has separated the stitches, so as to yieldingly separate the same without cutting into the welt. The indentation made by the stitch-separator L⁴ can be varied more or less by increasing or decreasing the tension of the spring L³ by lowering or raising the rod L' and securing said rod in its adjusted position by the set-screw L⁶.

On the lower end of the presser-foot bar M is a sleeve M', carrying on its lower end the presser-foot M², which is provided with a suitable opening through which the stitch-separator moves up and down in separating the stitches on the welt, and said sleeve is secured on the bar M by the set-screw M³. Extending from one side of the presser-foot bar M is the pin N and from the frame of the machine projects the pin N'. To these pins is secured the spring N⁴, (see Fig. 1,) which is adapted to normally yieldingly hold the presser-foot on the outer upper edge of the welt of the sole Q during the operation of the machine, as shown in Figs. 5, 6, and 7. Pivoted on the upper part of the frame A at N⁵ is a lever N², the front end of which extends forward under the pin N, and to the rear end is connected the rod N³, which passes down to any suitable treadle mechanism which when operated raises the presser-foot bar M and the presser-foot M² and the stitch-separator bar L and stitch-separator L⁴ to allow the work to be placed on the rest O, secured to the frame A of the machine, Fig. 8, and provided with an opening O'. A branch sleeve M⁴, which is a part of the cast sleeve M', extends around the upper end of the stitch-separator and under the shoulder M⁵ of the bar L², so that when the bar M is raised, as described, the stitch-separator L⁴ and bar L

are also raised, so that the work may be placed under said sleeve and stitch-separator, as above described. Extending up through the opening O' is the awl O³, carried by the
 5 awl-holder O², supported in the pocket O⁴ in the upper end of the oscillating arm O⁵. As the location of the stitch from the edge of the welt may vary in different shoes, it is necessary to adjust the awl-holder to prevent the
 10 awl from cutting into the stitch, and to accomplish this result the awl-holder O² can be adjusted laterally by means of the screw O⁶, so as to move the awl-holder along the screw O⁷, which is loosened when it is desired to ad-
 15 just the awl-holder O². When the screw O⁷ is tightened up, it bears against the side of the awl-holder and holds the same in a fixed position. The lower end of the oscillating arm O⁵ is pivoted at O⁸ to the frame of the
 20 machine and is provided with a vertical slot P, in which is adapted to reciprocate the slide P', pivotally connected to the arm P², which at its lower end is fixed fast on the arm P⁴ by the set-screw P¹² engaging the shaft P³ of the
 25 arm P². The arm P⁴ is secured fast to the shaft P⁵, which extends rearwardly in the frame of the machine. Fast on the shaft P⁵ near its middle is the arm P⁶, which is pivotally connected to the link P⁷ at P⁹, and said
 30 link P⁷ has a stud P⁸ adjustable in the slot P¹³ of the support P¹⁰, which is pivoted on the fixed stud P¹¹. To the inner end of the support P¹⁰ is pivotally connected the link G² at G³, which link is secured at its upper end to
 35 the wheel F at the same point at which the link G is connected, as shown.

As the wheel F revolves the pricking mechanism will be operated, as previously described, making the indentation between the
 40 stitches, and the link G² as said wheel revolves will move the support P¹⁰ downwardly and upwardly, which motion to the link P⁷ will be communicated to the arm P⁶ and from there to the shaft P⁵, to the arm P⁴, thence to the
 45 arm P² and the slide P', so that when the support P¹⁰ moves downwardly the arm P⁴ will move downwardly, thereby oscillating the arm O⁵ to the right, as shown in Fig. 2, and during this operation the stitch-separator has
 50 made its indentation, and as said separator moves upwardly by the mechanism described the support P¹⁰ will move upwardly due to the link G² and through the connections described will raise the arm P⁴, which will cause
 55 the slide P' to move upwardly, and thereby oscillate the arm O⁵ to the left. This movement of the arm will cause the awl to engage with the shoe and move the same along.

From the above it will be seen that the
 60 shaft P⁵ receives an oscillating motion, so that at one time the arm P⁴ is depressed and at the next time the said arm is raised, operating the awl as described.

S is a suitable retaining-nut on the rear of
 65 the shaft P⁵.

