No. 884,144. PATENTED APR. 7, 1908.

W. FRASIER.

SOLE PRESSING MACHINE.

APPLICATION FILED MAR. 2, 1904.

5 SHEETS—SHEET 1.

Fig: 1.

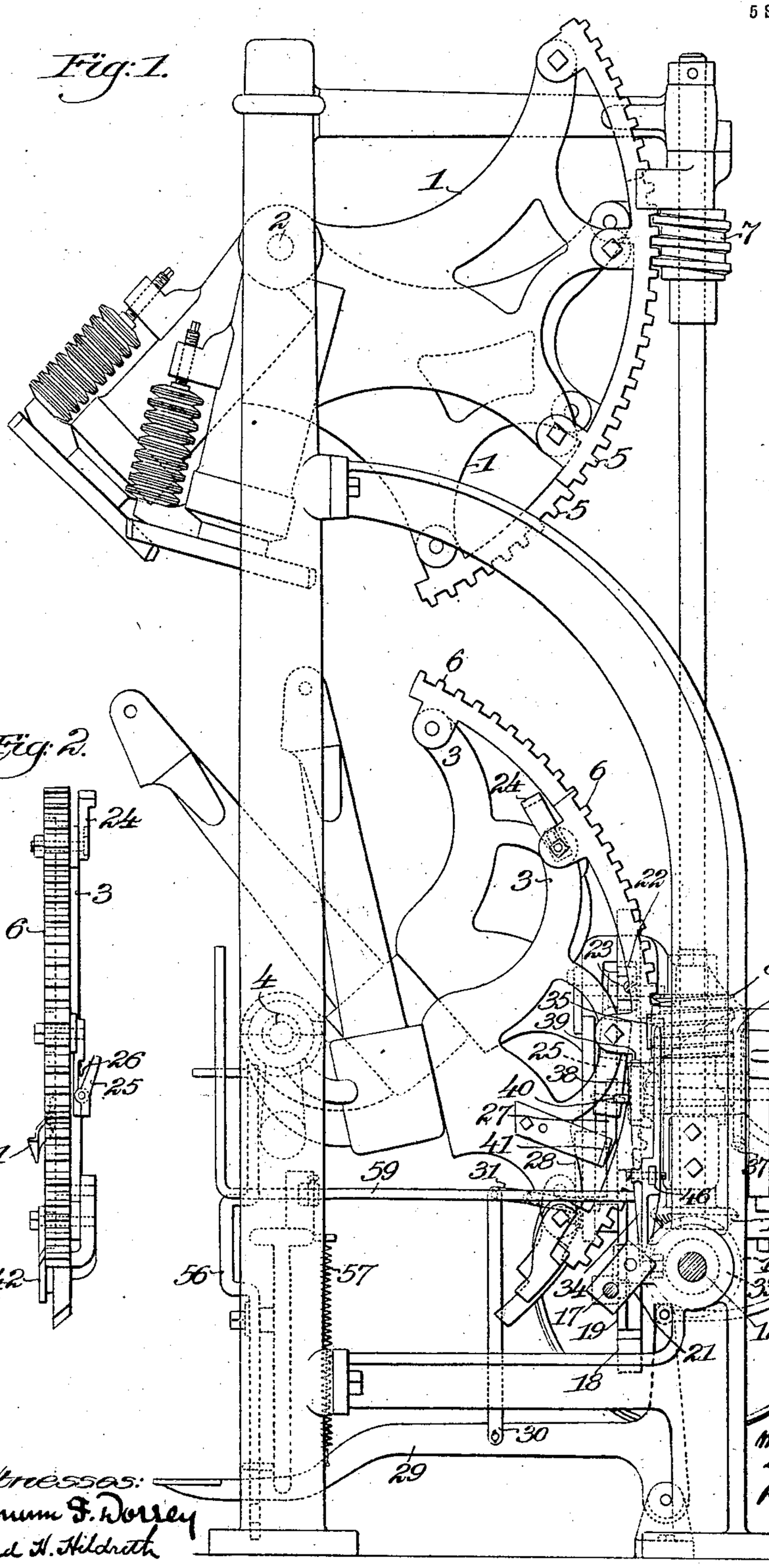

Fig: 2.

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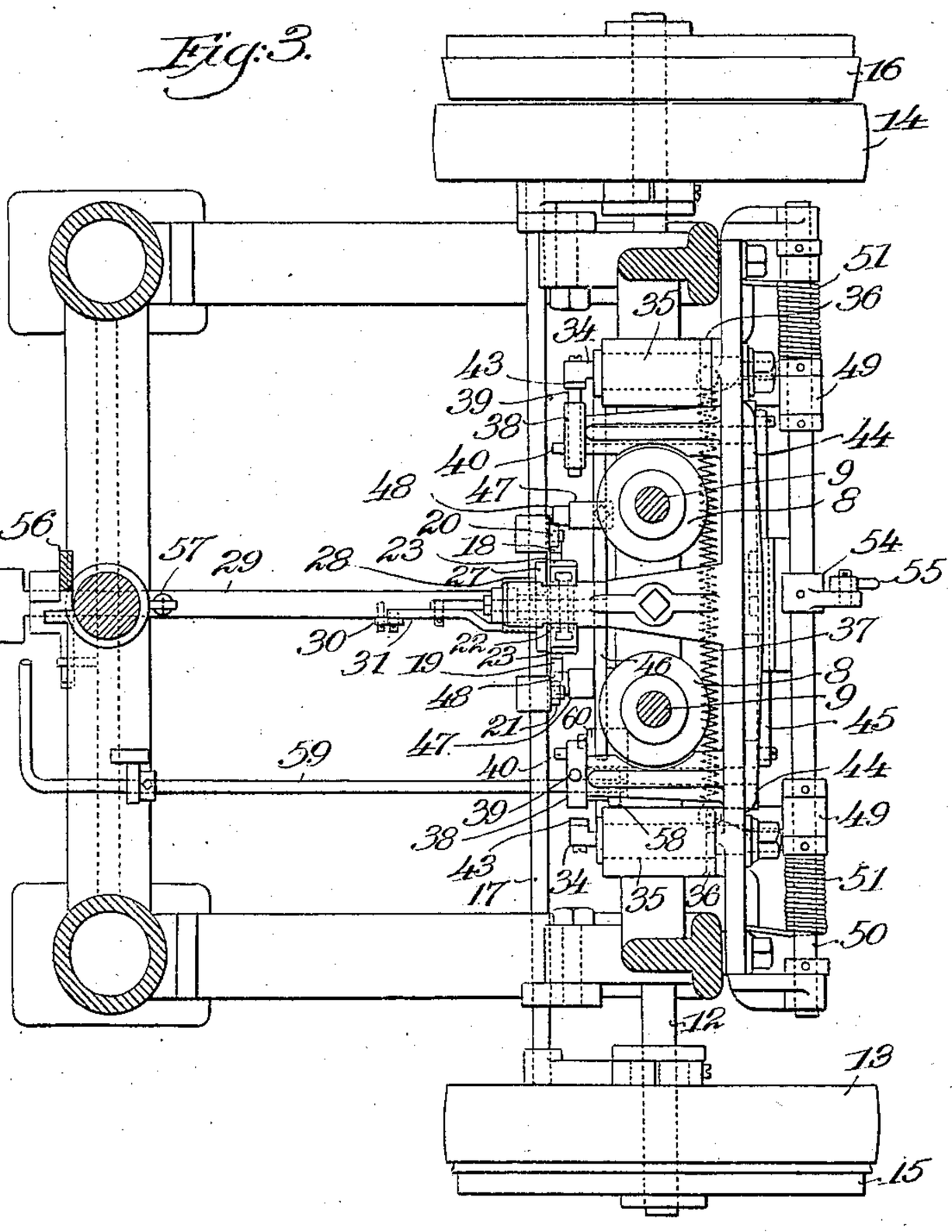
5 SHEETS—SHEET 2.

