

W. C. STEWART.
OUTSOLE MARKER.

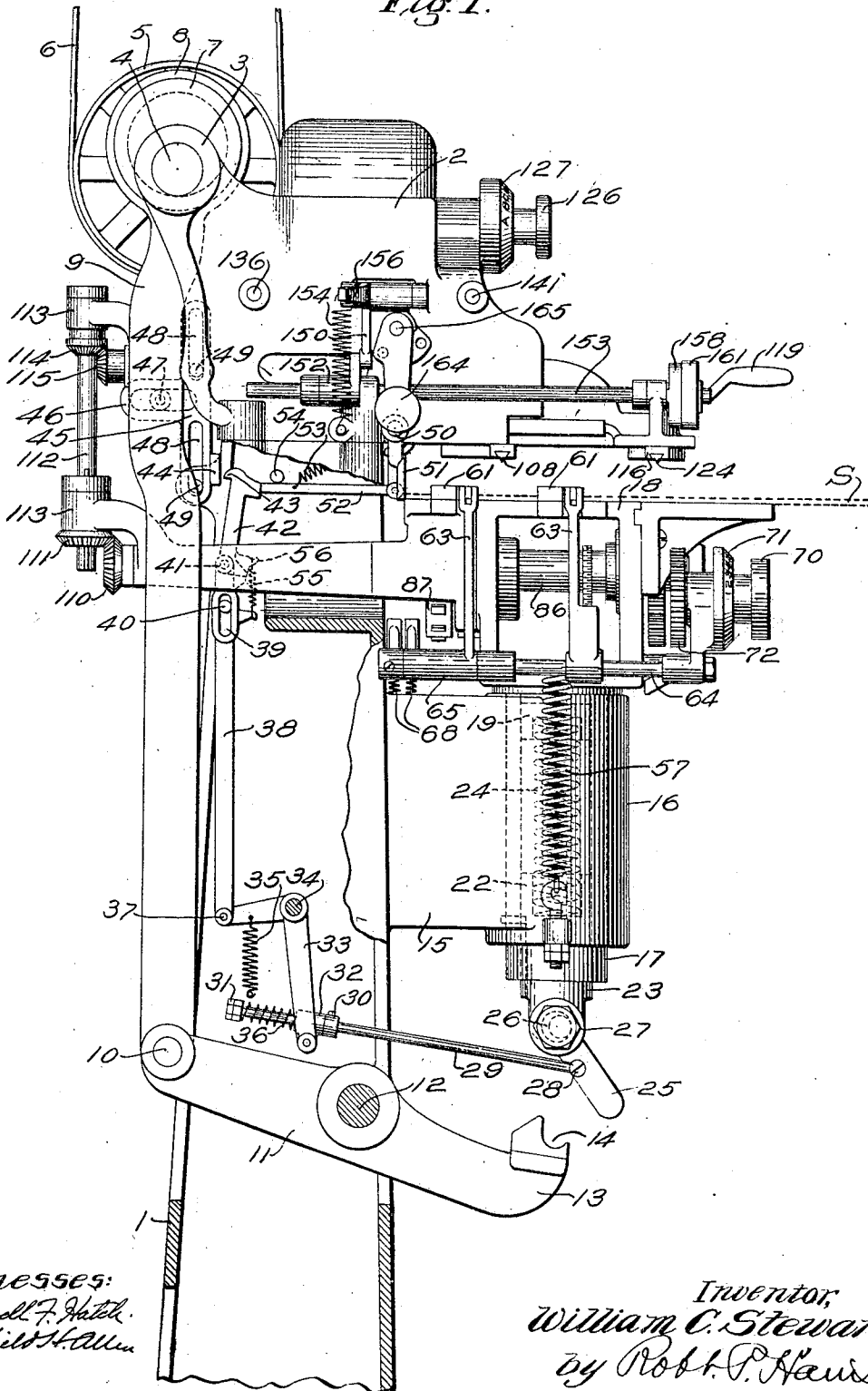
APPLICATION FILED JULY 12, 1909.

958,033.

Patented May 17, 1910.

4 SHEETS—SHEET 1.

Fig. 1.



