T. H. A. HOLT.

SOLE PRESSING MACHINE.

APPLICATION FILED MAR. 14, 1907.

944,620. Patented Dec. 28, 1909.

Fig. 1.

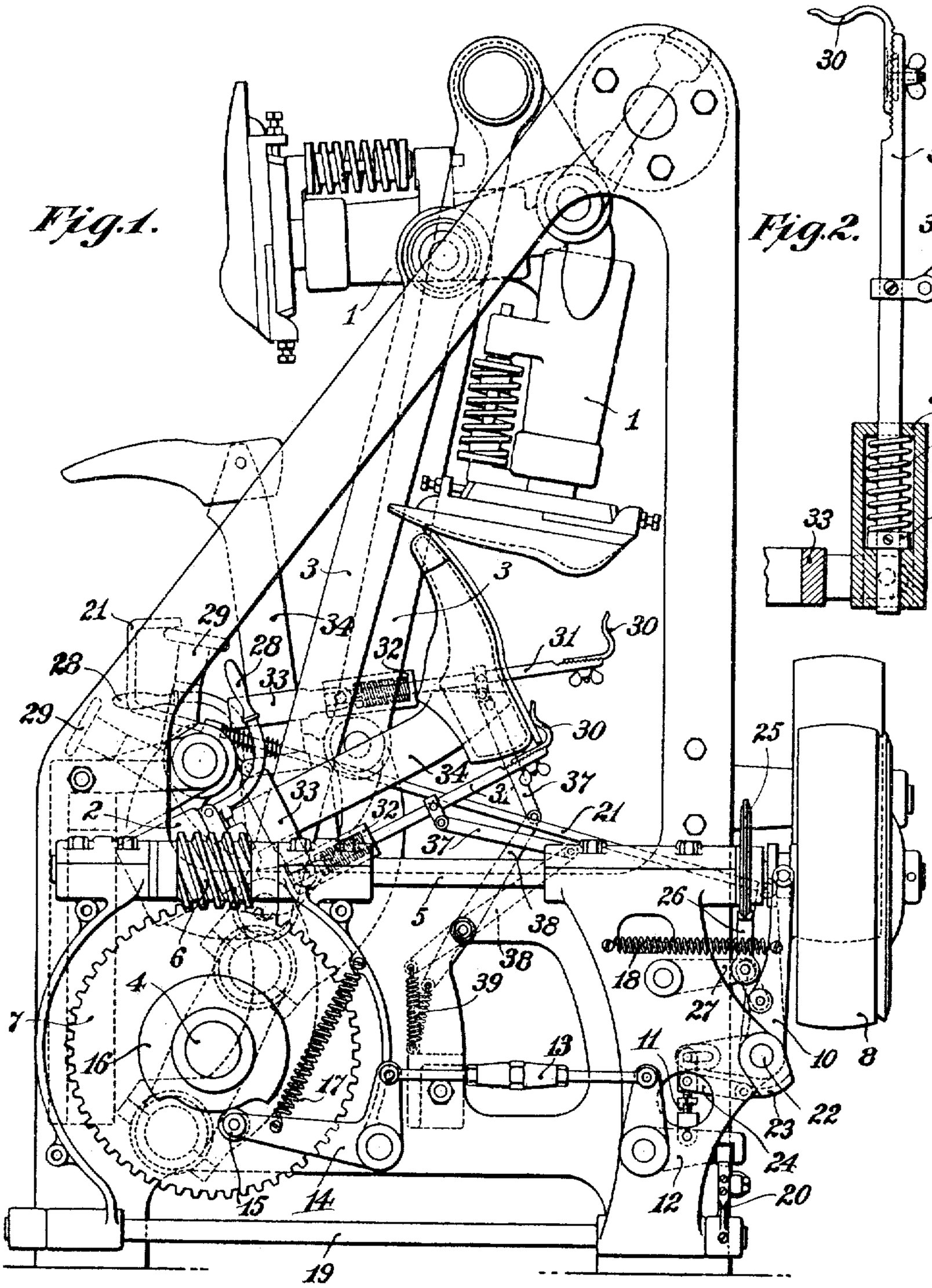

Fig. 2.

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SOLE-PRESSING MACHINE.

944,620. Specification of Letters Patent. Patented Dec. 28, 1909.

Application filed March 14, 1907. Serial No. 362,254.

To all whom it may concern:

Be it known that I, THERON H. A. HOLT, 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 an improved heel clamp and actuating mechanism therefor for use in sole pressing machines.

The invention is intended as an improvement in heel clamps which are used on sole leveling machines of that type in which the sole is subjected to a rolling pressure proceeding alternately in opposite directions longitudinally of the sole and is designed primarily as an improvement on the heel clamp which has heretofore been used on the rolling pressure sole leveling machine described in the application of Benjamin F. Mayo, Serial No. 177,565, dated October 19, 1903.

