E. N. PREBLE.

SOLE PRESSING MACHINE.

APPLICATION FILED OCT. 19, 1908.

1,004,076.

Patented Sept. 26, 1911.

4 SHEETS—SHEET 1.

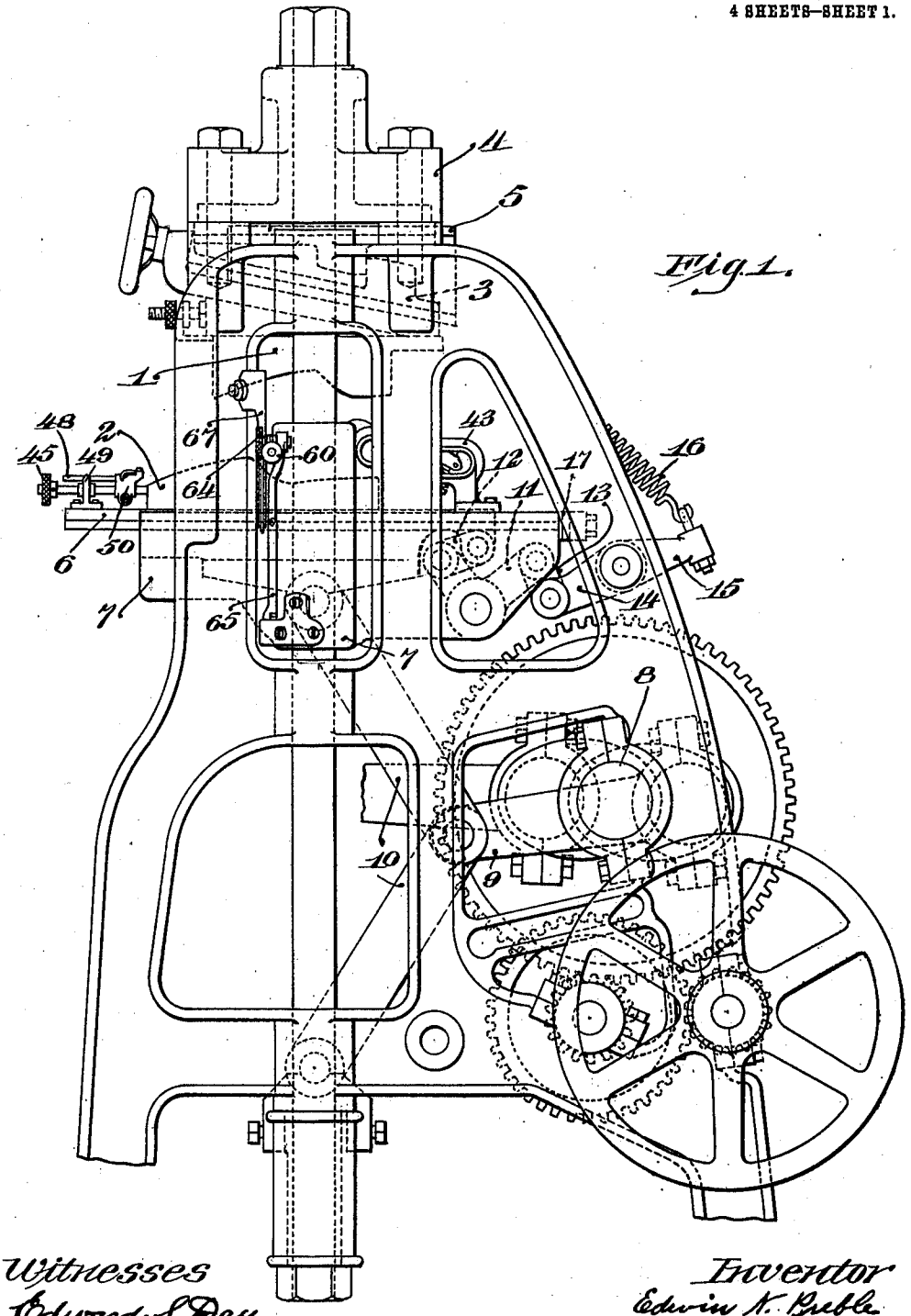


Fig. 1.

Witnesses
Edward S. Day
A. C. Richardson.

Inventor
Edwin N. Preble
by his Attorneys
Phillips Van Everen & Fish

E. N. PREBLE.

SOLE PRESSING MACHINE.

APPLICATION FILED OCT. 19, 1908.