Witnesses:
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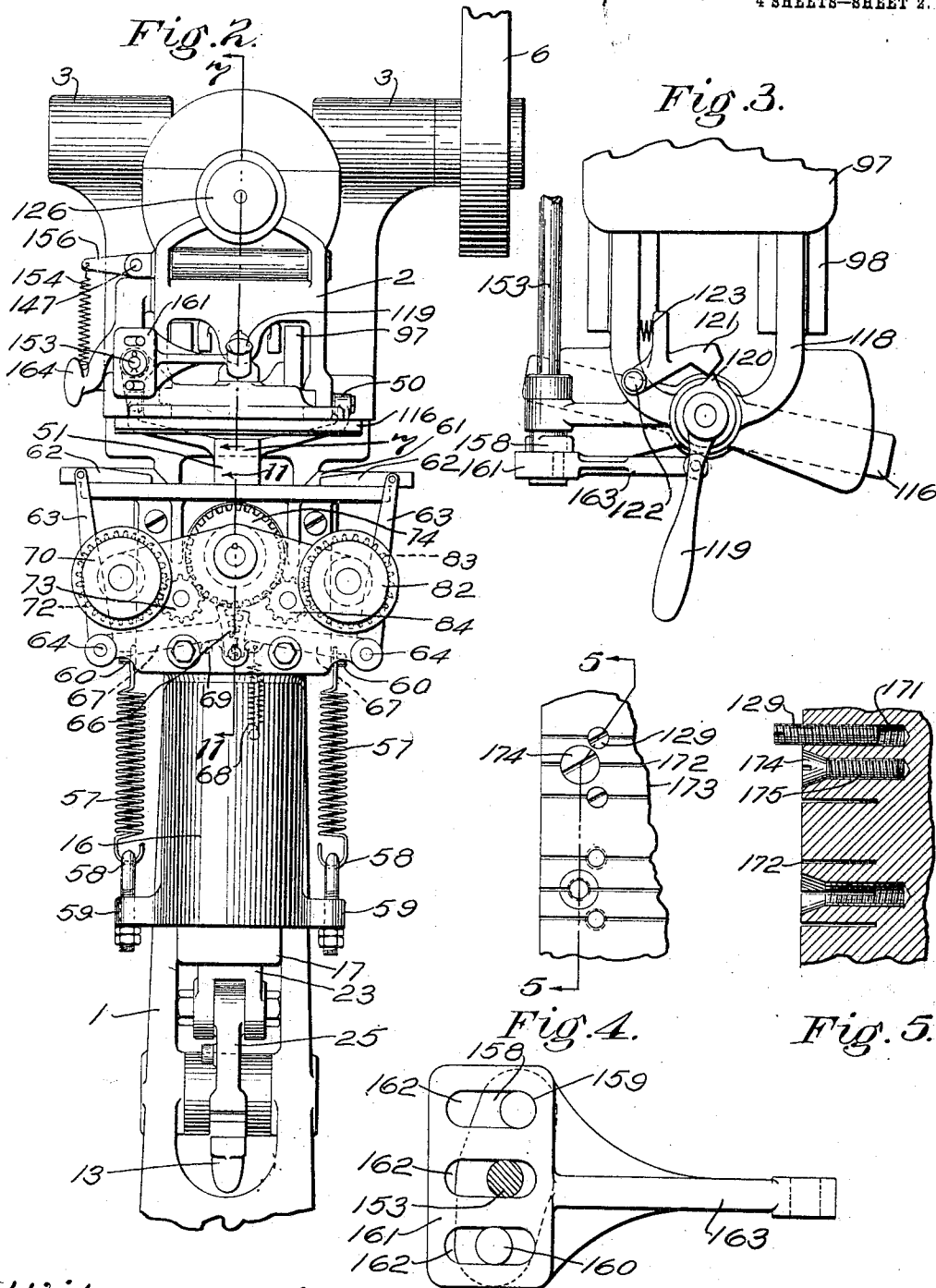
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4 SHEETS—SHEET 2.



Witnesses:
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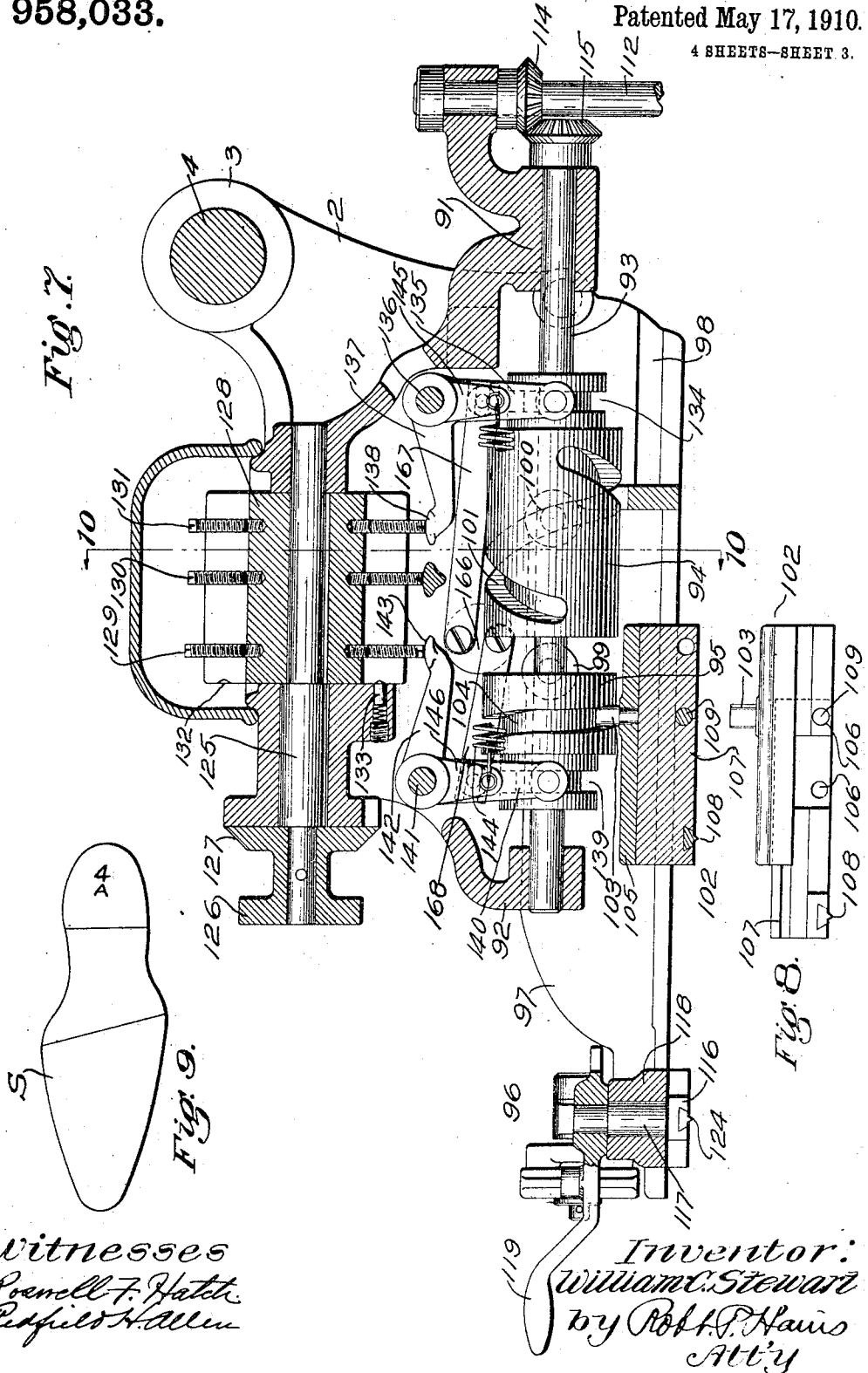
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4 SHEETS—SHEET 3.



