(No Model.) 3 Sheets—Sheet 1.

L. T. ADAMS.

MACHINE FOR MARKING SHOE LININGS.

No. 588,786. Patented Aug. 24, 1897.

FIG. 1.

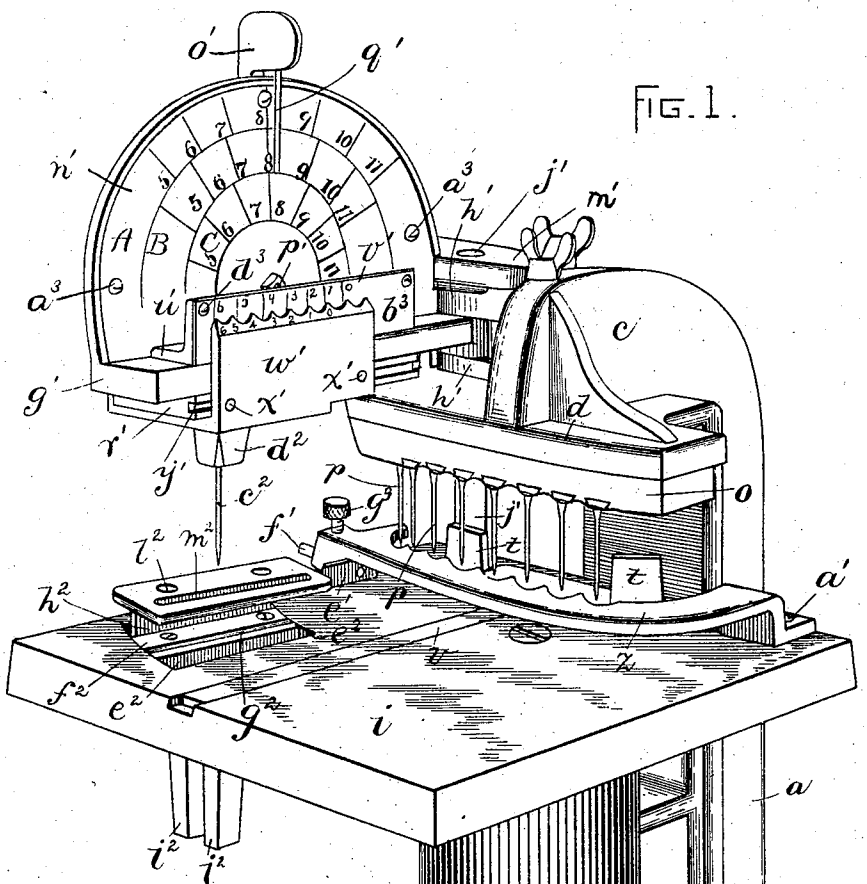
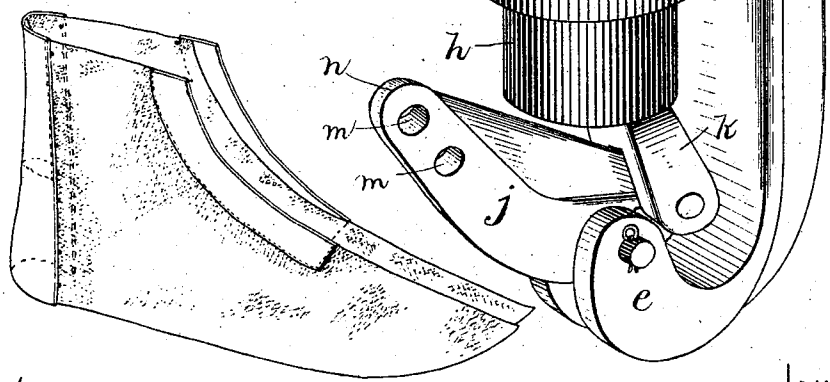


FIG. 9.



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(No Model.) 3 Sheets—Sheet 2.

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FIG. 2.