Fig: 3.



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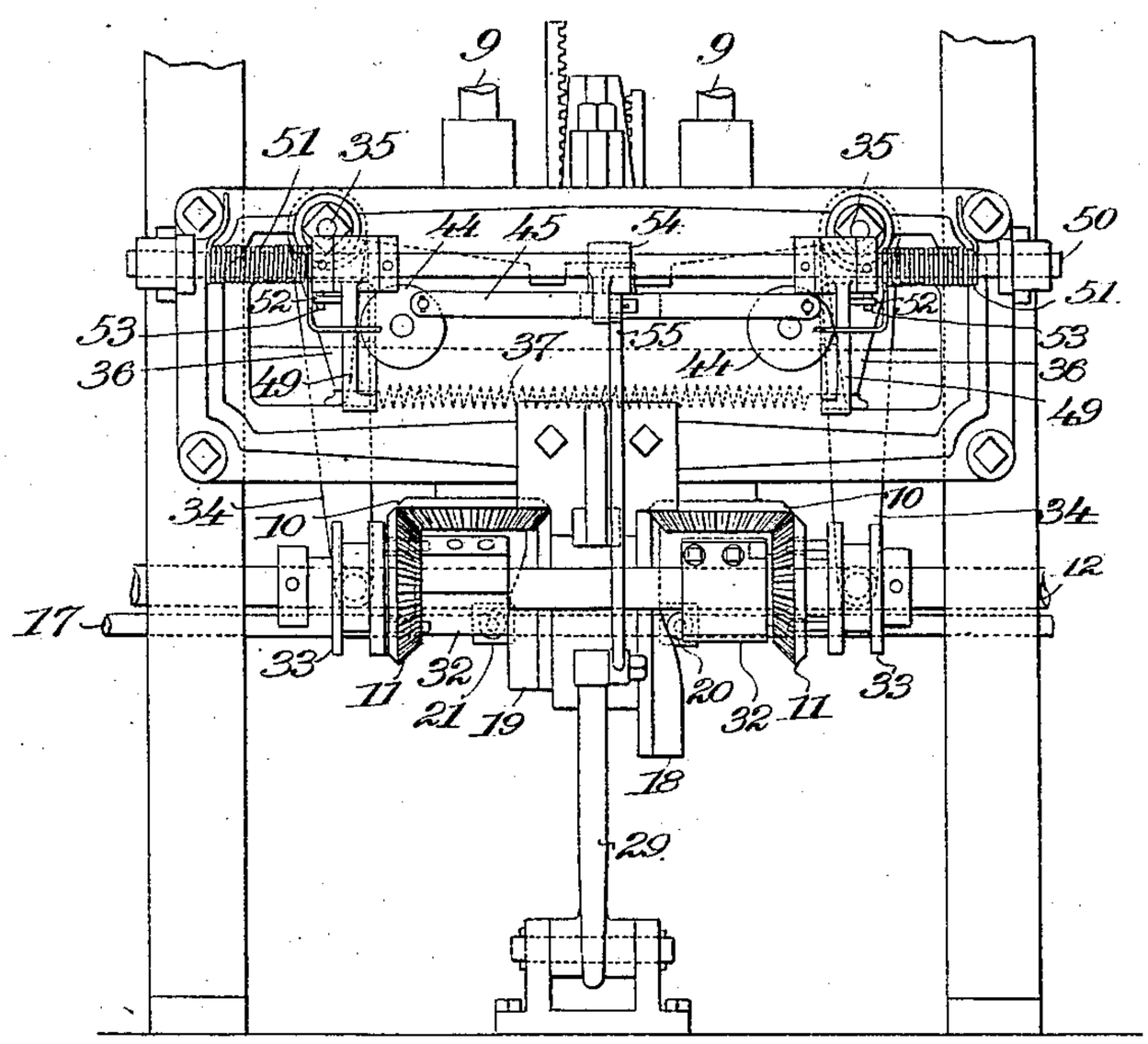
5 SHEETS—SHEET 3.

Fig. 4.