Witnesses
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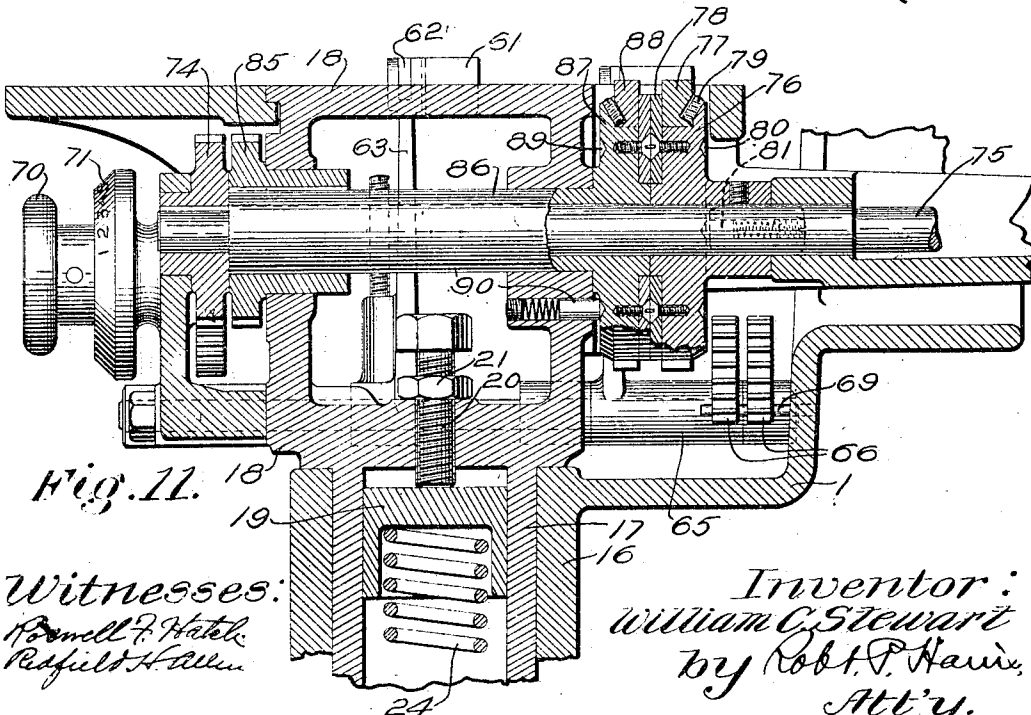
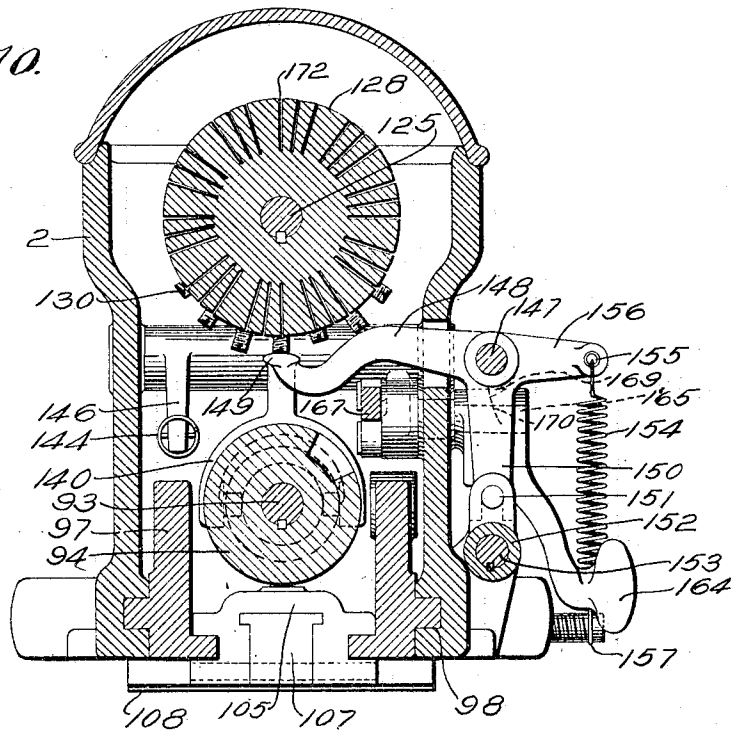
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4 SHEETS—SHEET 4.

Fig. 10.



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UNITED STATES PATENT OFFICE.

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OUTSOLE-MARKER.

958,033.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM C. STEWART, a subject of the King of Great Britain, residing at Lynn, in the county of Essex and State of Massachusetts, have invented an Improvement in Outsole-Markers, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The invention to be hereinafter described relates to machines for marking shoe soles to indicate the size or character thereof and the point or positions at which the tool should commence or cease its action.

In operating upon shoe soles with machine-operated tools the part receiving treatment is usually guided by hand, the operative relying upon his eye and judgment to bring the work into contact with the tool and cause it to enter or leave the work at proper places. This is particularly the case in thinning out or shanking the edges of the shanks of shoe soles where the tool should commence its operation approximately at a point corresponding to the breast line of the heel and should leave at about the termination of the forepart, approximately at the widest part of the shoe sole. The skill of the operator being alone relied upon to determine how closely the operating tool enters and leaves the work at these points necessarily imports into the work a variable factor and non-uniformity of product.