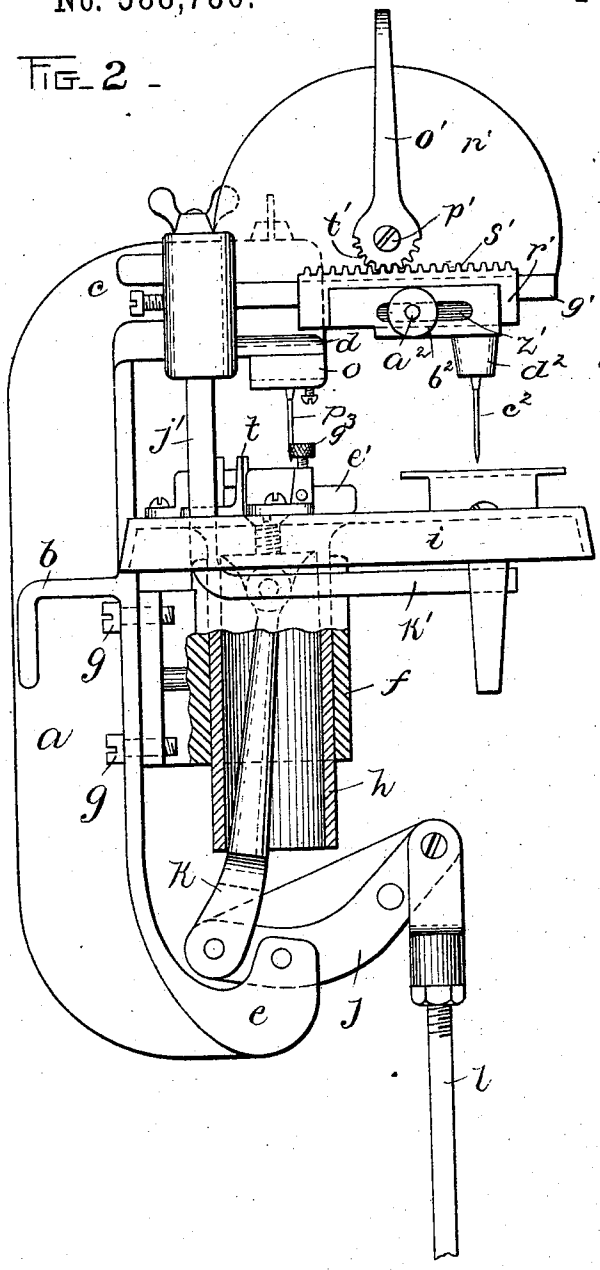


FIG. 3.

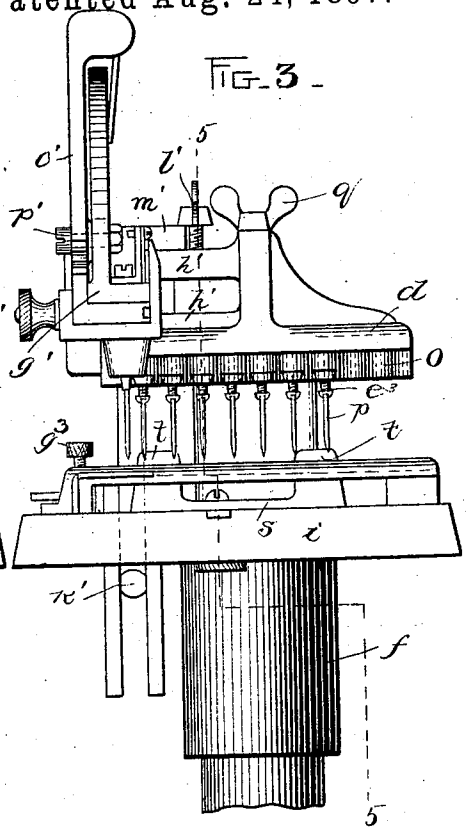
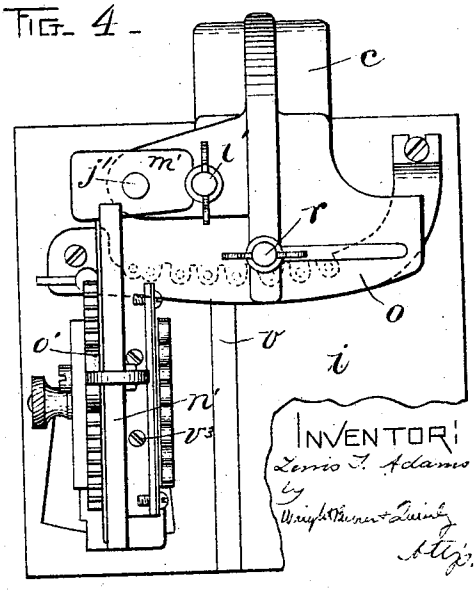


FIG. 4.