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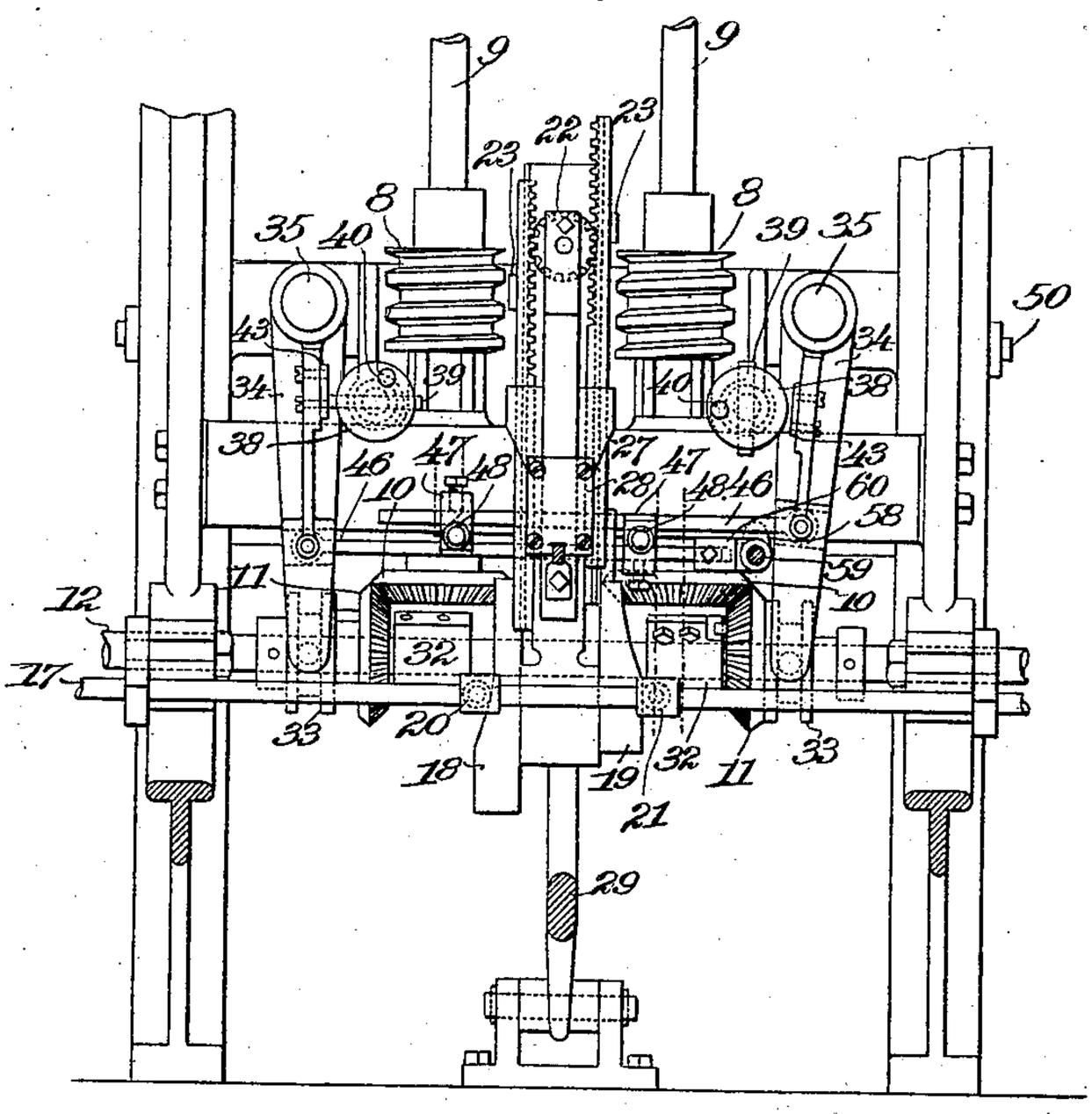
5 SHEETS—SHEET 4.

Fig: 5.



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5 SHEETS—SHEET 5.

Fig. 6.

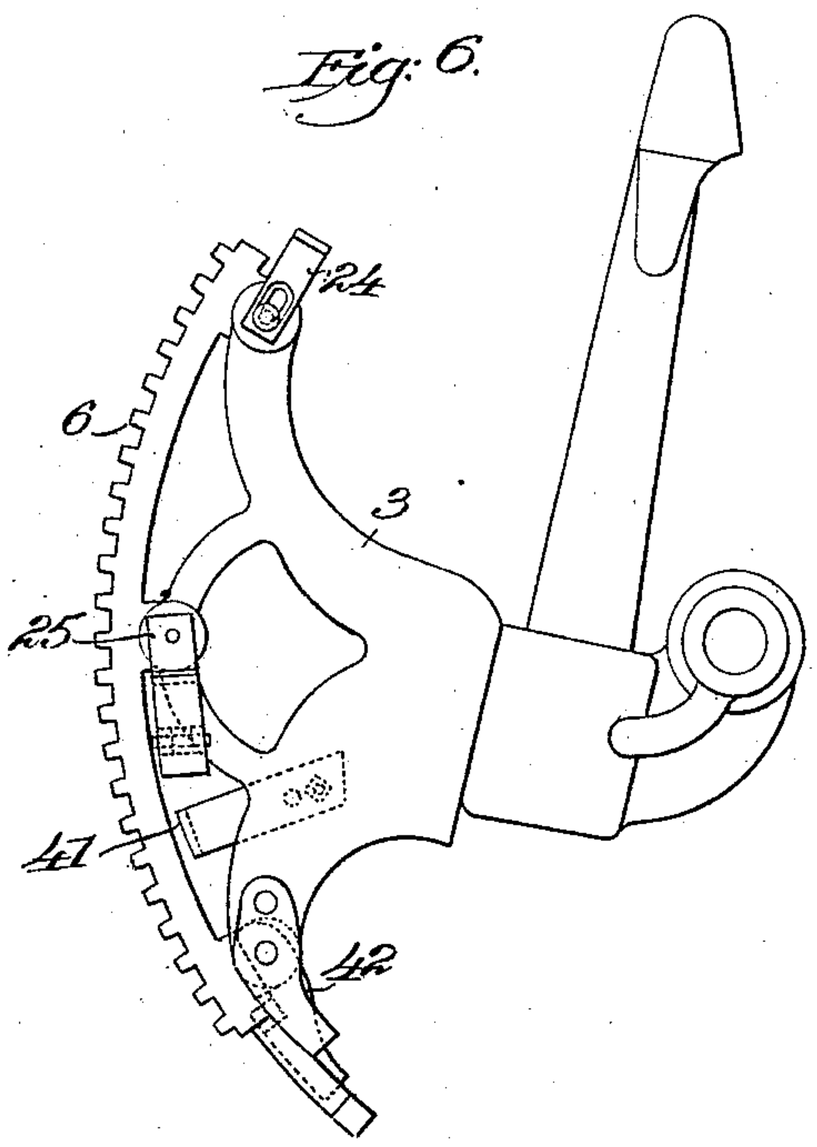


Fig. 7.