1,004,076. **Patented Sept. 26, 1911.**

4 SHEETS—SHEET 2.

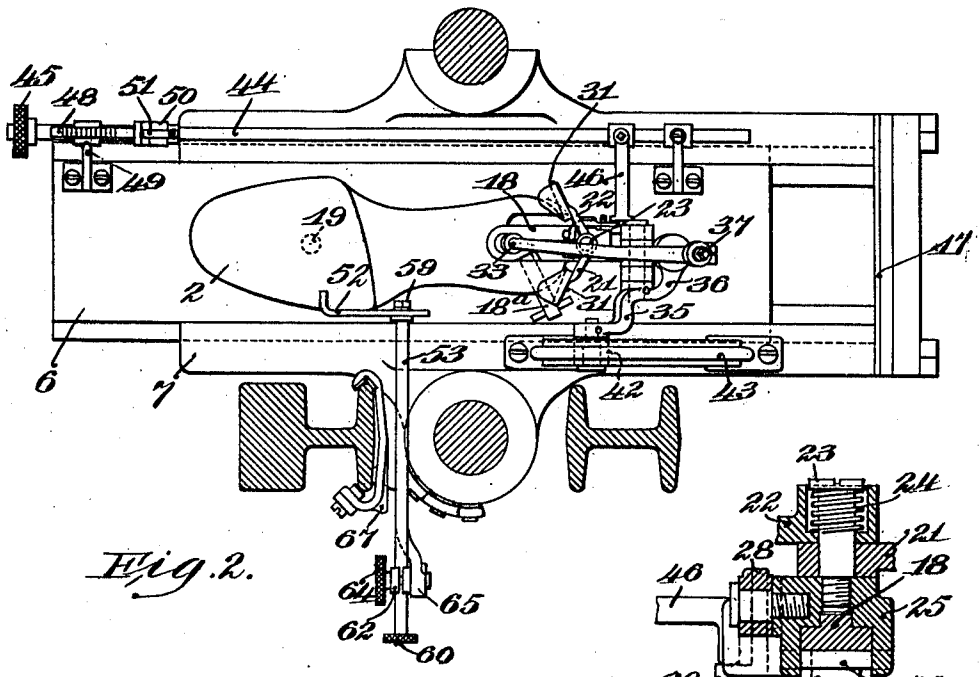


Fig. 2.

Fig. 4.

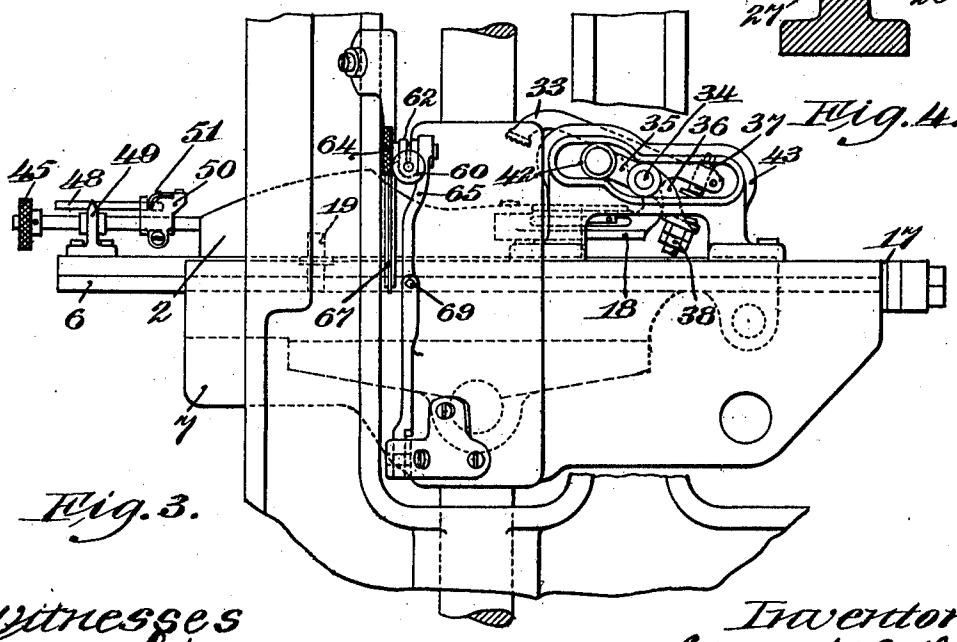


Fig. 3.

Witnesses
Edward S. Day
A. C. Richardson.

Inventor
Edwin N. Preble
by his Attorneys
Phillips Van Orsdel & Fish

E. N. PREBLE.

SOLE PRESSING MACHINE.

APPLICATION FILED OCT. 19, 1908.

1,004,076. **Patented Sept. 26, 1911.**

4 SHEETS—SHEET 3.

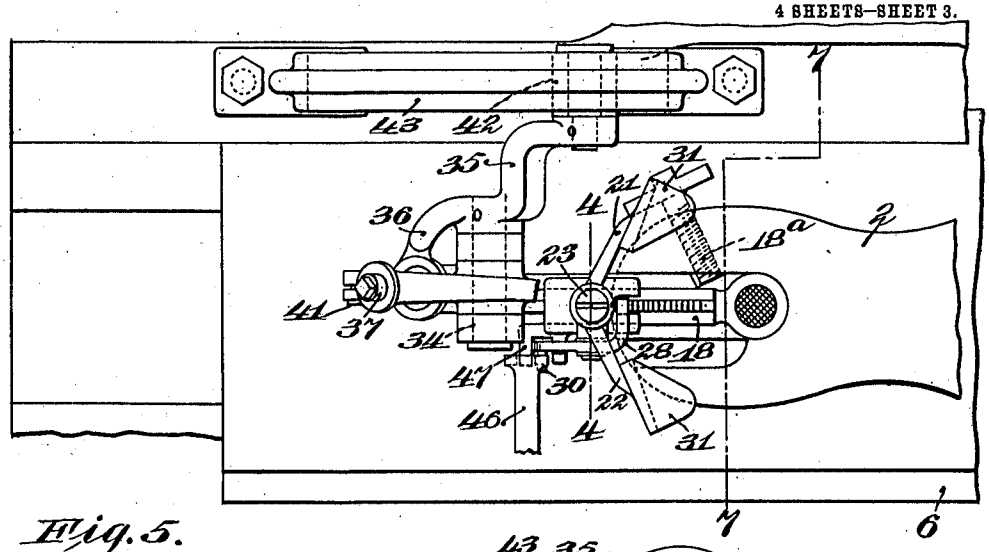


Fig. 5.