In operation when the front end of the lever N² is raised by suitable treadle mechanism the bars L and M, with the presser-foot M² and stitch-separator L⁴, are raised, as described, and the work placed upon the rest O
 70 over the opening O' and beneath the presser-foot M² and stitch-separator L⁴, after which the foot is removed from the treadle, and the spring N⁴ moves the presser-foot M² down onto the work, as shown in Fig. 5, Fig. 6, and
 75 Fig. 7 of the drawings, after which when the power is applied to the shaft C the mechanism previously described operates to cause the stitch-separator L⁴ to move down and in-
 80 dent between the stitches, and as said stitch-separator rises the oscillating arm O⁵ is oscillated by the mechanism previously described toward the left from the position shown in
 Fig. 6, and the feed-awl being in engagement with the sole moves the sole a sufficient dis-
 85 tance to the left to bring the space between the next two stitches in direct alinement with the stitch-separator, which on the next operation descends and forms an indentation at which
 90 the awl O³ is in its extreme right position ready for the next feeding operation. This operation of feeding the work and separating the stitches continues until the shoe has been
 finished. The channel on the outer sole is open while the shoe is being fed after each
 95 indentation, and no feed-marks will appear on the bottom of the sole after the shoe is finished, as the feed-marks are afterward covered by the channel being laid over the under
 stitches and secured in the usual manner. 100

Having thus described the nature of my invention and set forth a construction embodying the same, what I claim as new, and desire to secure by Letters Patent of the United States, is— 105

1. In a stitch-separating and pricking-up machine, a work-support, a stitch-separator adapted to enter between the stitches and indent the same, mechanism for operating said stitch-separator, means for varying the in-
 110 dentation of said stitch-separator, a device engaging the bottom of the sole for moving the shoe after each indentation, independently of the movement of the stitch-separator, and mechanism for operating said feed
 115 device to move the work between the stitch-indenting operations.

2. In a stitch-separating and pricking-up machine, a work-support, a yielding stitch-separator adapted to enter between the
 120 stitches and indent the same, mechanism for operating said stitch-separator, means for varying the indentation of said stitch-separator, a device engaging the bottom of the sole for moving the shoe after each indentation inde-
 125 pendently of the movement of the stitch-separator, and mechanism for operating said feed device to move the work between the stitch-indenting operations.

3. In a stitch-separating and pricking-up 130

machine, a work-support, a stitch-separator adapted to enter between the stitches to indent the same, mechanism for operating the stitch-separator, means for varying the indentation of said stitch-separator, a presser-foot for the work, a device engaging the bottom of the sole for moving the shoe after each indentation independently of the movement of the stitch-separator, and mechanism for operating said feed device to move the work between the stitch-indenting operations.

4. In a stitch-separating and pricking-up machine, a work-support, a stitch-separator operating to enter between the stitches to indent the same, mechanism for actuating said stitch-separator, means for varying the indentation of said stitch-separator, a feed device for engaging the bottom of the sole to move the shoe after each indentation independently of the movement of the stitch-separator, a carrier for said feed device, means for adjusting said feed device on said carrier to accommodate the stitches, and mechanism for operating said feed device to move the work between the stitch-indenting operations.

5. In a stitch-separating and pricking-up machine, a work-support, a stitch-separator operating to enter between the stitches to indent the same, mechanism for actuating said stitch-separator, means for varying the indentation of said stitch-separator, an awl-

feed operating to engage the sole of the shoe to move the same after each indentation independently of the movement of the stitch-separator, a carrier for said awl-feed, means for adjusting said awl-feed on said carrier to accommodate the stitches, and mechanism for actuating said awl-feed to move the work between the stitch-indenting operations.

6. In a stitch-separating and pricking-up machine, a work-support, a stitch-separator operating to enter between the stitches to indent the same, mechanism for actuating said stitch-separator, means for varying the indentation of said stitch-separator, an awl-feed operating to engage the bottom of the sole to move the shoe after each indentation independently of the movement of the stitch-separator, an oscillating arm on which said awl-feed is mounted, means for adjusting said awl-feed on said arm to accommodate the stitches, and means for actuating said arm to move the work between the stitch-indenting operations.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 11th day of May, A. D. 1905.

THOMAS D. BARRY.

Witnesses:

CHRISTOPHER CURRAN,
EDWARD H. McMAHON.