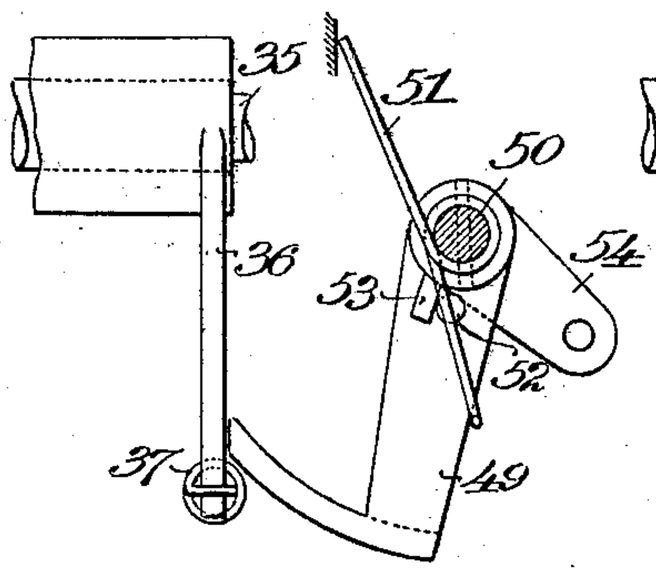
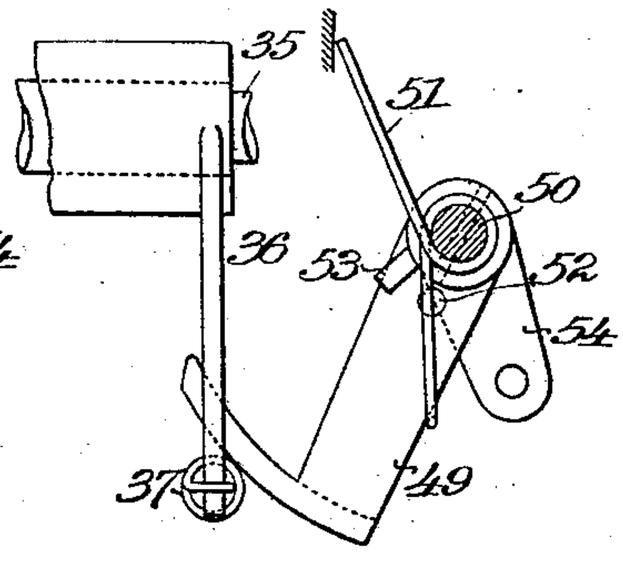


Fig. 8.



Witnesses.
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UNITED STATES PATENT OFFICE.

WARREN FRASIER, OF LYNN, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SOLE-PRESSING MACHINE.

No. 884,144. Specification of Letters Patent. Patented April 7, 1908.

Application filed March 2, 1904. Serial No. 196,180.

To all whom it may concern:

Be it known that I, WARREN FRASIER, a citizen of the United States, residing at Lynn, 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 sole pressing machines and more particularly to sole pressing machines which comprise a shoe supporting jack, a coöperating sole pressing form, and means for actuating the jack and form to subject the sole of a shoe supported upon the jack to a rolling pressure.

An object of the invention is to provide a rolling pressure sole leveling machine of improved construction and mode of operation by which the sole of a shoe can be subjected to any desired number of pressing operations at the will of the operator in order to properly beat out or level the sole.

Other objects of the invention are in general to improve the construction and operation of rolling pressure sole leveling machines.

With these objects in view the present invention consists in the constructions, arrangements and combinations of parts hereinafter described and claimed, the advantages of which will be obvious to those skilled in the art, from the following description.

The invention is intended primarily as an improvement on the well-known Tripp giant leveling machine disclosed in the patent to Tripp No. 296,486, April 8, 1884, but it is to be understood that certain features thereof are not limited to use in machines having the same general construction as the machine of said patent. It is also to be understood that while the invention is preferably embodied in a machine provided with two jacks and two coöperating sole pressing forms, as such a machine possesses advantages which will be readily understood by those skilled in the art, certain features thereof are not limited to such a machine but may be embodied in a machine provided with a single jack and a coöperating form.

The machine hereinafter specifically described embodies the various features of the invention in the best form which has yet been devised, but except as defined in the claims the invention is not limited to the specific constructions and arrangements of parts of this machine but may be otherwise embodied without departing from the spirit thereof.

The various features of the present invention will be clearly understood from the following description taken in connection with the accompanying drawings, in which

Figure 1 is a view in side elevation of a rolling pressure sole pressing machine embodying the same in their preferred form; Fig. 2 is an edge view of one of the jack supporting arms; Fig. 3 is a sectional plan view of the mechanism illustrated in the lower portion of Fig. 1 with the jack supporting arms omitted; Fig. 4 is a rear view of the mechanism illustrated in the lower portion of Fig. 1; Fig. 5 is a sectional view looking in the opposite direction from Fig. 4 illustrating the mechanism at the lower rear portion of the machine with the jack supporting arms omitted; Fig. 6 is a view in side elevation of one of the jack supporting arms detached from the machine; and Figs. 7 and 8 are detail views illustrating the construction and mode of operation of one of the latches which are controlled by the operator and which hold the clutches which connect the jacks and forms to the driving shaft out of operation.

Described in general terms the machine illustrated in the drawings comprises two pivotally mounted shoe supporting jacks and two pivotally mounted coöperating sole pressing forms, the jacks and forms being arranged substantially as in the machine disclosed in the patent to Tripp No. 296,486 and acting when oscillated to subject the soles of shoes supported upon the jacks to a rolling pressure. Each jack and its coöperating form is positively actuated from a main driving shaft by means of a worm shaft meshing with toothed segments upon the jack and form carrying arms and connected by bevel gears with the driving shaft substantially as in the machine of the Tripp patent.

In the patented machine the jacks and forms are permanently connected to the driving shaft so that both jacks and their coöperating forms are actuated simultaneously, one jack and form being moved inwardly to subject the sole of the shoe supported upon

the jack to pressure, and the other jack and its coöperating form being moved outwardly to bring the jack into a position to allow a shoe to be removed therefrom and another shoe to be placed thereon, which position is termed the position of presentation. Also each jack and form is stopped when the jack is in a position of presentation and also when the jack is in its extreme inward position of pressure the driving shaft being automatically stopped at the end of the movement of a jack and form in each direction and being started so as to rotate alternately in opposite directions by the operator.