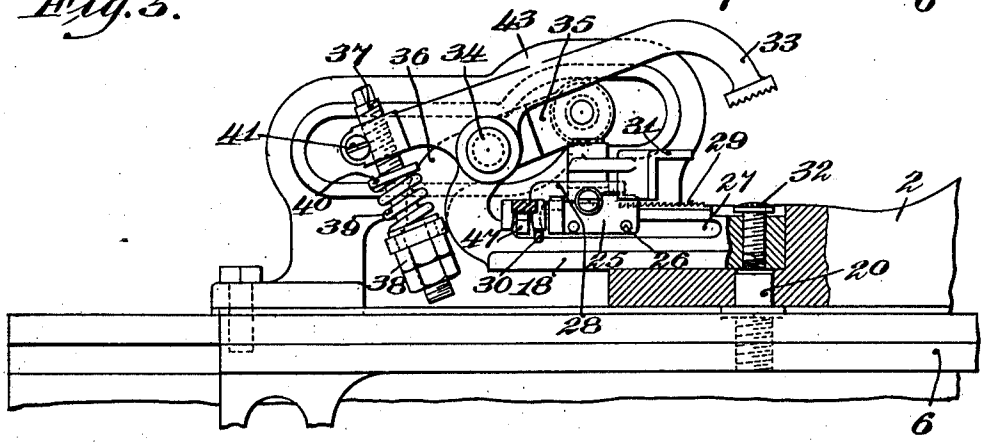
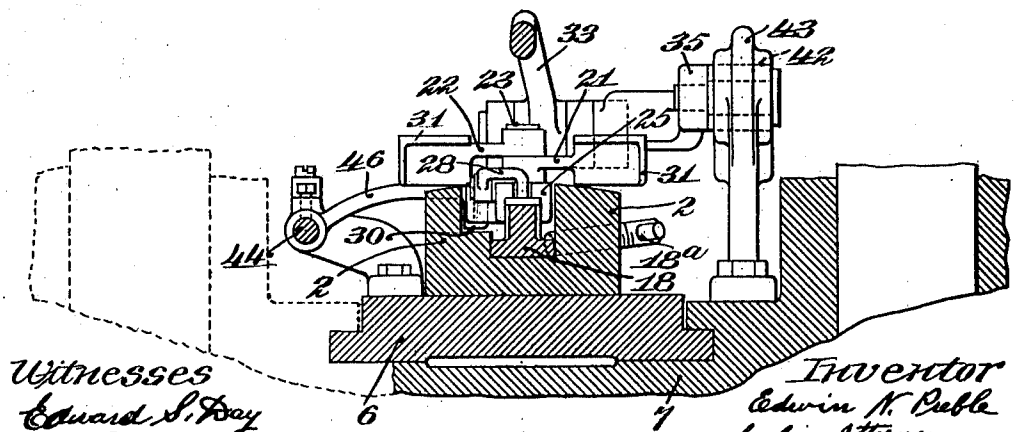


Fig. 6.



Witnesses
Edward S. Day
A. C. Richardson.

Fig. 7.

Inventor
Edwin N. Preble
by his Attorneys
Phillips Van Orden & Tisch

E. N. PREBLE.

SOLE PRESSING MACHINE.

APPLICATION FILED OCT. 19, 1908.

1,004,076.

Patented Sept. 26, 1911.