The present invention aims to avoid these variations and lack of uniformity by providing a machine which will place marks upon the work in accordance with the size and style of the work to indicate to the operator the exact point or points at which operation should commence and cease, and to also place upon the work a mark indicating the size or style.

The characteristics of the invention will best be understood from the following description and accompanying drawings of one form of means for carrying the invention into practical effect, it being understood that the invention is not restricted to the particulars or details of structure shown and described, but is definitely set forth by the claims.

In the drawings: Figure 1 is a side view of a machine embodying the present inven-

tion, portions of the supporting column and framing being broken away to disclose the construction of parts beyond; Fig. 2 is a front elevation of the parts shown by Fig. 1, the lower portion of the supporting column being broken away; Fig. 3 is a detail plan view showing the front marker and its adjusting means; Fig. 4 is a detail of a small portion of the style cylinder showing the manner of holding the style pins in position; Fig. 5 is a detail section on line 5-5, Fig. 4; Fig. 6 is a detail front view showing the means for controlling the amplitude of adjustment for the front marker; Fig. 7 is an enlarged sectional view on the line 7-7, Fig. 2; Fig. 8 is a detached detail side elevation, showing the rear marker and its manner of adjustment to accommodate it for the treatment of soles varying greatly in size; Fig. 9 is a view showing a shoe sole with the character of marks thereon proposed to be made by the present machine; Fig. 10 is a section on the line 10-10 of Fig. 7; and Fig. 11 is an enlarged sectional view on the line 11-11, Fig. 2.

In the machine illustrated as one embodiment of the present invention it is proposed to place a mark or indentation on the shoe sole at or approximately at the breast line of the heel seat, another mark extending diagonally across the shoe sole at or approximately at the ball line, and suitable numerals or letters or other characters indicating the size, width or style of shoe sole, as illustrated by Fig. 9.

The machine framing may be of any usual or desired construction and in the present illustration it comprises a suitable column 1 carrying a supporting head or framing 2 adapted to support the connected operating parts. Mounted in suitable bearings 3 formed in the machine head is a driving shaft 4 having a pulley 5 thereon which may receive motion through a belt 6 from any suitable source of power, as indicated in Fig. 1.

The shaft 4 carries an eccentric 7 which is embraced by a strap 8 carried on the upper portion of an arm 9 pivotally connected at 10, Fig. 1, to the arm 11 of a lever fulcrumed at 12 on the machine column. The end 13 of the lever 11 has a socketed or seated portion 14 which, under conditions hereinafter to be more fully described, serves to

lift a table or support on which the shoe sole has been placed and cause the marks to be impressed thereon.

Extending from the column 1 is a bracket 15, Fig. 1, carrying at its outer portion a bearing 16 through which extends a sleeve 17, the upper end of which, Fig. 11, is formed integral with or attached to the table for supporting the shoe sole.

The table may be of any usual or desired character and is herein indicated as formed of a suitable casting or member 18, Fig. 11, from the lower portion of which extends the sleeve 17.

Within the sleeve 17, Figs. 1 and 11, is a cup 19 disposed at the upper portion of said sleeve and normally resting against the end of a set screw 20 threaded through the lower portion of the table 18 and maintained in its adjusted position by a suitable locking nut 21. Extending into the sleeve 17 from the lower portion thereof, Fig. 1, is a plunger 23 carrying a cup or member 22 between which and the cup or member 19 is disposed a spring 24, Figs. 1 and 11, the construction being such that upon upward movement of the plunger 23 the spring 24 will transmit a yielding upward movement to the table 18, as will be readily understood. Pivotaly mounted on the lower end of the plunger 23 is a thrust arm 25 preferably mounted eccentrically in a stud 26 which may be held in adjusted position on the plunger 23 by means of a nut or suitable means, as 27, the construction being such that upon loosening the nut 27 the stud may be properly rotated or adjusted to vary the length of the thrust arm, as will be readily understood.

Pivotaly connected at 28, Fig. 1, to the thrust arm 25 is an actuator 29 having collars 30 and 31 thereon, between which slides a collar 32 jointed to the arm 33 of a bell crank lever pivoted at 34 and normally held in the position indicated in Fig. 1 by a spring 35. It will be evident from the construction indicated that upon movement of the bell crank lever clockwise the actuator 29 will be moved to the left and turn the thrust arm 25 into position to be engaged by the seat 14 of the lever 11 to thereby raise the table. In order that there may be a give or yield between the arm 33 of the bell crank and the actuator 29 a spring 36 is interposed between the collar 31 and the slide collar 32, so that, should the end of the thrust arm 25 meet an obstruction as the bell crank moves in the manner stated, the slide collar 32 will simply move along the actuator 29 and compress the spring 36 without injury to the parts, thus placing the spring 36 under tension to be utilized subsequently to throw the thrust arm 25 into engagement with the seat 14, as will presently appear.

Connected to the bell crank lever at 37

is a rod 38 having a slot 39 which engages a pin 40 fixed to the machine frame to thereby by guide said rod in its up and down movement, as will presently appear. Pivotaly connected at 41, Fig. 1, to the rod 38 is a lifter 42 having a shouldered end portion 43 adapted to engage a shoulder 44 on a slide 45, said slide having a laterally extending arm 46 provided with a slot which engages a pin 47 projecting from the arm 9. The slide 45 is likewise provided with the vertical slots 48 which engage guide pins 49 projecting from the machine frame to insure vertical movement of the slide, as the arm 9 rises and falls under the actuation of the eccentric 7, as will be readily understood.

