March 27, 1928. 1,664,346

M. G. BERTONE

WASHER SETTING MACHINE

Filed Oct. 29, 1926 2 Sheets-Sheet 1

Fig. 1.

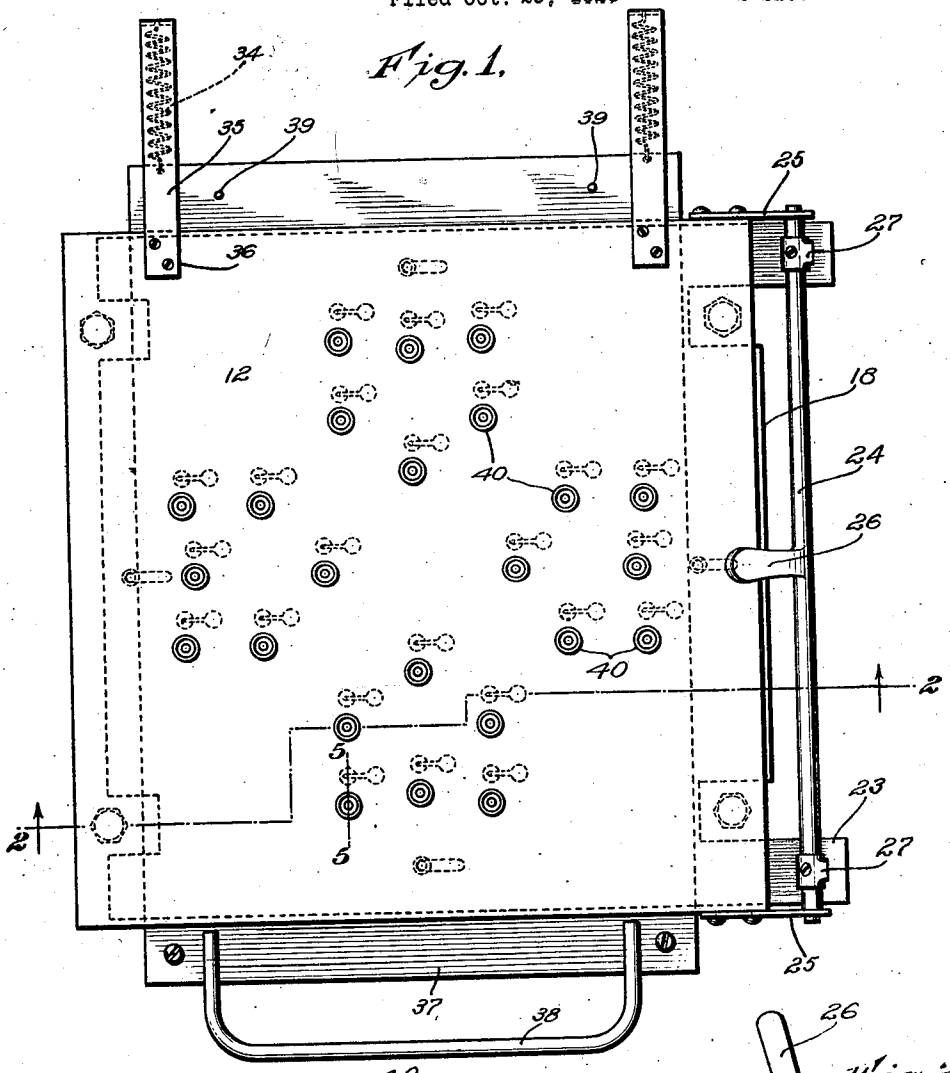
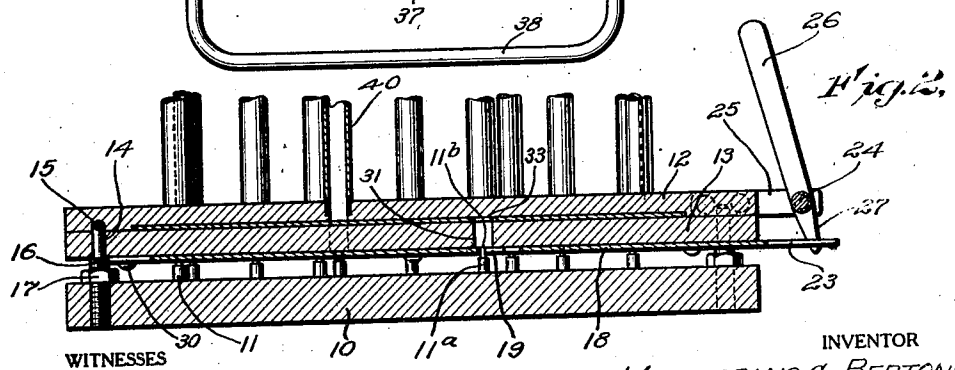