4 SHEETS—SHEET 4.

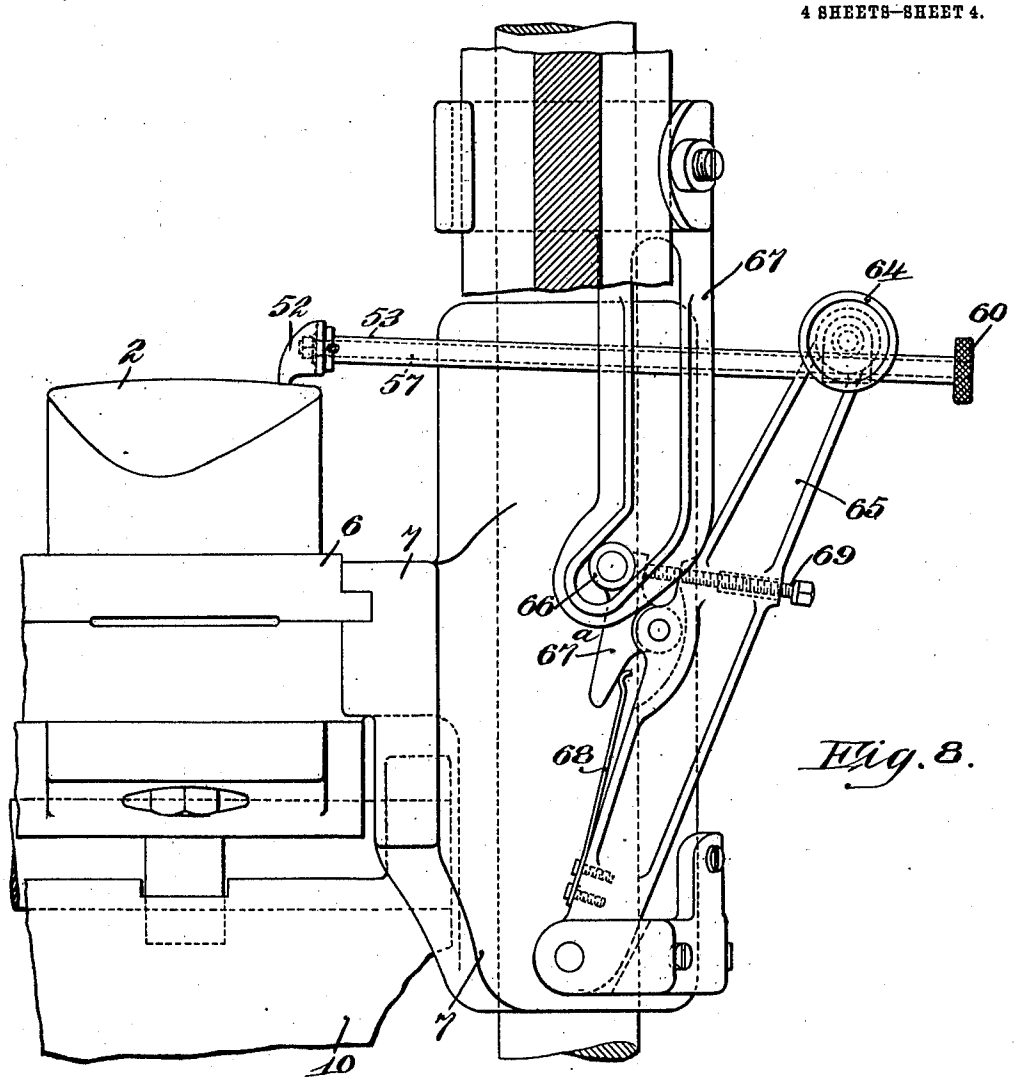


Fig. 8.

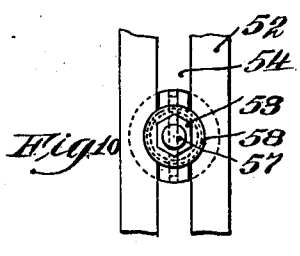


Fig. 10

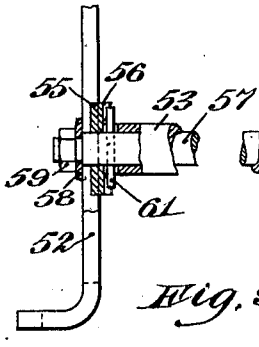
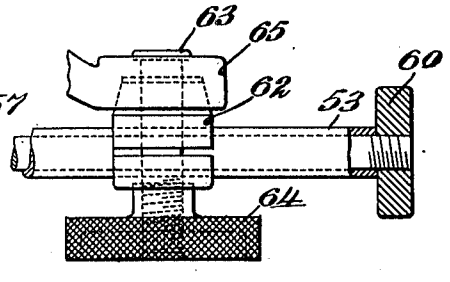


Fig. 9



Witnesses
Edward S. Day
A. C. Richardson.

Inventor
Edwin N. Preble
by his Attorneys
Phillips Van Orden & Bush

UNITED STATES PATENT OFFICE.

EDWIN N. PREBLE, OF BEVERLY, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SOLE-PRESSING MACHINE.

1,004,076. Specification of Letters Patent. Patented Sept. 26, 1911.

Application filed October 19, 1908. Serial No. 458,330.

To all whom it may concern:

Be it known that I, EDWIN N. PREBLE, a citizen of the United States, residing at Beverly, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Sole-Pressing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to that class of sole pressing machines known in the art as sole molding machines which are adapted to operate upon a sole before it is incorporated in a shoe.

The principal operation performed by a sole molding machine is to form a sharp bend in the sole at the juncture of the shank and forepart or at what is known as the ball line of the sole. To cause the bend in the sole to be formed at the desired point the sole must be placed accurately in proper position between the sole molding forms and must be prevented from being displaced during the pressing action of the forms. To secure this result sole gaging and gripping devices have heretofore been devised to assist the operator in placing the soles between the forms and to prevent the displacement of the sole when the forms are brought together.

The object of the present invention is to improve the construction, arrangement, and operation of sole gaging and sole gripping devices for sole molding machines, and with this object in view the invention consists in the constructions, combinations, and arrangements of parts hereinafter described and claimed, the advantages of which will be obvious to those skilled in the art from the following description.

The several features of the present invention are illustrated in the drawings accompanying this application as applied to a sole molding machine of a well-known type in which the sole molding forms comprise a stationary upper form, and a lower form movable toward and from the upper form to produce pressure and clearance and also movable to a position out of alinement with the lower form, which position permits a sole to be placed readily upon the lower form and is termed a position of presentation. It is to be understood, however, that except as defined in the claims, the several features of invention are not limited to use in a sole molding machine of this type nor except as defined in the claims are they limited to any particular construction and arrangement of parts.

The several features of the present invention will be clearly understood from an inspection of the accompanying drawings in which—

Figure 1 is a view in side elevation of a sole molding machine of the type above referred to with sole gaging and gripping devices embodying the several features of the invention in their preferred form applied thereto. Fig. 2 is a sectional plan view illustrating the construction and arrangement of the sole gaging and gripping devices associated with one of the lower forms. Fig. 3 is a detail view in side elevation of the parts illustrated in Fig. 2. Fig. 4 is a detail sectional view taken on the line 4—4, of Fig. 5, illustrating particularly the block which carries the heel gage and the manner in which the heel gage is mounted on the block. Fig. 5 is a detail plan view illustrating the heel gage and sole gripping devices and the parts associated therewith. Fig. 6 is a detail view in side elevation of the parts illustrated in Fig. 5. Fig. 7 is a detail sectional view taken on a plane indicated by the line 7—7, on Fig. 5. Fig. 8 is a detail view illustrating the construction and arrangement of the side gage and the mechanism for actuating the same. Fig. 9 is a detail plan view partly in section and partly broken away of the side gage and the construction by which it is adjustably mounted in the machine and Fig. 10 is a detail end view of a portion of the construction illustrated in Fig. 9.