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(No Model.) 3 Sheets—Sheet 3.

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MACHINE FOR MARKING SHOE LININGS.

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FIG. 5

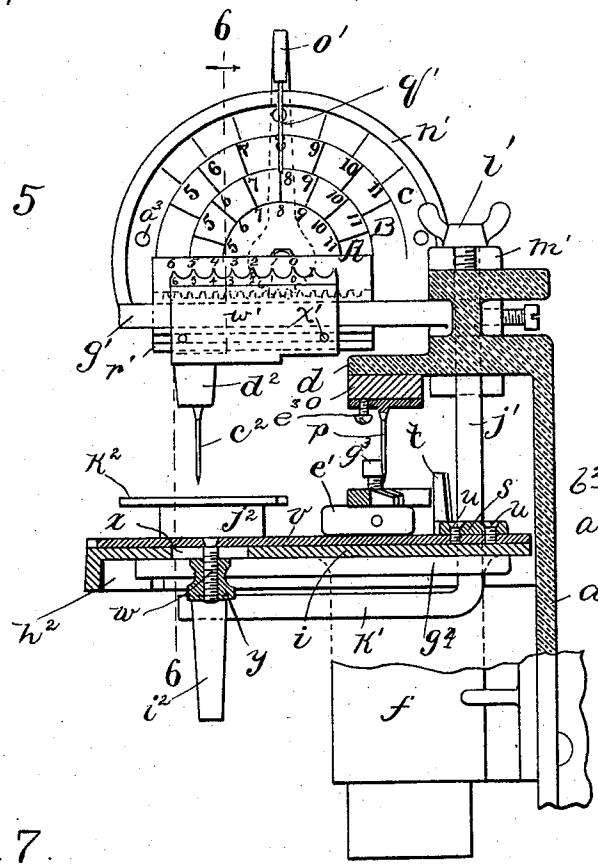


FIG. 6

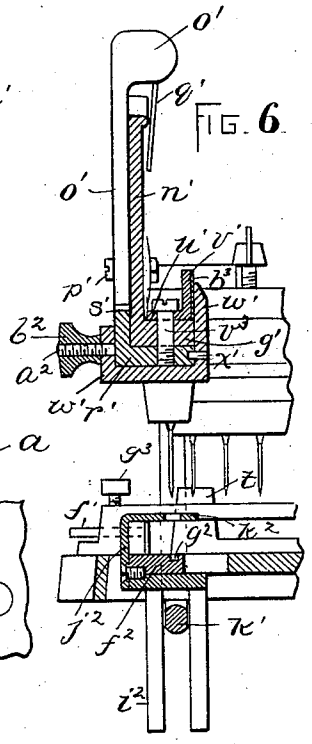


FIG. 7

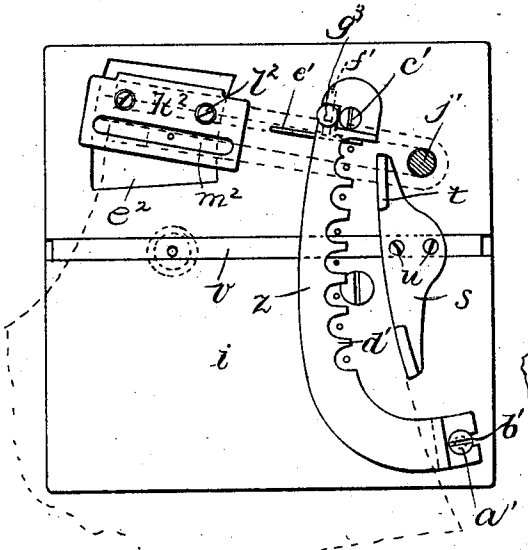
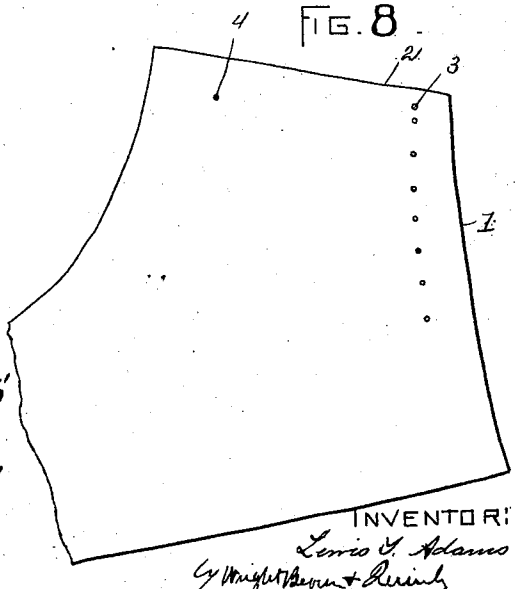