In the machine illustrated in the drawings means are provided for connecting each jack and its coöperating form to the driving shaft and for disconnecting them therefrom so that one jack and form remain at rest at the front of the machine with the jack in a position of presentation to allow for the removal of a shoe therefrom and the placing of another shoe thereon while the other jack and form are being actuated to level the sole of a shoe. The jack and form which are being actuated are only stopped when the jack is in a position of presentation, mechanism actuated by the movement of the jack being provided for automatically reversing the direction of rotation of the main driving shaft. This mechanism is under the control of the operator and is so arranged that after one of the jacks and forms have been connected to the driving shaft the jack and form are moved toward the rear of the machine to subject the sole of a shoe upon the jack to a rolling pressure and are then moved forward and backward through a less distance to subject the sole of the shoe to a number of rolling pressures. These shorter pressing movements are continued as long as the operator desires and then the jack and form are returned to the front of the machine and are disconnected from the driving shaft when the jack reaches the position of presentation. The jacks and their coöperating forms are connected to the driving shaft alternately, means being provided whereby the movement of one jack to a position of presentation at the front of the machine disconnects that jack and its coöperating form from the driving shaft and releases the means for connecting the other jack and form to the driving shaft. Also means are provided whereby the means for connecting one jack and form to the driving shaft is held out of operation while the other jack and form are in operation.

The starting and stopping of the machine is controlled by the operator by means of a foot treadle, but the order in which the jacks and forms are connected to the driving shaft and the movements of the jacks and forms when in operation are controlled automatically by the movements of the jacks. In order to stop the machine at any point in its operation, means under the control of the operator is provided by which the operator can disconnect the jack and form in operation from the driving shaft at any point in their movement.

Referring now to the drawings, 1 indicates two form carrying arms pivotally mounted at 2 in the upper portion of the machine frame, and 3 indicates two jack carrying arms pivotally mounted at 4 in the machine frame beneath the arms 1. The jacks and forms mounted upon these arms are of any usual or suitable construction and the arrangement of the arms is such that when the arms are oscillated the soles of shoes supported upon the jacks are subjected to a rolling pressure. To the arms 1 are secured worm segments 5 and to the arms 3 are secured worm segments 6. These worm segments mesh with worms 7 and 8 secured to vertical shafts 9 journaled in bearings in the rear portion of the machine frame. At their lower ends the shafts 9 are provided with bevel gears 10 which mesh with oppositely disposed bevel gears 11 upon the driving shaft 12. The above described connections between the jack and form carrying arms and the driving shaft are such that a rotation of the shaft 12 alternately in opposite directions imparts inward and outward oscillating movements to the jacks and forms supported by the arms, the construction being the same as in the machine disclosed in the patent to Tripp above referred to. The bevel gears 11 are, however, loosely mounted upon the driving shaft 12 instead of being rigidly connected thereto as in the machine of the Tripp patent and are connected thereto as will be hereinafter described so that the jacks and their coöperating forms are operated alternately, one jack and form remaining at rest at the front of the machine while the other jack and form are being actuated to press the sole of a shoe.

The means for rotating the driving shaft 12 in opposite directions are the same as in the machine of the Tripp patent and comprise two oppositely driven pulleys 13 and 14 mounted to rotate loosely and slide longitudinally upon the driving shaft, and two friction clutch disks 15 and 16 secured to the driving shaft and arranged to coöperate with friction faces on the pulleys 13 and 14. The pulleys 13 and 14 are moved alternately into engagement with the friction clutch disks 15 and 16 by means of a shipper rod 17 provided with arms engaging grooved collars on the hubs of the pulleys and which is moved longitudinally in opposite directions by mechanism which is actuated from the arm 3 of the jack which is in operation.

The mechanism for actuating the shipper rod will be clearly understood from an inspection of Figs. 1, 3 and 5. Referring to these

figures and more particularly to Fig. 5, 18 and 19 indicate two cam slides mounted to reciprocate vertically in guideways in the machine frame and to engage respectively rolls 20 and 21 mounted on blocks secured to the shipper rod 17. The adjacent faces of the upper ends of the cam slides 18 and 19 are provided with rack teeth which mesh with the teeth of a pinion 22 mounted to rotate upon a stud fixed in the frame of the machine between the upper ends of the slides. The cam slides are thus connected together so as to move simultaneously in opposite directions, the upward movement of one slide producing a downward movement of the other slide. The arrangement of the cam faces on the cam slides with relation to the rolls 20 and 21 is such that an upward movement of one slide and a corresponding downward movement of the other slide moves the shipper rod 17 longitudinally in one direction or the other and thereby reverses the direction of rotation of the driving shaft by disconnecting one of the driving pulleys 13 and 14 from the driving shaft and connecting the other pulley thereto.

The slides 18 and 19 are actuated during the operation of the machine by projections on the arm 3 of the jack which is in operation and to this end each slide is provided with a projecting lug 23, one of which is arranged to be engaged by the projections on one of the jack supporting arms 3 and the other to be engaged by the projections on the other jack supporting arm. The projections on one of the jack supporting arms which engage the lug 23 of the slide 19 are indicated at 24 and 25 (see more particularly Figs. 2 and 6). These lugs and certain other parts carried by the jack supporting arm 3 illustrated in Figs. 2 and 3 are duplicated on the other jack supporting arm but are omitted from Fig. 1 in which the other arm is shown to avoid confusing the drawings. The projection 24 engages the lug 23 of the slide 19 when the jack is in its extreme inward position and actuates the slides 18 and 19 to reverse the direction of rotation of the driving shaft to cause the jack to be moved towards the front of the machine. When the jack is in its extreme inward position the toe portion of the shoe is being subjected to pressure. It will be evident that a shorter inward movement is required for a shoe of a small size than for a shoe of a large size and in order to adjust the extent of the inward movement to suit shoes of varying sizes the projection 24 is adjustably secured to the arm 3 by means of a bolt passing through a slot in the projection.