The machine illustrated in Fig. 1 is a double machine and with the exception of the sole gaging and gripping devices which constitute the illustrated embodiment of the present invention, is of well-known construction.

The machine is provided with two sets of sole molding forms, but inasmuch as both sets of forms are mounted in the same manner and are actuated in the same way, one set only of forms is illustrated on the drawings.

One of the upper forms is indicated at 1 and its coöperating lower form is indi-

cated at 2. The upper form is removably secured to a carrier 3 which is supported on the stationary cross-head 4 of the machine so as to be capable of vertical adjustment by means of an adjusting wedge 5. The lower form is mounted on a horizontal reciprocating slide 6 which slides in suitable guideways formed in a vertically reciprocating cross-head 7, which cross-head is reciprocated from a crank on the crank shaft 8 by means of a link 9 and toggle levers 10. The crank shaft 8 is provided with two cranks extending in opposite directions, one crank being connected by means of the link 9 and toggle levers 10, to the cross-head 7 illustrated in Fig. 1, and the other crank being connected by a similar link and toggle levers to the cross-head corresponding thereto on the opposite side of the machine so that the cross-heads are reciprocated in opposite directions as is usual in this class of machines.

The reciprocating movements of the cross-head 7 move the form 2 toward and from the form 1 so as to exert pressure on the sole and then afford clearance between the forms to permit the insertion and removal of soles. The reciprocating movements of the slide 6 carry the lower form out of and into alinement with the upper form toward and from a position of presentation at the front of the machine. In the machine illustrated in Fig. 1, the reciprocating movements of the slide 6 are produced during the rising and falling movements of the cross-head 7 by mechanism comprising a bell crank 11 mounted on the cross-head, a link 12 connecting one arm of the bell crank and the slide 6, and a link 13 connecting the other arm of the bell crank to an arm 14 of a rock shaft journaled on the frame of the machine, which rock shaft is provided with an arm 15 acted upon by a coiled spring 16, one end of which is connected to the arm 15 and the other arm of which is connected to the frame of the machine. The slide on the opposite side of the machine corresponding to the slide 6 is actuated in the same manner as the slide 6 by a bell crank mounted on the cross-head corresponding to the cross-head 7 and connected by links to the slide and to an arm projecting from the same rock shaft as the arm 14. As has been stated the cross-head 7 and the cross-head corresponding thereto on the opposite side of the machine are reciprocated in opposite directions so that when one cross head is in its lowest position the other cross head is in its highest position. The bell crank levers mounted on the cross heads are actuated during the rising and falling movements of the cross heads to reciprocate the slides during the lower half of the reciprocating movements of the cross heads. The rearward movements of the slides are limited by stops in the form of cross pieces at the rear end of the guideways for the slides, one of such cross pieces being indicated at 17, (see Fig. 2). During the upward movement of the cross head 7 therefore the lower form 2 is moved from a position of presentation to a position of clearance in alinement with the uppor form and is then moved upwardly to produce pressure. During the downward movement of the cross head 7 the lower form 1 is first moved downwardly to afford clearance and is then moved outwardly to its position of presentation.

As so far described the machine illustrated in the drawings is the same in construction and mode of operation as a sole molding machine which has heretofore been devised.

The sole gaging and gripping devices illustrated in the drawings as embodying the several features of the present invention in their preferred form, comprise a heel gage to engage the heel end of the sole and determine its position with relation to the lower form, a side gage to engage the side of the sole on the lower form at the forepart of the sole, and a gripping device arranged to grip the heel portion of the sole and hold it in position during the action of the forms on the sole. The heel gage and the sole gripping devices are both mounted upon a carrier 18 which is seated in a longitudinal slot cut in the heel portion of the lower form and opening on the upper surface of the form. The carrier 18 is secured in position so that it can be readily removed from the machine to permit the heel gage and gripping devices to be used with different forms and also to permit the machine to be used without the heel gage and gripping device, as is often desirable or necessary when certain kinds of soles are to be operated upon. In the construction illustrated the carrier is secured directly to the lower form so as to be removable therewith by means of a clamping screw 18ª. The heel gage is adjustable on the carrier for soles of different sizes, and by reason of the fact that both the heel gage and the gripping device are mounted on the carrier their relative positions are not disturbed when the carrier is removed from the machine. The provision of a slot in the heel end of the form opening on the upper surface of the form permits the use of a complete lower form instead of a form having its heel portion cut off or omitted, which is an advantage, since the heel portion of the form serves as a support for the heel end of the sole while it is being placed in position by the operator. The lower form of the machine illustrated in the drawings is removably held in position by means of pins 19 and 20 projecting upwardly from the

slide 6, as is usual in this class of machines, and the use of a complete form instead of a cut off form enables the pin 20 to engage the form nearer the heel end than would otherwise be possible and hold the form more securely on the slide.

