R. R. OLIN.

HEEL MOLD WASHERING MACHINE.

APPLICATION FILED JUNE 8, 1914.

1,159,077. Patented Nov. 2, 1915.

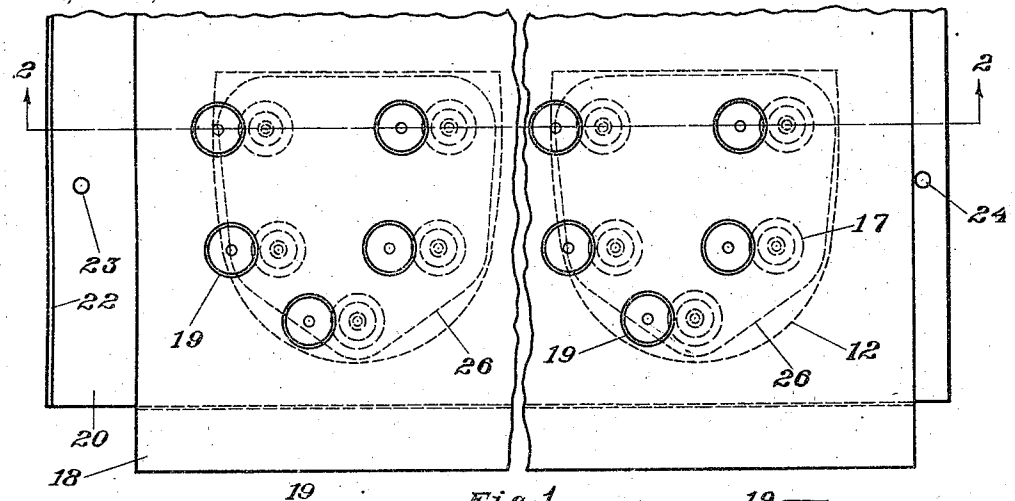


Fig. 1.

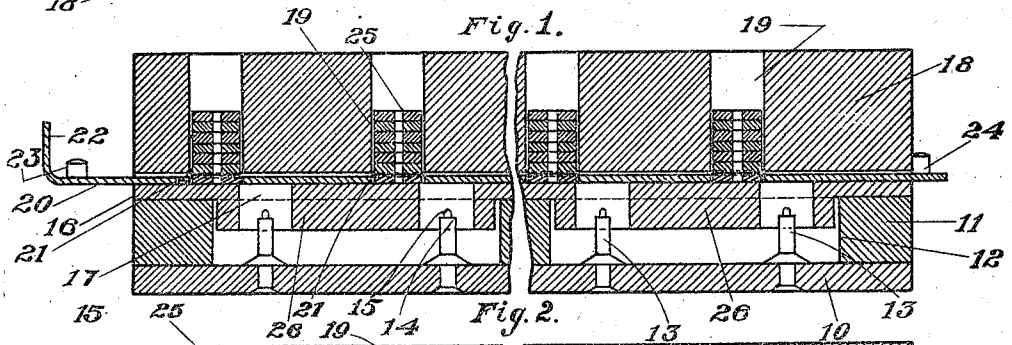


Fig. 2.

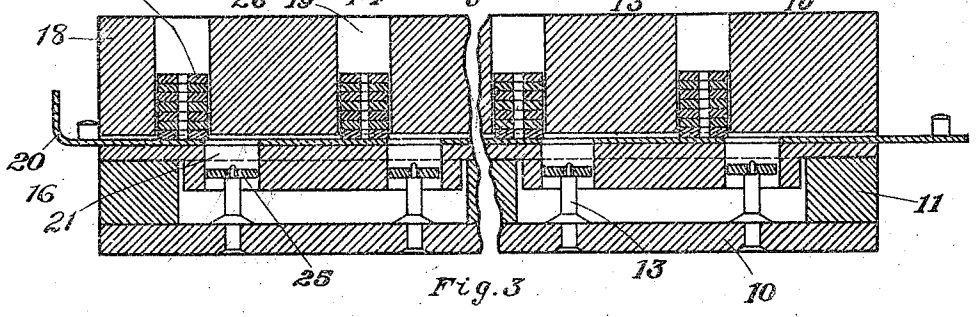


Fig. 3

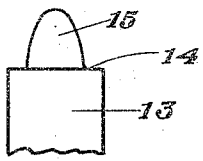


Fig. 4

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Witnesses

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UNITED STATES PATENT OFFICE.

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HEEL-MOLD-WASHERING MACHINE.

1,159,077. Specification of Letters Patent. Patented Nov. 2, 1915.

Application filed June 8, 1914. Serial No. 843,723.

To all whom it may concern:

Be it known that I, ROBERT R. OLIN, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Heel-Mold-Washering Machines, of which the following is a specification.

This invention relates to means for automatically locating on the pins of a rubber-heel mold the washers which are embedded in the heel to act as abutments for the heads of the nails or screws used to attach the heel to the boot or shoe.

The invention consists in the devices hereinafter described and claimed.