The projection 25 is arranged to engage the lug 23 during the outward movement of the jack and before the jack reaches its position of presentation at the front of the machine so that when the jack and its coöperating form are connected to the driving shaft they are given a series of backward and forward oscillating movements sufficient in extent to press the sole of the shoe supported upon the jack but not sufficient to separate the jack and form and bring the jack into a position of presentation. These relatively short oscillating movements are continued so long as the projection 25 is allowed to engage the lug 23 during the outward movement of the jack. In order to allow the jack to return to its position of presentation at the front of the machine, means under the control of the operator are provided for preventing the engagement of the projection 25 with the lug 23. To this end the projection 25 is pivotally mounted upon the arm 3 and is normally held in a position to engage the lug 23 by means of a spring 26 as is clearly shown in Fig. 2.

A cam plate 27 is provided (see more particularly Fig. 5) which is secured to a slide 28 mounted upon a vertical guideway of the machine frame. This cam plate is provided with cam surfaces on its opposite edges which are located in the path of movement of the projections 25 on the jack supporting arms 3. The normal position of the cam plate while one of the jacks and its coöperating form are in operation is that illustrated in Fig. 5 and when the cam plate is in this position it will be seen that the projection 25 of the jack supporting arm which is in operation rides over one of the cam surfaces of the cam plate and is then projected by its spring into a position to engage one of the lugs 23. The cam plate 27 can, however, be raised into a position in which one of its cam surfaces forms a continuation of the outer surface of the lug 23 which would otherwise be engaged by the projection 25 of the jack supporting arm in operation and when in this position the projection 25 is caused to ride over the lug 23 without engaging therewith and the jack is allowed to return to its position of presentation at the front of the machine. The cam plate 27 is moved into a position to prevent the projection 25 from engaging the lug 23 by means of a treadle lever 29 connected by means of a link 30 to one end of a lever 31 pivoted upon the frame of the machine and engaging at its other end with the slide 28, the arrangement being such that the depression of the treadle lever 29 by the operator raises the slide 28 and the cam plate 27 secured thereto.

As has been stated the bevel gears 11 are mounted loosely upon the main driving shaft 12 and are connected thereto alternately so that one jack and form remains at rest at the front of the machine with the jack in a position of presentation while the other jack and form are being actuated to level the sole of a shoe. The bevel gears are connected to the shaft by means of clutches each of which

comprises a recessed block 32 secured to the driving shaft upon one side of a gear 11 and a grooved collar 33 upon the other side of the gear mounted loosely upon a sleeve integral with the gear so as to be capable of sliding longitudinally thereon and being provided with pins passing through holes in the gear and arranged to engage the recesses in the block 32. Each grooved collar 33 is engaged by the lower end of a lever arm 34 pivotally mounted upon a stud 35 secured in the frame of the machine. An arm 36 extends downwardly from the hub of each lever arm 34 and the two arms 36 are connected by means of a coiled spring 37, the construction being such that the spring tends to move the arms 34 in a direction to clutch the bevel gears 11 to the driving shaft.

The movements of the arms 34 are controlled by the jack supporting arms 3, means being provided whereby one of the arms 34 is actuated to disconnect from the driving shaft the bevel gear 11 from which the jack and form in operation are actuated when the jack is returned to its position of presentation and whereby the other arm 34 is prevented from being moved to connect the other bevel gear 11 to the driving shaft until the jack and form in operation have been brought to rest at the front of the machine. The means illustrated in the drawings for accomplishing these results will be clearly understood from an inspection of Figs. 1, 2, 3 and 5. Referring to these figures 38 indicates two disks upon the forward end of two short horizontal shafts journaled in the frame of the machine, a disk being located in close proximity to each of the arms 34. Each of these disks is provided with a pin 39 mounted to slide freely in a guideway extending diametrically through the disk and with a pin 40 projecting from the face of the disk. The pins 40 are arranged to be engaged by projections 41 on the jack supporting arms 3 and the pins 39 are arranged to be engaged by cam plates 42 secured to the jack supporting arms 3, the construction and arrangement being such that when the jack and form which are in operation are moved to bring the jack into its position of presentation at the front of the machine the projection 41 on the jack supporting arm engages a pin 40 of a disk 38 and turns the disk so as to cause one end of the pin 39 of the disk to bear against a plate 43 on one of the arms 34 and to bring the other end of the pin 39 into the path of movement of the cam plate 42 and thereafter the cam plate 42 forces the pin endwise against the plate 43 of the arm 34 and moves the arm to disconnect from the driving shaft the bevel gear 11 from which the jack and form in operation were actuated. Upon the rear ends of the shafts of the disks 38 are secured crank disks 44 which are connected by a link 45 so that the movement of one disk 38 to bring its pin 39 into engagement with a plate 43 on an arm 34 moves the other disk 38 into a position in which its pin 39 is disengaged from the plate 43 on the other arm 34. The movements of the disk 38 in each direction are limited by a projection on the link 45 which extends into a position between two lugs on the machine frame as is clearly shown in Fig. 4. It will be evident from the above description that when one jack and its coöperating form are in operation the other jack and form are held out of operation by the engagement of the cam plate 42 of the jack supporting arm which is at rest with a pin 39 and that the disk carrying this pin is moved to allow the jack and form which have been at rest to be thrown into operation when the jack and form which have been in operation are brought to rest in their initial position at the front of the machine.

In order to prevent the jack and form which are at rest from being thrown into operation while the other jack and form are being actuated, in case the disks 38 are accidentally rotated, a locking rod 46 is pivotally connected to each arm 34 and is mounted to slide longitudinally in bearings in the frame of the machine. Each of these rods is provided with a block 47 secured thereto upon which is mounted a roll 48 arranged to bear against the inner surface of one of the worm segments 6 secured to the jack supporting arms 3. When the jacks are in their position of presentation at the front of the machine the rolls 48 are out of engagement with the inner surfaces of the worm segments 6 so that when the jacks are in this position the locking rods do not prevent the movement of either arm 34 to connect one of the bevel gears 11 to the driving shaft. As soon, however, as one of the jacks and forms is thrown into operation one of the rolls 48 is engaged by the inner surface of the worm segment 6 of the jack supporting arm and thereby the other jack and its coöperating form are prevented from being thrown into operation until the jack and form which are in operation have been returned to their initial position at the front of the machine.