The heel gage comprises two arms 21 and 22 mounted upon a pin 23 and angularly disposed with relation to each other. These arms are movable into different angular positions to fit the heel portion of soles of different sizes and kinds, and are held in adjusted position by means of a spring 24 coiled around the pin 23 and arranged to press the hubs of the arms together as is clearly illustrated in Fig. 4. The pin 23 projects upwardly from a block 25 which is mounted to slide longitudinally on the carrier 18 so as to adjust the heel gage for soles of different sizes. The block 25 is held on the carrier 18 and permitted to slide thereon by means of pins 26 passing through the block 25 and through a slot 27 in the carrier. To hold the block 25 in adjusted position a locking pawl 28 is provided, which is pivotally mounted on the block 25 and provided with a toothed end arranged to engage a series of teeth 29 cut in the upper surface of the carrier 18. The pawl 28 is provided with a downwardly and laterally extending projection 30 arranged to be engaged by the mechanism hereinafter described for unlocking and adjusting the block 25 carrying the heel gage. Each of the arms 21 and 22 of the heel gage is provided with a flange 31 which is adapted to extend over the heel portion of the sole placed on the lower form and prevent this portion of the sole from rising until it is engaged by the sole gripping device.

The sole gripping device is arranged to engage opposite surfaces of the heel portion of the sole and comprises a stationary jaw 32 and a movable jaw 33. The stationary jaw consists of the roughened head of a screw threaded into the carrier 18 so that the jaw can be adjusted vertically to bring it substantially flush with the surface of the form with which the gripping device is being used. The movable jaw 33 of the gripping device is pivotally mounted upon a rock shaft 34 journaled in ears projecting upwardly from the rear end of the carrier 18. Secured to the rock shaft 34 is an arm 35 from the hub of which an arm 36 projects rearwardly beneath the rear end of the jaw 33. A rod 37 is secured in the rear end of the jaw 33 and projects downwardly through the rear end of the arm 36. Below the arm 36 the rod 37 is provided with nuts 38 threaded upon the rod, and above the arm 36 the rod is provided with a spring 39 coiled around the rod and seated at its upper end against a flange 40 on the rod. The arm 36 is thus connected to the movable jaw 33 in such manner that when the arm is moved in one direction the jaw is pressed yieldingly against the sole and when the arm is moved in the opposite direction the pressure of the spring 39 is removed from the sole and the jaw is positively raised. The rod 37 has a screw threaded engagement with the jaw 33 and is held in position by a clamping screw 41, this connection between the rod and the jaw permitting the jaw to be adjusted vertically as may be desired. To open and close the jaw 33 the arm 35 is provided at its free end with a roll 42 which engages a cam groove in a plate 43 secured to the cross head 6, the shape of the cam groove being such that during the movement of the lower form toward a position of presentation the gripping jaw 33 is opened and during the movement of the lower form to a position of clearance in alinement with the upper form the gripping jaw is closed.

In the machine illustrated in the drawings the sole molding forms are placed in the machine with their toe portions toward the front so that the heel gage is remote from the operator and not conveniently accessible for adjustment when a change is made from one size of sole to another. Mechanism has accordingly been provided for adjusting the heel gage which extends to a position at the front of the lower form conveniently accessible by the operator so that the heel gage can be adjusted without loss of time and without liability of injury. This mechanism, as illustrated in the drawings, comprises a longitudinally movable rock shaft 44 mounted in brackets on the slide 6. This rock shaft extends to the front of the slide and is provided with a knob 45 by which it can be rocked and moved longitudinally. Near its rear end the rock shaft 44 is provided with an arm 46 which extends laterally toward the carrier 18 and is provided at its free end with a notch to engage a projection 47 from the block 25 carrying the heel gage, as best shown in Figs. 2, 5 and 6. The arm 46 is also arranged to engage the projection 30 of the locking pawl 28 so that a slight rocking movement of the shaft 44 causes the arm 46 to lift the toothed end of the pawl 28 out of engagement with the teeth 29. Thereafter a longitudinal movement of the shaft 44 adjusts the block 25 and the heel gage mounted thereon. By rotating the shaft 44 in the opposite direction the arm 46 can be removed entirely from engagement with the block 25 to permit the removal of the carrier 18.

To indicate the position of the heel gage and enable the operator readily to set the gage for any particular size of sole, a scale plate 48 is mounted upon the forward end of the shaft 44 and a pointer 49 to coöperate therewith is mounted upon the slide. One

end of the scale plate 48 is received in a socket in a block 50 clamped to the shaft 44 and is removably held therein by a spring catch 51 mounted on the block 50 and engaging a slot in the plate. The scale plate is thus removably secured to the shaft and can be changed readily for a scale plate having a different series of numerals or graduations whenever the character of the work requires such a change.