Fig. 2.



WITNESSES

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Fig. 3.

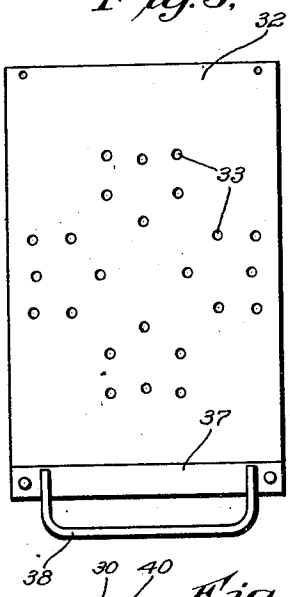


Fig. 4.

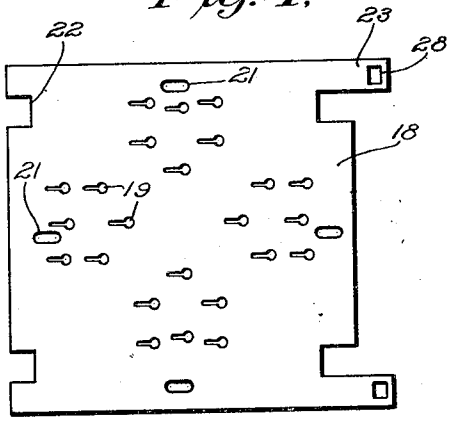


Fig. 5.

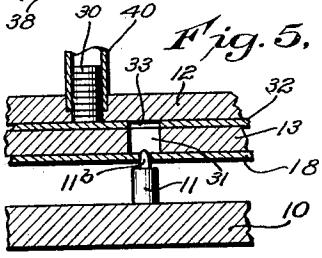


Fig. 8.

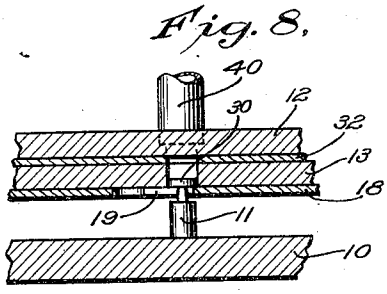


Fig. 6.

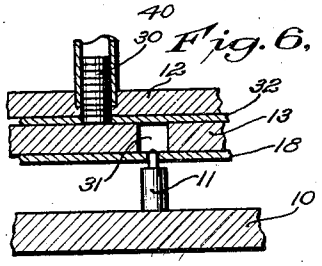


Fig. 9.

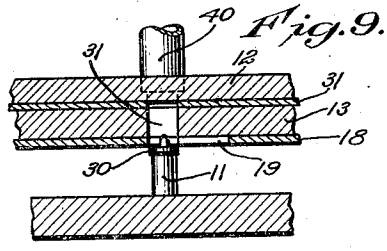
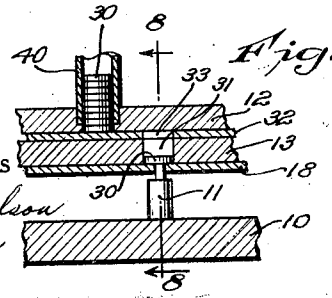


Fig. 7.



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UNITED STATES PATENT OFFICE.

MAGGIORINO G. BERTONE, OF NEW YORK, N. Y.

WASHER-SETTING MACHINE.

Application filed October 29, 1926. Serial No. 145,056.