The object of the present invention is to provide a heel clamp for use in machines of the class above referred to which shall be simple in construction, efficient in operation, and the actuating mechanism of which shall be compact and readily applied to a machine without interfering with the other operating parts.

With the above objects in view the present invention consists in the heel clamp and the actuating mechanism therefor hereinafter described and claimed, the novel features and advantages of which will be obvious to those skilled in the art from the following description of the preferred embodiment of the invention.

The preferred form of the present invention is illustrated in the accompanying drawing, in which—

Figure 1 is a view in side elevation of a sole leveling machine with the invention applied thereto and Fig. 2 is a detail view partly in section of a portion of the heel clamp and its actuating mechanism.

The machine illustrated in Fig. 1 of the drawing is the same in all essential parts as the machine illustrated and described in the application of Benjamin F. Mayo hereinbefore referred to and will therefore be but briefly described herein.

The machine is a double machine and comprises two sole pressing form carriers indicated at 1 and two coöperating last carriers or jacks indicated at 2. The last and form carriers are mounted to oscillate as in the machine of the application hereinbefore referred to, with the exception that the axis about which the form carriers oscillate is located to the rear of the axis about which the last carriers oscillate instead of being located in the same vertical plane with said axis. Each form carrier is connected to its coöperating last carrier by means of a link 3 and the last carriers are connected, by means of links, to cranks on separate crank shafts 4.

In the drawing the mechanism for actuating but one of the shafts 4 is illustrated, the mechanism for actuating the other shaft being a duplicate of the mechanism illustrated and being located upon the opposite side of the machine. In the mechanism illustrated, the shaft 4 is driven from a shaft 5 through a worm 6 and worm wheel 7 secured respectively to the shafts 5 and 4. Upon the outer end of the shaft 5 a belt pulley 8 is provided and a suitable friction clutch by which the pulley can be connected to the shaft. The clutch is actuated by a bell crank lever 10, one arm of which engages the grooved collar of the clutch and the other arm of which is connected by a link 11 to one arm of a bell crank 12. The other arm of the bell crank is connected by a rod 13 to a bell crank 14 one arm of which is provided with a roll 15 engaging a cam plate 16 on the shaft 4. A spring 17 connected to the bell crank 14 tends to force the roll 15 against the cam 16 and a spring 18 connected to the bell crank 10 tends to move the bell crank in a direction to disconnect the pulley 8 from the shaft 5. A shaft 19 at the lower portion of the machine frame is provided at its forward end with a foot treadle and at its rear end with a cam 20 arranged to engage the horizontal arm of the bell crank 12. The construction above described is such that when the shaft 19 is rocked by depressing the foot treadle the bell crank 12 is oscillated and the clutch mechanism is actuated to connect the pulley 8 to the shaft 5. The shaft 4 continues to rotate as long as the foot treadle is depressed. When the treadle

is released, however, the cam 20 is moved from beneath the bell crank 12 and as soon as the depression in the cam 16 comes opposite the roll 15 the bell crank lever 14 and roll 15 are allowed to rise and the pulley 8 is disconnected from the shaft 5. This occurs when the last on the last carrier is at the limit of its outward movement.

To permit the machine to be stopped at any point in the movement of the last carrier a rod 21 is provided extending to the front of the machine. At its rear end this rod is connected to an arm projecting upwardly from the shaft 22 upon which the bell crank 10 is mounted. Rigidly secured to this shaft is an arm 23 which is connected by a link 24 to the link 11 connecting the bell cranks 12 and 10. The connection between the link 11 and the bell crank 10 is a pin and slot connection, and the construction is such that when the rod 21 is pulled toward the front of the machine the link 11 is oscillated so that the pin in the link moves in the slot in the bell crank and actuates the bell crank to disconnect the pulley 8 from the shaft 5. To stop the rotation of the shaft 5, a brake disk 25 is secured to the shaft and a brake shoe 26 is pivotally mounted upon a toggle lever 27, one arm of which is pivoted to the frame of the machine and the other arm to the bell crank 10, so that the brake shoe is applied to the disk when the bell crank lever moves in a direction to disconnect the pulley from the shaft.

The form carriers of the machine are of the same construction as those which are ordinarily used in this type of machine and need not be specifically described. The last carriers are also substantially the same as are ordinarily employed, with the exception that the last supporting posts are mounted so as to be adjustable longitudinally. The levers indicated at 28, and the hand wheels indicated at 29, are connected with the mechanism for longitudinally adjusting the last supporting posts, but since this mechanism forms no part of the present invention it has not been illustrated in the drawing and need not be described.

The heel clamp illustrated in the drawing, as embodying the preferred form of the present invention, is indicated at 30 and consists of a suitably shaped finger or plate adapted to extend over the heel portion of a shoe and bear upon the surface of the sole. This plate is adjustably secured, as best shown in Fig. 2, to the upper end of a rod 31. The rod 31 is mounted so as to be capable of a longitudinal movement in a block 32 which is pivotally mounted upon a collar 33 secured to the last supporting post 34 of the last carrier. The block 32 is recessed, and within the recess a spring 35 is coiled around the rod 31 and arranged to act on a collar 36 secured to the rod, the tendency of the spring being to depress the rod, and the movement of the rod under the force of the spring being limited by the engagement of the collar 36 with the block.