FIG. 8



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UNITED STATES PATENT OFFICE.

LEWIS T. ADAMS, OF WHITMAN, MASSACHUSETTS.

MACHINE FOR MARKING SHOE-LININGS.

SPECIFICATION forming part of Letters Patent No. 588,786, dated August 24, 1897.

Application filed August 29, 1896. Serial No. 604,287. (No model.)

To all whom it may concern:

Be it known that I, LEWIS T. ADAMS, of Whitman, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Machines for Marking the Cloth Lining-Pieces of Boots and Shoes, of which the following is a specification.

The object of this invention is to provide a machine for marking the cloth lining-pieces of boots and shoes to guide the operator in stitching the leather strips constituting the backstay and the eyelet-facings to the lining.

To this end the invention consists of a machine embodying those features of construction and arrangement which are shown on the drawings and which I shall now proceed to describe in detail, and then point out in the claims hereto appended.

Reference is to be had to the annexed drawings, and to the letters and figures marked thereon, forming a part of this specification, the same letters and figures designating the same parts or features, as the case may be, wherever they occur.

Of the drawings, Figure 1 is a perspective view of a machine embodying my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a front elevation. Fig. 4 is a plan view, a portion of the plate being broken away. Fig. 5 is a vertical section on the line 5 5 of Fig. 3. Fig. 6 is a section on the line 6 6 of Fig. 5. Fig. 7 is a plan view of the movable plate. Fig. 8 represents one of the lining-pieces. Fig. 9 is a perspective view of two of the lining-pieces with the leather backstay and eyelet-facings stitched thereto.

In illustrating this particular machine which I am about to describe it will be understood that I do not limit myself to all of the features of construction and arrangement employed in the said machine, since the latter is chosen merely for the sake of illustration, and many and various changes could be made therein without departing from the spirit and scope of my invention.

In that particular embodiment of the invention illustrated upon the drawings, *a* indicates a frame or bracket which is adapted to be fixed to the work-bench by bolts or screws passed through flanges or ribs *b*. The said bracket is cast with an overhanging arm *c*, having a cross-head *d*, while the lower end of the bracket is cast with forwardly and upwardly projecting arms *e*, for a purpose to be described.

f is a tubular bracket, secured to the main bracket or frame *a* by means of bolts *g*, said tubular bracket being located substantially centrally between the cross-head *b* and the arms *e* at the lower end of the bracket. Within the tubular bracket is placed a cylindrical slide *h*, having its upper closed end secured by a screw or bolt to a table *i*, which extends from the bracket forwardly and is of dimensions longitudinally and transversely adequate to receive and support thereon the lining-piece which it is desired to mark or perforate for the guidance of the operator in stitching thereto the leather backstays and eyelet-facings. Preferably the said table *i* is square and is reciprocated vertically by means of a lever *j*, fulcrumed in the said arms *e* and having its short end connected with said table by a link or rod *k*, pivoted to eyes extending from the upper closed end of the tubular slide *h*.

The lever *j* is connected to a treadle (not shown) by a link pivoted in either of two holes *m* in the longer end *n* of the lever *j*. By depressing the treadle the link *l* is drawn down and the table is consequently elevated, as will be readily understood.