If no means other than those hereinbefore described were provided for controlling the movements of the lever arms 34, one jack and its coöperating form would be thrown into operation as soon as the other jack and form were returned to their initial position at the front of the machine, so that the two jacks with their coöperating forms would be operated alternately so long as power was applied to the main driving shaft. The machine illustrated in the drawings is, however, provided with means under the control of the operator for controlling the movements of the lever arms 34 so that the jack and form which have been at rest are not

thrown into operation until the operator desires. This means for controlling the movements of the lever arms 34 comprises two latches 49 pivotally mounted upon a horizontal rock shaft 50 journaled in bearings at the rear of the machine frame and arranged to swing into a position to engage the arms 36 and hold the lever arms 34 in the position in which the bevel gears 11 are disconnected from the driving shaft. The construction and mode of operation of these latches will be clearly understood from an inspection of Figs. 1, 4, 7 and 8. Each of the latches 49 is acted upon by a spring 51 coiled around the rock shaft 50 and having one end in engagement with the frame of the machine and the other end in engagement with the latch, the arrangement of the springs being such as to tend to force the latches into a position to engage the arms 36. Each latch is provided with a laterally projecting pin 52 which is arranged to be engaged by a pin 53 projecting from a collar fast on the rock shaft. The rock shaft 50 is provided with an arm 54 which is connected by a link 55 to an arm projecting upwardly from the treadle lever 29. The arrangement of the pins 52 and 53 and the connections between the treadle lever 29 and the rock shaft 50 are such that when the treadle lever is raised the shaft 50 is rocked so as to bring the pins 53 into engagement with the pins 52 and move the latches 49 against the tension of springs 51 into a position in which they are out of engagement with the arms 36, and when the treadle lever is depressed the latches 49 are pressed toward the arms 36 by means of the springs 51. When, therefore, the treadle lever 29 is depressed by the operator in order to raise the cam plate 27 so as to cause the jack and form which are in operation to return to their initial position at the front of the machine, the latches 49 are allowed to move towards the arms 36 under the force of the springs 51, one latch moving immediately into a position to engage one of the arms 36 so as to prevent the jack and form which are at rest from being thrown into operation, and the other latch being pressed against the other arm 36 until the jack and form which have been in operation are disconnected from the driving shaft, and then moving into engagement with the arm. In order to throw the jack and form which have been at rest into operation the treadle lever 29 is allowed to rise, thereby removing the latches 49 from engagement with the arms 36. When both jacks and their coöperating forms are at rest at the front of the machine, the treadle lever 29 is held depressed by a locking lever 56 pivoted upon the frame of the machine and provided at its upper end with a handle by means of which it can be readily actuated by the operator to release the treadle lever. The treadle lever is depressed by the operator and is raised when released from the locking lever 56 by means of a coiled spring 57 connected at one end to the treadle lever and at the other end to the frame of the machine.

It is desirable in rolling pressure sole pressing machines that means be provided whereby the jack and form which are in operation can be stopped at any point in their movement as, for instance, to prevent crushing the hand of an operator accidentally caught between a jack and form. To this end the machine illustrated in the drawings is provided with a cam 58 arranged to bear against the side of one of the lever arms 34 and secured to a shaft 59 journaled at its inner end in a block 60 secured to the rod 46 which is connected to the other lever arm 34 and journaled at its outer end in the frame of the machine (see Figs. 1, 3 and 5). The outer end of the shaft 59 is bent upwardly to form a handle by means of which the shaft may be rocked by the operator. The normal position of the cam 58 is that illustrated in Fig. 5. When it is desired to stop the jack and form which are in operation the shaft 59 is rocked by the operator and the cam 58 is brought into engagement with the arm 34 adjacent thereto. If this arm is in the position illustrated in Fig. 5 it is moved to disconnect the bevel gear 11 to which it is connected from the driving shaft. If this bevel gear is disconnected from the driving shaft and the bevel gear on the opposite side of the machine is connected thereto a rotation of the shaft 59 brings the cam 58 into engagement with the arm 34 as before and the cam acts to move the inner end of the shaft 59 laterally and through the rod 46 to move the other arm 34 so as to disconnect the bevel gear on the other side of the machine from the driving shaft.

The operation of the machine above described is as follows:—Starting with the parts in the position illustrated in the drawings in which the treadle lever 29 is in its raised position and the jack and form upon the right-hand side of the machine as viewed from the front of the machine are in operation, the jack and form move inwardly until the projection 24 upon the jack supporting arm 3 engages the lug 23 of the cam slide 19 when the cam slide 19 is depressed and the cam slide 18 is raised, thereby shifting the shipper rod 17 and reversing the direction of rotation of the driving shaft. The jack and form move outwardly until the projection 25 engages the lug 23 of the cam slide 19 and actuates the cam slides 19 and 18 to again reverse the direction of rotation of the driving shaft. These inward and outward movements of the jack and form are sufficient in extent to subject all portions of the sole of a shoe upon the jack to pressure but are not sufficient to return the jack and form

to their initial position at the front of the machine. After the shoe has been subjected to the desired number of pressing operations the operator depresses the treadle lever 29, thereby, through the link 30 and lever 31, raising the cam plate 27. While the cam plate is in its raised position the jack and form are moved outwardly and as the projection 25 reaches the cam plate 27 it is caused to ride over the cam surface of the plate and over the projection 23 of the slide 19 without engaging the same. The jack and form continue their outward movement, the projection 41 on the jack supporting arm 3 engages the pin 40 of the disk 38 which is illustrated on the right-hand side of Fig. 5 and turns the disk so as to bring one end of the pin 39 into engagement with the plate 43 of the arm 34 adjacent to the disk, and the cam plate 42 on the jack supporting arm engages the pin 39 and moves it endwise, thereby actuating the arm 34 to disconnect the bevel gear 11 from the driving shaft. This rotation of the disk 38 illustrated at the right-hand side of Fig. 5 rotates the disk 38 illustrated at the left-hand side of the figure into a position in which the pin 39 mounted in the disk is out of engagement with the arm 34 adjacent thereto. During the backward and forward movements of the jack and form at the right-hand side of the machine, the jack and form at the left-hand side of the machine are held disconnected from the driving shaft by the pin 39 of the disk 38 at the left-hand side of Fig. 5 and by the engagement of a roll 48 on one of the locking rods 46 with the inner surface of the worm segment 6 attached to the jack supporting arm in operation. After the jack and form which have been in operation are disconnected from the driving shaft as above described, both jacks and forms remain at rest until the treadle lever 29 is allowed to rise, both lever arms 34 being held in a position in which the bevel gears 11 are disconnected from the driving shaft by the engagement with the arms 36 of the latches 49. When the treadle lever 29 is allowed to rise the latches 49 are moved out of engagement with the arms 36 and the arm 34 illustrated at the left-hand side of Fig. 5 is allowed to move into a position in which the bevel gear 11 on the left-hand side of the machine is connected to the driving shaft. The jack and form at the left-hand side of the machine are thus thrown into operation and are actuated to level the sole of a shoe and are returned to their initial position at the front of the machine and brought to rest, when the treadle 24 is again depressed by the operator, the operation being the same as that of the jack and form at the right of the machine above described. The driving shaft 12 rotates continuously in one direction or the other so long as power is applied thereto and the two jacks and their coöperating forms are connected thereto and disconnected therefrom alternately by raising and depressing the treadle lever 29. If it is desired to stop the jack and form in operation at any point in their movement, the rock shaft 59 is actuated by the operator and one or the other of the lever arms 34 moved as has been described to disconnect one of the bevel gears 11 from the driving shaft.