Of the accompanying drawings, Figure 1 represents a top plan view of a portion of a mold-washering device embodying my improvements. Figs. 2 and 3 represent cross-sectional views thereof on the line 2—2 of Fig. 1, showing the slide in its washer-receiving and washer-discharging positions respectively. Fig. 4 represents an enlarged view of the upper end of one of the mold pins.

In the drawings, 10 represents the bottom plate and 11 the top plate of a heel mold of the usual form, the top plate being the same thickness as the heel and having cavities or openings 12 shaped to give the heel its proper outline, and the bottom plate 10 having upstanding pins 13 which form holes in the heel between the bottom face of the latter and the embedded washers, said pins being formed at their upper ends with shoulders 14 on which the washers rest during the molding operation, and projections 15 to enter the apertures in the washers and center the latter on the pins. These projections I prefer to make of conical or tapered form as represented in Fig. 4 to facilitate the dropping of the washers properly upon the pins.

The embodiment of my invention herein shown consists essentially of a fixed bottom plate 16 adapted to be positioned over the heel mold and formed with washer-discharging apertures 17 located above the pins 13 and of sufficient size to permit the passage of the washers, a fixed top plate 18 formed with washer-receiving apertures 19 out of line with the apertures 17 in the lower plate, and a washer-feeding or transferring plate 20 in the form of a slide provided with washer-receiving apertures 21 adapted to register alternately with the apertures 19 in the upper fixed plate and the apertures 17 in the lower fixed plate, this slide having the thickness of a single washer. The slide is provided with a turned-up edge 22 to act as a handle and with stop pins 23, 24 to limit its movement in both directions, and it is likewise suitably guided to prevent lateral displacement. I prefer to make the top plate 18 of considerable thickness so that each of its apertures 19 acts as a magazine for the storage of a considerable number of washers 25 stacked one on top of the other, but this is not essential as I have sometimes made the top plate only the thickness of a single washer and loaded it by spreading an excess of the washers on the plate and removing those that did not fall into the apertures. I also prefer to form the bottom plate 16 with extensions 26 projecting down into the mold cavities 12, so that the apertures 17 form tubular guides terminating below the top of the mold-pins 13, in order the more effectively to guide the washers onto the pins.

In the operation of this device, each of the apertures 19 in the magazine-plate 18 is loaded with a stack of washers, and the automatic washer-locating device comprising the plates 18, 19, and the slide 20 is placed in position over the heel mold comprising the plates 10, 11, as represented in Fig. 2. The slide being drawn to the left-ward limit of its movement, the lowermost washer in each stack will drop into an aperture 21 in the slide. Slide 20 is then shifted to the right-hand limit of its movement so as to bring its apertures 21 out of line with the top plate apertures 19 and into line with the bottom plate apertures 17, the washers in the apertures 21 being thereby carried into position over the mold pins and dropped by gravity onto the shoulders of said pins as represented in Fig. 3, the projections 15 entering the apertures in the washers and serving to center the latter on the pins. When the slide apertures are alined with the discharge apertures 17, the adjacent solid portions of the slide then support the stacks. The washer-placing device is thereupon removed from the heel mold and the molding of the heels is proceeded with in the usual way by placing in each cavity 12 the re-

quired amount of rubber compound and squeezing it down into the cavity with a suitable press-member or die.

While it is possible to load the washers onto the mold pins without the presence of the top plate 11 of the mold, I prefer to leave said top plate in position as shown, in order to avoid the accidental disturbance of the washers by the subsequent assembling of this top plate with the bottom mold-plate.

It is to be understood that the invention is not confined to the exact details herein shown.

I claim:

1. A heel-mold-washering device comprising a plate adapted to be placed above the cavity in a heel mold and formed with apertures adapted to be alined with the mold pins, and a reciprocating washer-transferring slide having washer-receiving apertures movable into and out of register with the apertures in said plate.

2. A heel-mold-washering device comprising a plate formed with washer-receiving apertures, a second plate formed with washer-discharging apertures, and an intermediate slide formed with washer-transferring apertures movable reciprocally into and out of register with the apertures in the aforesaid plates.

3. A heel-mold-washering device comprising a washer-receiving magazine plate formed with apertures adapted to hold stacks of washers, a washer-discharging plate formed with apertures out of line with those in the washer-receiving plate, and an intermediate slide having apertures adapted to register alternately with those in the respective plates, and solid portions adapted to sustain the stacks when the slide apertures are alined with the apertures in the washer-discharging plate.

4. A heel-mold-washering device comprising a washer-discharging plate having an extension on its lower side formed with tubular apertures for embracing the mold pins and guiding the washers thereonto, and a washer-feeding slide having apertures movable into and out of line with those in said plate.

5. The combination with a heel mold comprising a top plate formed with mold cavities, and a bottom plate provided with washer-supporting pins projecting into said cavities, of an automatic washering device comprising a fixed plate supported on the top plate of the mold and formed with washer-discharging apertures in line with the mold-pins, and a slide on said fixed plate formed with apertures movable into and out of line with those in said fixed plate.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses, this fifth day of June, 1914.

ROBERT R. OLIN.

Witnesses:
WALTER K. MEANS,
ILLA N. KIRN.