To the under face of the cross-head *d* is secured a needle-support *o*, in which is inserted a series of needles *p*, arranged in proper order for indicating upon the lining-piece the line of stitches of the backstay. The needle-support is secured to the cross-head by means of a screw *r*, threaded in the support, passing through the cross-head, and finally provided with a winged head *q*. The needle-support may be provided with as many needles *p* as is necessary for correctly indicating the desired line on the lining-piece. Each needle is mounted in a separate slide, which may be adjusted back and forth and held in any desired adjustment by a set-screw e^3. For maintaining said lining-piece, which is illustrated in Fig. 8, in the proper position beneath the needles so that the holes made therein by the said needles shall be at the proper distance from the edge of the piece, I provide an adjustable gage-

bar s upon the face of the table and behind the row of needles, said bar being provided with two upwardly-extending ears t. The gage-bar is adjustable toward and from the needles, and for this purpose is secured by screws u to a bar v, lying in a slot in the face of the table and having a screw w passing through a slot x in the said table, there being a locking-nut y on the screw for clamping the bar v and the gage at any desired position, the movement of the said gage being limited by the end walls of the slot x.

In order to prevent injury to the hand or fingers while placing a lining-piece beneath the needles and to withdraw the lining from the needles when the latter are moving upward after having penetrated the lining-piece, I employ a curved guard z, fastened at one end by a screw a', passing through a slot b' therein, and at the other end by a screw c, passing through an aperture. The said guard is bent up at its ends, so as to be above the table, to permit the lining-pieces to be placed beneath the same, it having teeth d' extending between the needles, as shown in Fig. 7.

By unloosening the screw b' the guard may be swung upon the screw c' as a pivot. The left-hand end of the guard is provided with an adjustable gage-plate e', secured upon the end of a rod f' and passing through the end of the guard, there being a set-screw g^3 pivoted in the guard to bear against the rod and hold the gage e' at any desired adjustment.

Preferably one end of the guard is higher than the other end, so that the power required for withdrawing the needles is decreased, since the needles are not all drawn out at the same instant.

In marking the lining-pieces they are placed one by one beneath the guard, with the edge 1 bearing against the gage-bar s and the edge 2 bearing against the gage-plate e'. Then the treadle is depressed so as to elevate the table and carry the work up against the needles until penetrated by the latter, when the table is allowed to return to its normal position and the lining-piece is removed.

In addition to forming the line of apertures indicated at 3 in Fig. 8 I desire to form another aperture 4 in the lining-piece to indicate the point at which the line of stitches for the eyelet-facing is to be begun. The means for forming these holes comprise the following devices:

g' is an arm pivoted on two brackets h' h', extending to the left from the upper portion of the main bracket or frame by a curved bar j'; which extends down to a point substantially in the upper horizontal plane of the tubular bracket and is then bent forward, as at k', underneath the table. The said bar is rigidly secured to the said arm g', and the part k' lies in the vertical planes of the said arm, so that if the said arm be swung to the right or the left the horizontal portion k' of the said bar will be swung to the right or the left with it, as will be understood.

The arm is adapted to be maintained in any desired position by a screw l', threaded into one of the arms h' and having its head bearing against a lateral extension m' on the said arm. The arm is provided with a vertical semicircular dial n', having pivoted thereto a segmental rack-lever o' by a bolt p'. The said lever has a portion extending over the dial, which is adapted to be grasped by the hand, and projecting downwardly from which is a pointer q'. Beneath the said arm g' is a horizontal slide r', having rack-teeth s', with which engage the teeth of the segmental rack t' on the lever o'. Above the arm g' is a scale-plate u', having a vertical portion v'. The plate u' and the slide r' are connected together by screw v^3, passing through slots in the arm g'. By swinging the lever o' to the right or to the left the slide r' and the scale-plate u' will be correspondingly moved along the bar g' in one direction or the other.

w' is a U-shaped indicating-plate having pins x' x' extending into a groove y' in one edge of the slide r' and having on its opposite side a slot z' to receive a screw a^2, extending outward from the rack-slide, there being a clamping-nut b^2 for locking the indicator-plate in any desired position to the said rack-slide.

The indicator-plate serves as a supplemental needle-carrier for a single needle c^2, which is set in a downwardly-extending boss d^2, formed on the said indicator-plate.