Having thus described my invention I claim as new and desire to secure by Letters Patent of the United States:—

1. A sole pressing machine, having, in combination, a shoe supporting jack, a cooperating sole pressing form, mechanism acting continuously to move the jack and form to subject the sole of a shoe supported upon the jack to a plurality of rolling pressures, and means controlled by the operator acting whenever it is put into operation to stop the jack and form with the jack in a position of presentation, substantially as described.

2. A sole pressing machine, having, in combination, a shoe supporting jack, a sole pressing form, a driving shaft and suitable connections for actuating the jack and form to subject the sole of a shoe supported upon the jack to a rolling pressure, means for rotating the driving shaft in opposite directions, means acting automatically to produce a plurality of reversals in the direction of rotation of the driving shaft, and means controlled by the operator for preventing a reversal in the direction of rotation of the driving shaft to allow the jack to move to a position of presentation, substantially as described.

3. A sole pressing machine, having, in combination, a shoe supporting jack, a sole pressing form, a driving shaft and suitable connections for actuating the jack and form to subject the sole of a shoe supported upon the jack to a rolling pressure, means for rotating the driving shaft in opposite directions, means for reversing the direction of rotation of the driving shaft, means controlled by the operator for preventing a reversal in the direction of rotation of the driving shaft, and means actuated when a reversal in the direction of rotation of the driving shaft is prevented for disconnecting the jack from the driving shaft, substantially as described.

4. A sole pressing machine, having, in combination, two shoe supporting jacks, two coöperating sole pressing forms, means for actuating each jack and form to subject the sole of a shoe supported upon the jack to a rolling pressure, and means for preventing one jack and form from being thrown into operation while the other jack and form are in operation, substantially as described.

5. A sole pressing machine, having, in combination, two shoe supporting jacks, two

coöperating sole pressing forms, means for actuating each jack and form to subject the sole of a shoe supported upon the jack to a rolling pressure, means for preventing one jack and form from being thrown into operation while the other jack and form are in operation, and means for causing the jacks and their coöperating forms to be thrown into operation alternately, substantially as described.

6. A sole pressing machine, having, in combination, two shoe supporting jacks, two coöperating sole pressing forms, means for actuating each jack and form to subject the sole of a shoe supported upon the jack to a rolling pressure, and means for causing the jacks and their coöperating forms to be thrown into operation alternately, substantially as described.

7. A sole pressing machine, having, in combination, two shoe supporting jacks, two coöperating sole pressing forms, means for actuating each jack and its coöperating form to subject the sole of a shoe supported upon the jack to a rolling pressure, and means for throwing each jack and its coöperating form out of operation and for allowing the other jack and its coöperating form to be thrown into operation, substantially as described.

8. A sole pressing machine, having, in combination, two shoe supporting jacks, two coöperating sole pressing forms, a driving shaft and suitable connections for actuating the jacks and forms to subject the soles of shoes supported upon the jacks to a rolling pressure, means for rotating the shaft in opposite directions, means for reversing the direction of rotation of the driving shaft, and means controlled by the operator for connecting and disconnecting each jack and its coöperating form and the driving shaft, substantially as described.

9. A sole pressing machine, having, in combination, a shoe supporting jack and a coöperating sole pressing form arranged to subject the sole of a shoe supported upon the jack to a rolling pressure, mechanism acting continuously for imparting to the jack and form relatively long movements from and towards a position of presentation and intermediate shorter movements and means controlled by the operator for determining the number of such intermediate shorter movements, substantially as described.

10. A sole pressing machine, having, in combination, a pivotally mounted jack, a pivotally mounted sole pressing form coöperating therewith to subject the sole of a shoe supported upon the jack to a rolling pressure, jack and form toothed segments, a worm shaft provided with worms meshing therewith, a driving shaft, means for rotating said shaft in opposite directions, gearing connecting the driving and worm shafts, a shipper rod, two cam slides for actuating the shipper rod to reverse the direction of rotation of the driving shaft, mechanism connecting the cam slides to cause them to be reciprocated in opposite directions, projections on the jack segment arranged to engage one of the cam slides and move it alternately in opposite directions, a cam plate, means actuated by the operator for moving the cam plate into a position to hold one of the projections on the jack segment out of engagement with the cam slide and permit a long oscillation of the jack segment, and means actuated by the jack segment during such long oscillation for throwing the jack and form out of operation, substantially as described.

11. A sole pressing machine, having, in combination, two shoe supporting jacks, two coöperating sole pressing forms, a driving shaft and suitable connections for actuating the jacks and forms to subject the soles of shoes supported upon the jacks to a rolling pressure, means for rotating the shaft in opposite directions, means for reversing the direction of rotation of the driving shaft, means controlled by the operator for preventing a reversal in the direction of rotation of the driving shaft to permit a relatively long movement of the jack and form in operation, and means actuated during such long movement for disconnecting the jack and form from the driving shaft, substantially as described.

12. A sole pressing machine, having, in combination, a shoe supporting jack, a coöperating sole pressing form, mechanism acting continuously to move the jack and form to subject the sole of a shoe supported upon the jack to a plurality of rolling pressures, means controlled by the operator acting to stop the jack and form with the jack in a position of presentation, and means controlled by the operator for stopping the jack and form at any point in their movement, substantially as described.

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

WARREN FRASIER.

Witnesses:
ARTHUR L. RUSSELL,
WELLS L. CHURCH.