Pivotaly mounted at 50, Fig. 1, is a back stop or gage arm 51 having jointed thereto at its lower end a lifter actuator 52 which is normally held in the position indicated in Fig. 1 by means of a spring 53 and the stop pin 54 projecting from the machine framing, the construction being such that, upon movement of the back stop or gage arm 51 to the left about its fulcrum 50, the lifter actuator 52 will move the lifter 42 into position so that the shoulder 43 thereof will engage the shoulder 44 of the slide and lift the arm or link 38 to actuate the bell crank, as will be clear from the disclosure of Fig. 1. In order to throw the lifter 42 out of engagement with the shoulder 44, when the lifter actuator 52 is withdrawn or when the head of the lifter is above the actuator, a spring 55, Fig. 1, is connected to a projection 56 near the pivotal support of the lifter 42, said spring normally acting to move the lifter into the position indicated in Fig. 1 and yet permit it to be moved to the left in response to the lifter actuator movement, the construction being such that the lifter will be moved to raise the table once only, whereupon it will come to rest in lowered position.

From the construction thus far described it will be apparent that a shoe sole S, Fig. 1, being placed in position upon the table 18 and having its rear end forced against the back stop 51 will cause the lifter 42 to be moved into position to be engaged by the shoulder 44 of the slide 45 and through the intervening connections to throw the thrust arm 25 into substantially vertical position to engage the seat 14 of the lever 11 and raise the table.

In this operation of the parts, assuming the arm 9 to be in its lowered position with the end 13 of the lever 11 in its raised position, the end 43 of the lifter 42 will engage the shoulder 44, and as the arm 9 and perforce the shoulder 44 rise, the link 38 will turn the bell crank 33. But at this time the end 13 of the lever 11 is up and moving downward, so that the end of the thrust arm 25 bears against the end 13 of lever 11,

causing the spring 36 to be compressed. When the end 13 of lever 11 moves below the end of the thrust arm 25, the latter responds to the demands of spring 36 and swings into vertical position with its end in engagement with the seat 14. As the arm 9 next descends and with it the actuator 42, the seat 14 locks the thrust arm 25 in its engaged position with the lever 11, so that, thereafter, when the actuator disengages the shoulder 44 on the further down movement of the arm 9 and actuator, the thrust arm remains engaged with the seat 14 of lever 11 and raises the table, as will be clearly understood by those skilled in the art. In order that the table may be maintained normally in its depressed position there are provided the side springs 57, Figs. 1 and 2, the lower ends whereof are connected at 58 to suitable eyes projecting from lugs 59 carried by the bearing 16, the upper end of said springs being connected to pins 60 secured to the table.

To each side of the table there are fixedly secured two approximate gages 61 which serve to approximately locate the shoe sole when it is positioned on said table, and extending transversely of the table adjacent each of these approximate gages 61 are the movable gages 62, a pair of said movable gages being disposed at each side of the table, as indicated in Figs. 1 and 2. Each movable gage 62 is mounted on an arm 63, one pair of said arms 63, the forward pair in Fig. 1, being adjustably mounted on the rock shafts 64, Figs. 1 and 2, at each side of the table, and the rear pair being carried by sleeves 65 loose on said rock shafts 64. The arm 63 at each side of the table are caused to move in unison by segment gear portions 66, Figs. 2 and 11, carried by arms 67 and normally under the influence of springs 68 which, when free to move said arms, cause the slide gages 62 to move toward each other. Secured to the machine frame or a portion of the bearing 16 is a pin 69, Figs. 2 and 11, which, when the table moves downward after an impress of the marking devices, engages one of the arms 67 of each pair and arrests their downward movement with the result that the slides 62 are automatically moved outward or away from each other, and conversely, when the table rises, the arms 67 move away from the pin 69 and under the influence of the springs 68 the slides 62 move toward each other.

In order that the proper size, width, or style mark may be placed upon the heel or other desired portion of the shoe sole, the table is provided with suitable means responsive to the size and width dimensions of the shoe sole to bring the desired marking devices into operating position. One form of means to this end is as follows.

Mounted in suitable bearings in the table

18 is a hand wheel 70, Figs. 2 and 11, which for identification will hereinafter be referred to as "the size wheel". This size wheel 70 has connected thereto a disk 71 provided with marks or other indications representing different sizes of shoe soles to be treated, and it also carries at its inner portion a gear 72 which by means of an idle gear 73 is operatively connected with a gear 74 secured to a shaft 75, the construction being such that upon rotation of the size wheel 70 the shaft 75 will be correspondingly actuated. Secured to the shaft 75 is a wheel 76, Fig. 11, having detachably secured thereto a series of blocks 77, each carrying an appropriate character corresponding to the characters on the disk 71 and indicating the size of the shoe sole. These blocks may be appropriately secured to the wheel 76 by means of flanges 78 and holding screws 79, Fig. 11, it being understood that any suitable means may be employed to this end. In order to hold the wheel 76, and, perforce, the shaft 75 in adjusted position the wheel 76 is provided with a series of sockets 80, Fig. 11, on one face thereof which are adapted to be engaged by the beveled end portion of a spring-pressed pin 81, the construction being such that when the size wheel 70 has been manipulated to bring the proper character on the wheel 76 into operative position the pin 81 will maintain the parts in the position to which they have been adjusted.

Mounted on the table 18 and conveniently near the size wheel is a hand wheel 82, Fig. 2, which for identification may be designated the "width wheel"; said width wheel being provided, as in the case of the size wheel, with an appropriate disk with suitable distinguishing marks or characters thereon corresponding to the widths and the styles to be treated, and likewise carrying or having connected thereto a gear 83 which by means of an idler 84 may transmit motion to a gear 85, Fig. 11, secured to a sleeve 86 surrounding the shaft 75. The sleeve 86 also carries a wheel 87, corresponding in general structural character with the wheel 76 on the shaft 75, said wheel 87 carrying suitable blocks 88 appropriately attached thereto, each block being provided with the desired character indicating the width of the shoe sole. To maintain the wheel 87 and perforce the sleeve 86 and connected parts in the position to which they may be turned, the wheel 87 is provided with a series of sockets 89 adapted to be engaged by the end of a spring pressed pin 90 similar in general character to the pin 81, hereinbefore described.