By moving the lever o' the supplemental needle-carrier may be moved or adjusted toward and from the needles p, as will be readily understood.

Upon the dial-plate gradations are marked, each division being provided with a number indicative of the point to which the lever should be moved in order that the needle should penetrate a hole at the proper place in the lining-piece for a certain size or style of shoe.

Beneath the needle c^2 and in an aperture e^2 in the forward left-hand corner of the table is arranged the work-plate or support for that portion of the lining-piece which comes under the said needle c^2. The work-plate is indicated by f^2 and has a longitudinal slot g^2 to receive the needle, it being secured by screws h^3 to the upper face of an arm g^4, pivoted upon the vertical portion of the rod j' beneath the table. The front end of the said bar g^4 moves in a guide h^2, secured beneath the front edge of the table, and is provided with depending fingers i^2, between which the front end of the part k' of the bar j' extends. Thus when the arm g' is adjusted to one side or the other the arm g^4 and consequently the work-plate f^2, are moved with it, so that the slot g^2 in the work-plate always remains directly under the needle c^2.

j^2 is a plate secured to the edge of the work-plate f^2 and having a horizontal guard-plate k^2 secured thereto by screws l^2, said guard-

plate having a slot m^2 for the reception of the needle c^2. The end of the needle c^2 is in substantially the horizontal plane of the ends of the needles p, so that when the table is elevated to prick the holes in the rear edge of the lining-piece the needle c^2 will penetrate the front edge of the lining-piece to form a hole to indicate the beginning of the line of stitches for the eyelet-facings.

The dial n' is covered with a removable face, consisting of a piece of pasteboard secured thereto temporarily by screws a^3, so that upon it may be marked by the operator the gradations for the particular styles or sizes of shoes upon which he is operating. Inasmuch as the parts of boots and shoes increase in width in accordance with the increase in length of the latter, it is desired to shift the needle c^2 toward or away from the line of needles p to indicate upon the lining-piece the exact point for the line of stitches for the eyelet-facing to begin, which point will vary, according to the length and width of the boot or shoe. Again, boots and shoes of the same length or size vary in width, so that I desire to shift the needle c^2 for indicating the starting-point for the line of stitches for different widths of the same length of shoe, and, thirdly, the parts of some styles of boots and shoes differ in their respective sizes and widths from the corresponding sizes and widths of the parts of other shoes. Hence in my machine I am desirous of providing for the correct marking of the lining-pieces of different styles as well as of different lengths and widths of shoes.

Upon the dial n' are marked the gradations for the different lengths of shoes, the face-plate being preferably marked to indicate the distance between the marking-points in linings for the lengths of three different styles, as at A, B, and C. In case it is desired to indicate the point for the commencement of the stitches on the lining-piece of the first style of shoe, the lining-piece being for a No. 5 shoe, the pointer q' is moved to the gradation marked "5," which movement of the pointer through the segmental lever o' moves the needle c^2 to the proper point.

In case the perforation is to be made for a second style of shoe, and for a No. 7, for instance, the pointer q' is moved to the line marked "7" of the gradations indicated by B, and so on.

To indicate the different widths of the same size of shoe to the scale-plate u, I secure a pasteboard strip b^3, temporarily held in place by screws d^3. Upon this facing-strip b^3 I mark gradations for the different widths of shoes, which gradations are wider apart than the indicating-teeth on the indicator-plate w'.

In order to move the needle c^2 for indicating a shoe of any width, it is necessary to move the tooth indicating that width to the line on the strip d^3 which has the same number. In other words, to perforate the lining-strip for a shoe numbered 6, which is No. 6 in width, the pointer q' is moved to No. 6, and the tooth No. 6 on the indicator-plate w' is moved to be in alinement with the line No. 6 on the facing-strip b^3. Thus from the foregoing it will be seen that I provide for marking the parts of shoes of any width, of any length, or of any style by means which are simple and easily operated.

The removable faces of the dial and the angle-plate u' may be marked by the operator in accordance with the particular style of shoe upon which he is operating, and they may be easily replaced by others for different styles of shoe, as will be readily understood.