The present invention is concerned with the provision of a machine for setting washers on the pegs in a rubber heel mold, but in its broader aspects is concerned with an apparatus which may have a wide range of utility in the arts.

It is customary to mold a plurality of rubber heels at one time in molds which are formed with pegs to produce the nail holes in the completed heels and to receive the re-enforcing washers which encircle the nail holes. The operation of setting the washers on the pegs by hand is a tedious one and no satisfactory mechanism has thus far been devised for automatically and simultaneously emplacing an entire series of washers on the respective pegs.

The present invention aims to accomplish this result with a machine of simple practical construction which will be rugged, durable and efficient in use and well suited to the requirements of economical manufacture and rapid and convenient operation.

With the above noted and other objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts as will be more fully hereinafter set forth and pointed out in the claims. The invention may be more fully understood from the following description in connection with the accompanying drawings, wherein:

Figure 1 is a top plan view of the machine.

Figure 2 is a transverse sectional view therethrough on the staggered line 2—2 of Figure 1.

Figures 3 and 4 are plan views of the two slide plates.

Figures 5, 6 and 7 are sectional details illustrating three positions of the upper slide plate, and

Figures 8 and 9 are sectional details at right angles to Figures 5 and 6 illustrating two positions of the lower slide plate.

In the drawings I have used the reference numeral 10 to designate a bed plate carrying a series of sets of pegs 11, the pegs being adapted to form part of rubber heel molds (not shown). A pair of superimposed relatively heavy plates 12 and 13 are formed with registering pockets 14 therein adapted to seat on corner posts 15 projecting upwardly from the face of the bed plate. These corner posts may be in the nature of screws shouldered at 16 to space the plate 13 above the bed and adapted to be locked in adjusted positions relatively to the bed by locking nuts 17.

Mounted to slide on the under face of the plate 13 is a relatively thin plate 18 retained in proper position by screws 20 passed through slots 21 in the plate 18 which limit the sliding movement thereof. The edges of the plate 18 are cut away as at 22 to accommodate the posts 15, and at one side the plate is provided with apertured extensions 23. A rock shaft 24 mounted in brackets 25 which extend laterally from one edge of the upper plate 12 carries an operating handle 26. Crank arms 27 mounted on the rock shaft engage the openings 28 in the extensions 23 so that the plate 18 may be slid to one or the other of its extreme positions by swinging the handle 26.

Plate 18 is formed with a series of key hole slots 19, the narrow ends of which normally register with the pegs 11. These pegs as is customary in the art are shouldered at 11^a providing reduced extensions 11^b disposed in the slots 19 and adapted to receive the washers 30.

The stationary plate 13 is formed with a series of openings 31 registering with the pegs 11. One or both of the plates 12 and 13 may be cut away to provide clearance for a relatively thin plate 32 mounted to slide at right angles to the direction of movement of the plate 18. Plate 32 is provided with a series of openings 33 normally registering with the openings 31 in the plate 13 and retained in such position by the action of coiled springs 34 mounted in brackets 35 secured as at 36 to the plate 12. Movement of the plate 12 in one direction under the influence of the springs 34 is limited by a stop strip 37. A handle 38 on the strip permits the plate 32 to be slid against the action of its springs to an extent limited by stop pins 39.

The total extent of sliding movement of the plate 32 is just enough to permit the openings 33 to be shifted from a position where they align with the openings 31 to a position where they register with the open

bottoms of tubular hoppers 40 carried by the plate 12 and in which stacks of washers are provided.