From the construction thus far described it will be apparent that upon proper manipulation of the size wheel and width wheel the desired character representing the length or size and the width of the shoe sole may be

brought into operative position and there held for action upon the shoe sole.

It is appropriate at this time to describe the front and rear markers or those elements which place a guide mark near the breast line of the heel and near the ball line to guide the operator in his treatment of a shoe sole, and inasmuch as these markers necessarily vary in position according to the different size of shoe sole to be treated, they are so constructed and arranged as that upon manipulation of the size wheel, hereinbefore described, they may be appropriately moved into position corresponding to such size. It is, also contemplated by the present invention to further move the markers into positions corresponding to the style of the shoe sole, all of which will now be explained.

Mounted in suitable bearings 91, 92 in the machine head 2 is the marker actuating shaft 93 carrying cylinders 94 and 95 each provided with an appropriate cam groove for manipulating the front and rear markers.

The front marker, which for identification may be designated as a whole by 96, Fig. 7, is carried by a slide 97, Fig. 7, movable in suitable guideways 98 formed in the machine head 2. The slide 97 has suitable bosses 99 and 100 adapted to carry a pin for engagement with the cam groove 101 in the cylinder 94, the construction being such that when a shoe sole of large size is being treated the slide 97 may be moved into position such that the boss 100 may be connected by the pin with the cam groove 101 in the cylinder 94; but, when shoe soles of less dimension are being treated the pin may be withdrawn from the boss 100, the slide 97 moved to the right, Fig. 7, and the boss 99 be connected by the pin to the cam groove 101 of the cylinder 94.

The rear marker, which for identification may be identified by 102, Fig. 7, has a pin 103 which engages a cam groove 104 in the cylinder 95, so that, upon rotation of the shaft 93, said cylinders 94 and 95 being splined thereto, the front and rear markers will be appropriately moved in response to the actuating cam grooves 101 and 104. In order to provide for the treatment of shoe soles of greatly varying sizes the rear marker 102 comprises a slide 105 from which the pin 103 projects, the side portions of said slide being provided with holes 106 separated some distance. Mounted to move longitudinally in the slide 105 is the marker carrier 107 carrying the marker 108, said carrier 107 being adjustable longitudinally of the slide 105 and held in adjusted position by means of a pin 109 which may engage either of the holes 106, the construction being such that when the carrier 107 is moved into the position indicated by Fig. 8, soles of small dimensions may be treated; whereas

when moved into the position indicated in Fig. 7, soles of relatively larger dimension may be treated.

It is desirable to adjust the position of the front and rear markers to correspond to the size of the shoe sole to be treated when the size wheel is manipulated, and to this end the shaft 75 is extended rearwardly of the table and provided with the intermeshing gears 110 and 111, the latter being carried by an upright shaft 112 held in suitable bearings 113 carried by the machine head and having secured to its upper portion a beveled gear 114 operatively engaged with a corresponding gear 115 on the marker actuating shaft 93, the construction being such that as the size wheel 70 is adjusted, in the manner hereinbefore described, the marker actuating shaft 93 and perforce the front and rear markers will be correspondingly adjusted by rotation of the cam cylinders 94 and 95.

The front marker 96 is constructed and arranged so that it may be adjusted by hand for rights and lefts and comprises a head or carrier 116, Figs. 3 and 7, sustained by a pivotal mounting 117 carried by suitable supports 118 projecting from the slide 97. The upper end of the pivotal mounting 117 is provided with a handle 119 by which it may be turned more or less, and the hub portion of the handle 119 is provided with a toe 120 adapted to engage one or the other side of the beveled end portion of a holding pawl 121 pivoted at 122, Fig. 3, and normally pressed into operative position by means of a spring 123, the construction being such that upon manipulation of the handle 119 the head or carrier 116 sustaining the front marker 124 may be swung to accommodate rights and lefts, and when swung into one or the other position will be held there by the pawl head 121.

In addition to variations of length and width, shoe soles likewise vary in style, and the present invention contemplates means for adjusting the front and rear markers in accordance with the style of shoe sole to be treated. To this end there is mounted in suitable bearings carried by the machine head 2 a style shaft 125, Fig. 7, having secured thereto a hand wheel 126 which for identification will be known as the "style wheel", said style wheel preferably having a disk portion 127 provided with appropriate marks to indicate the different styles to be treated. Splined to the style shaft 125 is the style cylinder 128 adapted to sustain a series of style pins 129, 130 and 131, said style cylinder being provided with a series of notches 132 in the face thereof to engage the beveled end portion of a holding pin 133, in a manner similar to that already described with respect to the wheels 76 and 87.

In order that the front marker 124 may be

varied in position in accordance with the style of shoe sole to be treated, its actuating cylinder 94 is provided with a collared portion 134, Fig. 7, adapted to be engaged by the bifurcated end 135 of one arm of a bell crank lever pivoted at 136 to the machine head and having an arm 137 with a bearing end portion 138 adapted to engage the style pins 131. Similarly the cylinder 95 for positioning the rear marker is provided with a recessed collared portion 139, Fig. 7, adapted to be engaged by the bifurcated end portion 140 of a bell crank lever pivoted at 141 to the machine frame, the arm 142 having a bearing end portion 143 to engage the series of style pins 129. In order to maintain the ends 138 and 143 of the respective bell crank levers in engagement with their style pins a spring 144 is preferably disposed between arms 145 and 146 connected to said bell crank levers, as indicated in Figs. 7 and 10. In addition to this variation of distances between the front and rear markers corresponding to style, as hereinbefore noted, the angular disposition of the front marker must also be determined by and made to correspond with the style of the shoe sole to be treated, and to this end the following is contemplated as one form of means embodying the invention.