As has been stated, the heel clamp 30 is designed to extend over the heel portion of the sole of a shoe on the last and bear upon the surface of the sole. The tendency of the spring 35 is to force the clamp down against the sole while the clamp is in engagement therewith and prevent the heel portion of the shoe from rising from the last while pressure is being applied to the forepart. The adjustable connection between the clamp 30 and the rod 31 permits the clamp to be adjusted so as to operate satisfactorily upon soles of different thicknesses, the adjustment of the clamp on the rod is the only adjustment that is necessary, since the clamp is moved simultaneously with the last when the last supporting post is adjusted longitudinally by reason of the fact that the clamp is supported upon the post through the collar 33, block 32 and rod 31.

On account of the fact that the heel clamp extends over the heel portion of the sole it is necessary that the clamp be actuated so as to be moved from between the last and sole pressing form while the heel portion of the sole is being pressed. To permit the clamp to so move, the block 32 is pivotally connected to the collar 33 as above stated. To actuate the clamp so that it will be in engagement with the shoe while the forepart of the sole is being leveled and be out of engagement with the sole while the shank and heel portion of the sole is being leveled, the rod 31 is connected between its pivot and the clamp, by means of a link 37 to the upper arm of a lever 38 pivotally mounted upon a rod secured in the frame of the machine. The lower arm of the lever 38 is connected by a coiled spring 39 to the frame of the machine. The lever 38 and link 37 are so arranged with relation to the rod 31 that when the last carrier is at the limit of its outward movement the clamp and rod are in the position of the clamping rod illustrated in Fig. 1 as connected to the last carrier at the left hand side of the machine. As the last carrier moves toward the rear, the rod 31 is oscillated, and finally, by the action of the spring 39 and the continued movement of the last carrier, the clamp is brought into engagement with the sole of the shoe. This occurs while the pressure is being applied to the forepart of the sole. During the continued backward movement of the carrier the lever 38 is oscillated against the tension of spring 39 and the clamp is yieldingly held in position by the spring. During the first portion of the outward movement of the carrier the clamp is maintained in engagement with the shoe by the spring, and the lever 38

is oscillated in the opposite direction. During the continued outward movement of the carrier the link 37 connected to the lever 38 and rod 31 stops the continued movement of the rod with the carrier and the rod is swung into its original position as the carrier reaches the limit of its outward movement.

The mechanism above described for actuating the heel clamp imparts a much greater movement to the clamp toward and from the last than clamp actuating mechanisms which have heretofore been devised and also moves the clamp more quickly into and out of engagement with the shoe so that there is less liability of the clamp striking the sole pressing form and the clamp can remain in engagement with the shoe for a longer period during both the inward and outward movements of the last. Also the clamp actuating mechanism above described is more simple and compact in the construction and arrangement of its parts, is easily assembled and applied to a machine and when once embodied in a machine will operate in a satisfactory manner without liability of derangement.

The invention having been thus described, what is claimed is:

1. A sole pressing machine, having, in combination, a pivotally mounted last carrier, a form carrier coöperating therewith to subject the sole of a shoe to a rolling pressure, a heel clamp pivotally mounted on the last carrier, a spring pressed lever, and a link connecting said lever and clamp, said lever and link acting to move the clamp into and out of engagement with the shoe and to hold the clamp in engagement with the shoe while the forepart of the sole is being pressed.

2. A sole pressing machine, having, in combination, a pivotally mounted last carrier including a last post, a form carrier coöperating therewith to subject the sole of a shoe to a rolling pressure, a heel clamp mounted on the last post, and means acting automatically to move the clamp into and out of engagement with the shoe.

3. A sole pressing machine, having, in combination, a pivotally mounted last carrier, and form carrier coöperating therewith to subject the sole of a shoe to a rolling pressure, a heel clamp pivotally mounted on the last carrier, a spring pressed lever pivoted at the rear of the last carrier, and a link connecting said lever with a point on the clamp between its pivot and free end, said lever and link acting to move the clamp into and out of engagement with the shoe and to hold the clamp in engagement with the shoe while the forepart of the sole is being pressed.

4. A sole pressing machine, having, in combination, a pivotally mounted last carrier, a form carrier coöperating therewith to subject the sole of a shoe to a rolling pressure, a heel clamp, a rod carrying the clamp pivotally mounted on the last carrier and mechanism for moving the clamp into and out of engagement with the shoe and for holding the clamp in engagement with the shoe while the forepart of the sole is being pressed comprising a spring pressed lever pivoted at the rear of the last carrier, and a link connecting said lever to a point on the rod between its pivot and the clamp.

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

THERON H. A. HOLT.

Witnesses:
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