It may be noted that the diameter of the hoppers 40, openings 33 and 31 and enlarged ends of the key-hole slots 19, is just slightly larger than the diameter of one of the washers 30. The operation of the device may be most conveniently followed out by a consideration of Figures 5 to 9 inclusive. In Figure 5 the plate 32 is retained in its normal position by the springs 34 and the plate 18 has been shifted to the right by swinging the handle 26 inwardly toward the machine. Thus the openings 33 in the plate 32 register with the openings 31 in the plate 13 and the reduced extensions 11^b of the pegs 11 are located in the narrow ends of the key-hole slots 19 in the plate 18. The stacks of washers in the hoppers 40 rest upon the surface of the upper sliding plate 32. By grasping the handle 38 and sliding the plate 32 against the action of its springs until such sliding movement is stopped by the pins 39 the openings 33 will be aligned with the bottoms of the hoppers 40 and a washer will drop into each opening 33 and rest on the plate 13 as seen in Figure 6. It is to be understood that the plate 32 is of the same thickness as the washers to be handled, so that when the handle 38 is released and the plate 32 restored to its normal position there will be no jamming of the washers. This position is shown in Figure 7 after which time the opening 33 has again aligned with the opening 31 and the washer has dropped through the opening 31 and encircles the upper end of the peg extension 11^b. The same position is also illustrated in Figure 8, but this latter figure is taken at right angles to disclose the key-hole slot 19, the narrow end of which is of less width than the washer so that the washer cannot drop under the shoulder 11^a of the peg. By swinging the handle 26 to shift the lower sliding plate 18 the enlarged ends of the key-hole slots are brought in the registration of the openings 31 and the washers 30 drop through them and on to the pegs.

Obviously various changes and alterations might be made in the general form and arrangement of the parts described without departing from the invention and hence I do not wish to limit myself to the precise details set forth but shall consider myself at liberty to make all changes which fairly fall within the spirit and scope of the appended claims.

I claim:

1. In a washer setting machine a pair of superimposed stationary plates, a slide plate mounted between them, said upper stationary plate having openings therein and open ended tubes adapted to receive a stack of washers communicating with said openings, said lower stationary plate having openings therein offset from the openings in the upper plate, said slide plate having openings therein adapted to register alternately with the openings in the two stationary plates as the slide plate is shifted from one extreme position to the other, a second slide plate mounted under the lower stationary plate and having key-hole slots therein the narrow ends of which normally register with the openings in the lower stationary plate.

2. In a washer setting machine a pair of superimposed stationary plates, a slide plate mounted between them, said upper stationary plate having openings therein and open ended tubes adapted to receive a stack of washers communicating with said openings, said lower stationary plate having openings therein offset from the openings in the upper plate, said slide plate having openings therein adapted to register alternately with the openings in the two stationary plates as the slide plate is shifted from one extreme position to the other, a second slide plate mounted under the lower stationary plate and having key-hole slots therein the narrow ends of which normally register with the openings in the lower stationary plate, and means for shifting the lower sliding plate to register the larger ends of the key-hole slots with the openings in the lower stationary plate.

3. A machine as set forth in claim 2 and wherein a bed plate supports a plurality of washer pegs, the upper ends of which are received in the key-hole slots.

4. In a washer setting machine a pair of superimposed stationary plates, a slide plate mounted between them, said upper stationary plate having openings therein and open ended tubes adapted to receive a stack of washers communicating with said openings, said lower stationary plate having openings therein offset from the openings in the upper plate, said slide plate having openings therein adapted to register alternately with the openings in the two stationary plates as the slide plate is shifted from one extreme position to the other, a second slide plate mounted under the lower stationary plate and having key-hole slots therein the narrow ends of which normally register with the openings in the lower stationary plate, said slide plates being movable on at right angles to each other.

5. In a washer setting machine a pair of superimposed stationary plates, a slide plate mounted between them, said upper stationary plate having openings therein and open ended tubes adapted to receive a stack of washers communicating with said openings, said lower stationary plate having openings therein offset from the openings in the upper plate, said slide plate having openings therein adapted to register alternately with

the openings in the two stationary plates as the slide plate is shifted from one extreme position to the other, a second slide plate mounted under the lower stationary plate and having key-hole slots therein the narrow ends of which normally register with the openings in the lower stationary plate, a rock shaft carried by one of the stationary plates for operating one of the slide plates and crank arms on the rock shaft engaged with slotted extensions of said slide plate.

6. A machine as described in claim 5 and wherein the last mentioned slide plate is formed with slots receiving stop pins anchored to one of the stationary plates.

MAGGIORINO G. BERTONE.