Mounted on a support 147, Fig. 10, is a three-armed lever, one arm 148 of which has its upper portion 149 adapted to engage a series of style pins 130 on the style cylinder 128, while the arm 150 projects downward therefrom and has a bifurcated end which engages a stud 151 carried by an arm secured to the sleeve 152 splined to the shaft 153, a spring 154, Fig. 10, having one end secured at 155 to an arm 156 of said three-armed lever and its other end secured to a stud 157, serving to normally hold the end 149 of the arm 148 in engagement with the appropriate style pin 130. The shaft 153, Figs. 1, 3 and 6, carries at its end a head 158 provided with pins 159 and 160. Mounted on the shaft 153 is a slide 161 provided with the slots 162 and having an arm 163 extending to the right, as indicated in Fig. 3, and engaging the hand lever 119, the construction being such that upon rotative movement of the shaft 153 the pins 159 and 160 will be moved out of vertical position more or less in accordance with the amount of rotative movement imparted to the shaft, so that the pins 159 and 160 will limit the extent of hand movement of the handle 119 and consequently the swing or inclination imparted to the head or carrier 116 of the front marker.

In order that the various arms 137, 142 and 148 may be relieved from their engagement with the style pins coacting with each to enable the style cylinder to be properly rotated by the style wheel, there is

mounted at 165 on the side of the machine head 2 a hand lever 164, Figs. 1 and 10, the inner end of its pivotal mounting 165 carrying a disk 166, Fig. 7, to which is pivotally jointed the links 167 and 168, said links at their other ends being connected to the lower arms 135 and 140 of the bell crank levers, the construction being such that upon swinging movement of the lever 164 the links 167 and 168 will cause the bell crank levers to swing around their fulcrum and move the arms 137 and 142 from operative engagement with their style pins. In order that the arm 148, Fig. 10, may be similarly moved, the hub of the three-armed lever is provided with a projection 169, Fig. 10, which is adapted to be engaged by a cam portion 170 carried by the hub extension of the lever 164, so that as said lever is turned to disengage the arms 137 and 142 from their respective style pins, the arm 148 will be similarly moved, and when the lever 164 is released, the appropriate style pins having been brought into operative position by rotation of the style cylinder in the meantime, the arms 137, 142 and 148 will again return to their position of engagement with their respective style pins.

The style cylinder is a peculiar construction and may be formed of suitable material, either metal or wood, and provided with suitable screw-threaded sockets or openings 171 for the reception of the various style pins 129, 130 and 131. In order that the style pins may be properly locked in their adjusted position, the style cylinder is provided with longitudinal slots 172 at intervals to form tongue portions 173 which may be separated and bind the style pins in position by means of the expanding heads 174 of screws or similar devices 175, as indicated in Figs. 4 and 5. As a preferred construction the style cylinder may have the series of slots 172 formed in line with and to contain the screw-threaded openings of the style pins, if desired, and the expanding devices, such as the screws 175, may be disposed in a slot between the rows of style pins, the essentials in these respects being that some form of expanding means be employed to force the walls of the screw-threaded openings engaged by the style pins into binding contact with said pins and maintain them in proper position.

Various modifications may be made in the form and general disposition of many of the parts, it being understood that the invention is not circumscribed by the details but is definitely pointed out in its true scope in the claims.

What is claimed is:

1. A sole marking machine of the type described, comprising in combination a front marker and a rear marker, the one to place a mark transversely of the sole at the ball line

and the other to place a mark transversely of the sole substantially at the heel breast line to indicate points for commencing or ending work on the sole, means for adjusting said markers toward and from each other in accordance with the size of the sole to be marked, a table having a flat surface for supporting the sole to be marked, and means for moving the table toward and from the markers.

2. A sole marking machine of the type described, comprising in combination a front marker and a rear marker, means for adjusting the angular relation of said markers, a table for supporting the sole to be marked, and means for moving the table toward and from the markers.

3. A sole marking machine of the type described, comprising in combination a front marker and a rear marker, means for changing the angular position of the front marker with respect to the median line of the sole to be marked, a table for supporting the sole, and means for moving the table toward and from the markers.

4. A sole marking machine of the type described, comprising in combination a front marker and a rear marker, means for changing the angular relation of one of said markers with respect to the median line of the shoe sole to be marked, a table, and means for moving the table toward and from the markers to cause the latter to act upon the shoe sole.

5. A sole marking machine of the type described, comprising in combination a front marker and a rear marker, a support for sustaining a shoe sole to be marked, means for sustaining type characters in position to be impressed upon the shoe sole, means for moving the type characters to bring a type character into operative position, means operative by movement of the type character moving means for relatively adjusting the markers in accordance with the size of the sole to be marked, and means for relatively moving the shoe sole and markers to cause the markers to act upon the sole.

6. A sole marking machine of the type described, comprising in combination a plurality of markers, means for operating the same to mark a shoe sole at predetermined positions relative to said sole, means for adjusting said markers angularly relative to each other, and means for sustaining type characters for placing upon the shoe sole characters indicating the size thereof.

7. In a sole marking machine, the combination of a plurality of markers for placing transverse marks upon the shoe sole, means for supporting type characters in position to act upon the shoe sole to indicate the size thereof, means for adjusting said type carrying means, and connection between said type

carrying means and the markers for changing the relative position of the markers.

8. In a sole marking machine, the combination of a table for supporting a shoe sole to be marked, a head, means for relatively moving said table and head in directions of approach and separation, a plurality of sole markers for placing marks upon the sole to indicate the points for commencing or ending operations on the sole, and type carrying means to place a desired type character in position for marking on the shoe sole the size thereof, said plurality of markers and type carrying means being mounted the one on the head and the other on the table that the markers may mark one side of the sole and the type characters the other side.