The side gage for engaging the side of the sole at the forepart is indicated at 52, and as shown, consists of a plate provided with an inwardly and downwardly bent end to rest upon the surface of the lower form. The gage 52 is mounted upon the inner end of a hollow rod 53 and is adjustably secured to the rod so as to be capable of adjustment longitudinally of the lower form. To enable the gage to be adjusted longitudinally of the form it is provided with a slot 54 into which projects a rib 55 on a disk 56 mounted at the inner end of the rod 53 so as to rotate therewith and be capable of moving longitudinally thereof. Through the rod 53, a rod 57 extends and this rod also extends through the disk 56 and through the slot 54 of the gage 52. At its inner end the rod 57 is provided with a flanged head formed by a washer 58 and a nut 59 and at its outer end the rod 57 is provided with a knurled nut 60 screw-threaded upon the rod and arranged to bear against the outer end of the tubular rod 53. A pin 61 extends through the rod 57 and engages slots in the tubular rod 53 and disk 56 so that these parts are held against rotation with relation to each other. By screwing up the nut 60 the gage 52 is clamped between the washer 58 and the disk 56 and the disk 56 is clamped against the inner end of the rod 53. The rod 53 extends through a split clamp 62, which clamp is actuated to grip the tubular rod by means of a clamping bolt 63 and a clamping nut 64 screw-threaded on one end of the bolt. The split clamp 62 is provided with a conical portion which is received in a corresponding shaped seat in the upper end of a lever 65 and is held in said seat by means of the clamping bolt 63 and nut 64 as will be clearly understood from an inspection of Fig. 9. This construction permits the rod 53 to be moved longitudinally to adjust the edge gage transversely with relation to the lower form and also permits the rod 53 to be swung about the axis of the bolt 63 to adjust the edge gage vertically. The lever 65 is pivotally mounted at its lower end upon a bracket secured to the cross head 7 so that the lever and the edge gage, supported therefrom through the connections above described, move up and down with the cross head. The edge gage is moved into and out of gaging position during the lower half of the reciprocating movements of the cross head 7 so that the gage is in gaging position while the form is in its position of presentation and is removed from between the forms by the time the lower form reaches a position in alinement with the upper form. To move the edge gage in this manner the lever 65 is provided with a roll 66 which engages a cam slot in a plate 67 secured to the frame of the machine, the shape of the slot being such, as is clearly shown in Fig. 8, that during the first portion of the upward movement of the cross head 7 the edge gage is moved laterally and removed from between the forms and during the last part of the downward movement of the cross head 7 the gage is moved laterally into gaging position in contact with the upper surface of the lower form. To avoid breakage of the edge gage or any portion of its actuating mechanism and to insure the engagement of the edge gage with the lower form, a yielding connection is provided between the roll 66 and the lever 65. To this end the roll 66, instead of being mounted directly upon the lever 65, is mounted upon a lever 67^a pivotally mounted upon the lever 65 and acted upon by a leaf spring 68. This spring permits a relative yielding movement of the levers 67^a and 65 after the edge gage engages the lower form. The movement of the lever 67^a with relation to the lever 65 during the retracting movement of the edge gage is limited by a positive stop consisting of a rod 69 threaded into the lever 65 and engaging the lever 67^a.

The several features of the present invention having been described what is claimed is:—

1. A sole pressing machine, having, in combination, male and female sole molding forms, a gripping device arranged to grasp a sole and hold it in position during the operation of the forms thereon, and a cam and suitable connections arranged to cause the gripping device to be actuated by the cam both to grasp and release the sole.

2. A sole pressing machine, having, in combination, male and female sole molding forms, a gripping device arranged to grasp a sole and hold it in position during the operation of the forms thereon, and mechanism for actuating the gripping device both to grasp and release a sole said mechanism including a yielding connection to cause the gripping device to be forced yieldingly into engagement with the sole by said mechanism.

3. A sole pressing machine, having, in combination, upper and lower sole molding forms, means for actuating the forms to produce pressure and clearance and for moving the lower form to a position of presentation out of alinement with the upper form, a sole gripping device mounted to move with the lower form, and mechanism acting during the movements of the lower form toward

and from its position of presentation to open and close the gripping device, said mechanism including a yielding connection to cause the gripping device to be forced yieldingly against the sole by said mechanism.

4. A sole pressing machine, having, in combination, male and female sole molding forms, a gripping device arranged to grasp a sole and hold it in position during the operation of the forms thereon, and mechanism, including a spring, arranged to close the gripping device yieldingly against a sole and to remove the pressure of the spring on the gripping device and positively open the gripping device.

5. A sole pressing machine, having, in combination, male and female sole molding forms, a gripping device comprising a pivotally mounted jaw arranged to grasp a sole and hold it in position during the operation of the forms thereon, an arm pivotally mounted concentric with the movable jaw, a yielding connection between the arm and the jaw to cause the jaw to be forced yieldingly into engagement with the sole and a cam engaging the arm arranged to actuate the arm to open and close the jaw.

6. A sole pressing machine, having, in combination, male and female sole molding forms, a gripping device comprising a pivotally mounted jaw arranged to grasp a sole and hold it in position during the operation of the forms thereon, an arm pivotally mounted concentrically with the jaw, a cam for actuating the arm to open and close the jaw and a connection between the arm and the jaw acting to close the jaw yieldingly and to open the jaw positively.

7. A sole pressing machine, having, in combination, upper and lower sole molding forms, said lower form being provided at its heel end with a longitudinal slot opening on the upper surface of the form, a carrier mounted in said slot, and a sole gripping device and a heel gage mounted on said carrier.

8. A sole pressing machine, having, in combination, male and female sole molding forms, a gage for the heel end of the sole comprising two concentrically pivoted arms movable into different angular positions with relation to each other and a spring arranged to force the hubs of the arms against each other and hold the arms in adjusted position.

9. A sole pressing machine, having, in combination, upper and lower sole molding forms, and a gage for the heel end of the sole to determine the position of the sole longitudinally with relation to the forms provided with a flange arranged to extend over the sole when in position on the lower form.

10. A sole pressing machine, having, in combination, upper and lower sole molding forms, a sole gripping device arranged to engage opposite surfaces of a sole at the heel portion thereon, and a gage for the heel end of the sole provided with a flange to extend over the sole when in position on the lower form.