A machine constructed in accordance with the above description possesses many features of utility to which it is unnecessary here to refer, the parts therein being combined to operate with the highest efficiency and with the utmost ease.

It will be understood that while I have shown and shall refer in the claims to the parts by which the marking is done as "needles," yet I employ that term to mean any device for marking the lining-pieces, and limit myself in no wise to perforating the latter, as other marking devices could be substituted for the needles without departing from the spirit and scope of my invention.

Having thus explained the nature of the invention and described a way of constructing and using the same, although without attempting to set forth all of the forms in which it may be made or all of the modes of its use, I declare that what I claim is—

1. A marking-machine having a series of marking devices, a single marking device separated from and movable independently of the said series of marking devices, means for moving the said independent marking device toward and from the said series of marking devices, and a graduated scale for indicating the position of the single marking device relatively to the series of marking devices.

2. A machine of the character described comprising in its construction, a series of needles, a supplemental needle, means for moving the said supplemental needle toward and from the aforesaid needles, for the purpose described, and means for indicating the position of the said supplemental needle relatively to the series of needles.

3. A machine of the character described, comprising in its construction a series of needles, a supplemental needle, means for moving said needle toward and from the aforesaid needles to indicate the width of a part of a shoe of a certain length, means for varying the position of the said needle in accordance with different widths of the said parts of shoes of the same length and a graduated scale indicating said different widths of said parts.

4. A machine of the character described, comprising in its construction, a series of needles for indicating a certain line of stitches, a supplemental needle indicating another line

of stitches, means for moving said needle to correspond with the difference in width of parts of shoes of different lengths, and means for moving the said needles to correspond with the difference in width of parts of shoes of different widths but of the same length.

5. In a machine of the character described, the combination with a series of needles to indicate a line of stitches, a supplemental needle to indicate another line of stitches, a slide on which said needle is mounted, a stationary dial-plate for indicating certain positions of the needle and a graduated plate, movable relatively to said dial-plate and relatively to which the needle is movable, for indicating certain other positions of the said needle.

6. In a machine of the character described, the combination with a bracket, a series of needles depending therefrom, a supplemental needle, a work-support, means for moving the said work-support toward and from the said needles, and means for moving the supplemental needle toward and from the series of needles.

7. In a machine of the character described, the combination with a frame, a series of needles mounted thereon, a work-support, an arm hinged to the frame, and a supplemental needle supported on the arm.

8. In a machine of the character described, the combination with a frame, a series of needles mounted thereon, a work-support, an arm hinged to the frame, a supplemental needle mounted on the arm, and means for adjusting said needle along the arm.

9. In a machine of the character described, the combination with a frame, a series of needles mounted on the frame, a work-support, an arm hinged to the frame, a supplemental needle mounted on the arm, and a supplemental work-plate arranged below the supplemental needle and connected to the arm so as to move therewith.

10. In a machine of the character described, the combination with a frame, a series of needles mounted on the frame, a work-support, one of the last two mentioned elements being movable relatively to the other, a guard arranged in front of said needles, and a gage mounted in the rear of the needles.

11. In a machine of the character described, the combination with a frame, a series of needles mounted on the frame, a work-support, one of the last two mentioned elements being movable relatively to the other, a guard arranged in front of said needles, and gages in the rear and at the end of the series of needles.

12. In a machine of the character described, the combination with a frame, a series of needles mounted on the frame, a work-support, one of the last two mentioned elements being movable relatively to the other, a supplemental needle, a slide on which the needle is mounted, an arm along which the slide moves, a dial mounted on the arm, and a pointer connected with the slide for indicating the position thereof on the dial.

13. In a machine of the character described, the combination with a frame, a series of needles mounted on the frame, a work-support, one of the last two mentioned elements being movable relatively to the other, an arm extending out from the frame, a graduated scale movable along on the arm, a slide movable relatively to the scale but adapted to be secured thereto to move it therewith, a supplemental needle mounted on the slide, a dial on the arm, a pointer, and means connected with the pointer for moving the slide and the scale along the arm.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 26th day of August, A. D. 1896.

LEWIS T. ADAMS.

Witnesses:
ANDREW R. MCCALLUM,
ISAIAH T. CHURCHILL.