9. In a sole marking machine, the combination of a plurality of markers relatively adjustable angularly for placing marks upon the shoe sole transversely thereof, one at the ball and the other at the heel, a table for sustaining the shoe sole to be marked, means for relatively moving the table and markers to cause the markers to act upon the sole, and means to cause said parts to come to rest after one operation.

10. In a sole marking machine, the combination of a plurality of markers, means for adjusting said markers to cause them to mark soles of different sizes at the heel and ball lines, a table for supporting a shoe sole to be marked, a back stop against which the edge of the sole contacts when placed in position on said table, and means controlled by said back stop for causing the table to move toward and from the markers and come to rest.

11. In a sole marking machine, the combination of a plurality of markers, means for adjusting said markers to cause them to mark soles of different sizes at the heel and ball lines, a table for supporting a shoe sole to be marked, a back stop against which the edge of the sole contacts when placed in position on said table, and means controlled by said back stop for causing relative approach and separation of said table and markers.

12. In a sole marking machine, the combination of a front marker and a rear marker, means for adjusting said markers toward and from each other in accordance with the size of the shoe sole to be treated, means controlled by the operative for swinging one of said markers to different inclinations for rights and lefts, and means for varying the extent of such swinging movement.

13. In a sole marking machine, the combination of a front marker and a rear marker, means for adjusting said markers toward and from each other in accordance with the size of the shoe sole to be treated, means for swinging the front marker to different inclinations with respect to the median line of

the shoe sole, and means for locking said marker in position.

14. In a sole marking machine, the combination of a plurality of markers, means for
5 adjusting said markers in accordance with the size of shoe sole to be treated, a table for sustaining the shoe sole; and means controlled by placing the shoe sole in operative
10 position to actuate the table and move the shoe sole toward and from the markers and bring the table to rest.

15. In a sole marking machine, the combination of a plurality of markers, means for
15 adjusting said markers in accordance with the size of shoe sole to be treated, a table for sustaining the shoe sole, and means controlled by placing the shoe sole in operative position to yieldingly actuate the table and
20 move the shoe sole toward and from the markers and bring the table to rest.

16. In a sole marking machine, the combination of a plurality of markers, a table for
25 supporting the shoe sole, a size wheel and width wheel carried by said table, type carrying means controlled by said wheels, connections between the markers and type carrying means for adjusting the relation of
30 the former by movement of the latter, and means for moving the table toward and from the markers to place thereon transverse marks and characters representing the size and width of shoe sole.

17. In a sole marking machine of the type described, the combination of a sole marker,
35 means for effecting right and left angular style adjustment thereof for marking upon rights or lefts, means for controlling the amplitude of such angular adjustment in accordance with the style of the shoe sole, and
40 means for locking the sole marker in position.

18. In a sole marking machine, the combination of a plurality of markers, a style
45 cylinder for adjusting said markers relatively in accordance with the style of a shoe sole to be marked, adjustable style pins carried by said cylinder, and means for locking said pins in adjusted position.

19. In a sole marking machine, the combination of sole marking means, a style
50 cylinder for controlling the position of said sole marking means with respect to the sole to be marked, adjustable style pins carried by said style cylinder, and means for locking
55 said adjustable style pins in position.

20. In a sole marking machine, a style cylinder carrying a series of style pins, said
60 cylinder having yielding tongue portions engaging the style pins, and means for compressing the tongue portions in clamping relation with the style pins.

21. In a sole marking machine, a table or work support for sustaining the sole to be
65 marked, a plurality of markers for indicating on the sole the points where operations

are to commence or end, side gages for positioning a sole on said table or work support, and means to cause said side gages to relatively approach during the operation of marking and then to separate.

22. In a sole marking machine, a table or work support for sustaining the sole to be marked, a plurality of markers for indicating on the sole the points where operations are to commence or end, an end or
75 back stop for engaging the end of the sole placed on the table or work support, side gages for positioning a sole on said table or work support, and means to cause said side gages to relatively approach during the
80 operation of marking and then to separate.

23. In a sole marking machine, the combination of a table or work support for sustaining a sole to be marked, a plurality
85 of markers opposed thereto for indicating on the sole the points where operations are to commence or end, side gages carried by the table or work support to engage and position the sole, means for causing relative
90 approach and separation of the markers and table or work support, and means operative during such relative movement for moving the side gages toward and from each other.

24. In a sole marking machine, the combination of a table or work support for
95 sustaining a sole to be marked, a plurality of markers opposed thereto for indicating on the sole the points where operations are to commence or end, type carriers having type characters to indicate the length and
100 width of the sole to be marked, means for moving the type carriers to bring the desired type characters into operative positions, means actuated from the type carrier operating means for varying the relative position
105 of the markers, and means for impressing the markers and type characters upon the sole to be marked.

25. In a sole marking machine, the combination of a plurality of sole markers to
110 indicate on the sole the commencement or ending of operations thereon, size and width marking means connected to and to vary the positions of the said sole markers, and style
115 adjusting means for further varying the relative position of the sole markers.

26. In a sole marking machine, the combination of a marker to mark the sole substantially at the heel breast line, a second
120 marker to mark the sole at the ball line, means controlled by the operative for varying the distance between said markers, means controlled by the operative for varying the angular relation between said markers, and means dependent upon the style of
125 the sole to be marked for further varying the angular relation between said markers.

27. In a sole marking machine, the combination of a table for supporting a sole to be marked, gages for positioning the sole on
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said table, a front marker and a rear marker make transverse marks on the sole at the ball and heel lines respectively, means for adjusting the angular relation of the front marker with respect to the median line of the sole, and means including yielding devices for moving the table toward the markers to cause the latter to mark the sole.

In testimony whereof, I have signed my name to this specification, in the presence of 10 two subscribing witnesses.

WILLIAM C. STEWART.

Witnesses:

ROSWELL F. HATCH,
REDFIELD H. ALLEN.