11. A sole pressing machine, having, in combination, upper and lower sole molding forms, a gage for the heel end of the sole to determine the position of the sole with relation to the lower form, said gage being adjustable for soles of different sizes, and mechanism extending to a point at the front of the lower form conveniently accessible by the operator for adjusting the heel gage.

12. A sole pressing machine, having, in combination, male and female sole molding forms, a removable carrier, a sole gripping device mounted on the carrier, a heel gage also mounted on the carrier having provision for adjustment for different sizes of soles, and mechanism for adjusting the gage mounted independently of the carrier and arranged to permit the independent removal of the carrier.

13. A sole pressing machine, having, in combination, upper and lower sole molding forms, a gage for the heel end of the sole to determine the position of the sole with relation to the lower form, mechanism extending to a point at the front of the form, conveniently accessible by the operator for adjusting the gage for soles of different sizes, and an indicating device located at the front of the form and coöperating with the adjusting mechanism to indicate the position of the gage.

14. A sole pressing machine, having, in combination, upper and lower sole molding forms, a gage for the heel end of the sole to determine the position of the sole with relation to the lower form, said gage being adjustable for soles of different sizes, a locking device for locking the gage in adjusted position, a longitudinally movable rock shaft arranged to be actuated by the operator to unlock and adjust the gage, and an arm projecting from the rock shaft arranged to actuate the locking device to unlock the gage when the shaft is rocked and to adjust the gage when the shaft is moved longitudinally.

15. A sole pressing machine, having, in combination, upper and lower sole molding forms, means for relatively moving the forms to produce pressure and clearance, a slide upon which the lower form is mounted movable to carry the lower form into and out of alinement with the upper form, a carrier removably mounted in fixed position with relation to the lower form, a sole gripping device and a heel gage mounted on the carrier, said heel gage being adjustable for soles of different sizes, a locking device for locking the heel gage to the carrier in adjusted position, a longitudinally movable rock shaft mounted on the slide arranged to

be actuated by the operator to unlock and adjust the gage, an arm projecting from the rock shaft removably engaging the heel gage and arranged to actuate the locking device to unlock the heel gage when the shaft is rocked and to adjust the heel gage when the shaft is moved longitudinally.

16. A sole pressing machine, having, in combination, male and female sole molding forms, a gripping device comprising a pivotally mounted jaw arranged to grasp a sole and hold it in position during the operation of the form thereon, an arm for actuating the jaw, yielding connections between the arm and the jaw to cause the jaw to be forced yieldingly into engagement with the sole, and a cam engaging the arm and arranged to actuate the arm to open and close the jaw.

17. A sole pressing machine, having, in combination, male and female sole molding forms, a gripping device comprising a pivotally mounted jaw arranged to grasp a sole and hold it in position during the operation of the forms thereon, an arm for actuating the jaw, a cam for actuating the arm to open and close the jaw, and a connection between the arm and the jaw acting to close the jaw yieldingly and to open the jaw positively.

18. A sole pressing machine, having, in combination, upper and lower sole molding forms, a cross head upon which the lower form is mounted movable toward and from the upper form to produce pressure and clearance, a side gage for the sole supported from the cross head, and means for moving the gage laterally with relation to the forms into and out of gaging position during the movements of the cross head.

19. A sole pressing machine, having, in combination, upper and lower sole molding forms, means for relatively moving the forms to produce pressure and clearance and for moving the lower form from and toward a position of presentation into and out of alinement with the upper form, a gage for the side of the sole, and means for moving the gage laterally with relation to the forms to cause it to be in gaging position when the lower form is in its position of presentation and to be out of gaging position before the forms are brought into a position of pressure.

20. A sole pressing machine, having, in combination, upper and lower sole molding forms, means for relatively moving the forms to produce pressure and clearance and for moving the lower form from and toward a position of presentation into and out of alinement with the upper form, a gage for the side of the sole and means for moving the gage laterally with relation to the forms into and out of gaging position during the movements of the lower form toward and from its position of presentation.

21. A sole pressing machine, having, in combination, upper and lower sole molding forms, means for relatively moving the forms to produce pressure and clearance, a gage for the side of the sole, a rod upon which the gage is mounted, longitudinally adjustable to adjust the gage transversely of the lower form, and mechanism connected with the rod for actuating the rod to move the gage into and out of gaging position.

22. A sole pressing machine, having, in combination, upper and lower sole molding forms, means for relatively moving the forms to produce pressure and clearance, a side gage for the sole, and mechanism for moving the gage into and out of engagement with the sole supporting surface of the lower form, including a lever, an actuating cam, and a yielding connection between the lever and cam.

23. A sole pressing machine, having, in combination, male and female sole molding forms, and a gage to determine the position of the sole longitudinally with relation to the forms having provision for adjustment for soles of different shapes.

24. A sole pressing machine, having, in combination, male and female sole molding forms, and a gage to determine the position of the sole longitudinally with relation to the forms consisting of pivoted arms adjustable for soles of different shapes.

25. A sole pressing machine, having, in combination, male and female sole molding forms, a gage for the heel end of the sole comprising two pivoted arms having provision for adjustment to bring them into line with each other or into different angular positions with relation to each other, and means for holding the arms in adjusted position.

26. A sole pressing machine, having, in combination, upper and lower sole molding forms, a sole gripping device and a gage for the heel end of the sole provided with a flange arranged to extend over the sole when in position on the lower form.

In testimony whereof I affix my signature, in presence of two witnesses.

EDWIN N. PREBLE.

Witnesses:

FRED O. FISH,

ANNIE C. RICHARDSON.