R. DWYER.

SOLE-LINING MECHANISM FOR BOOTS AND SHOES.

No. 169,790. Patented Nov. 9, 1875.

Fig. 1.

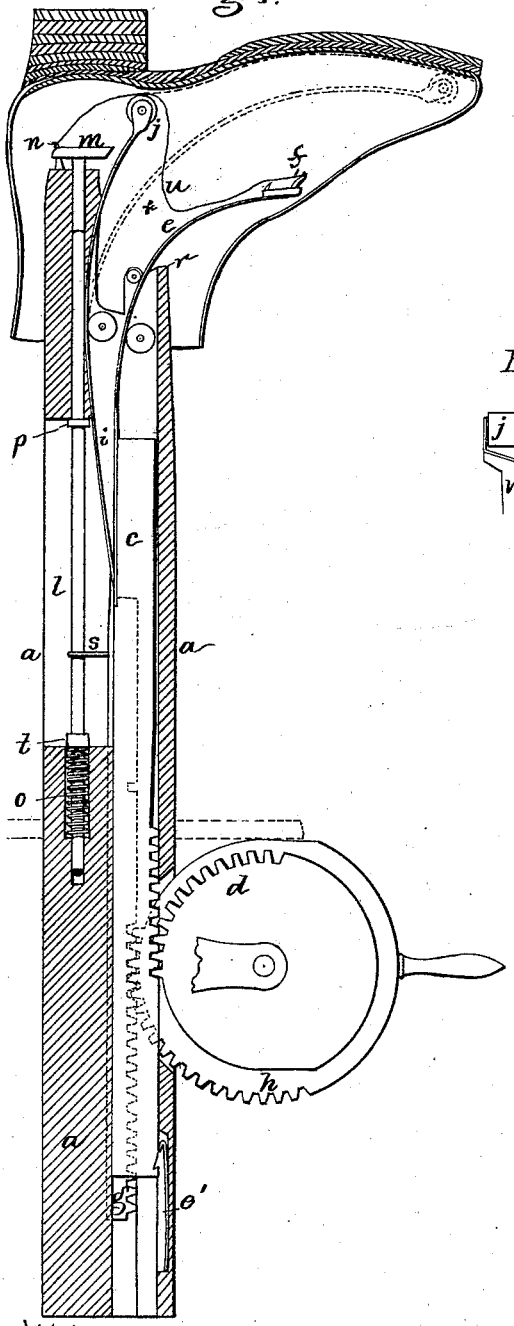


Fig. 3.

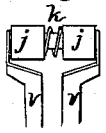
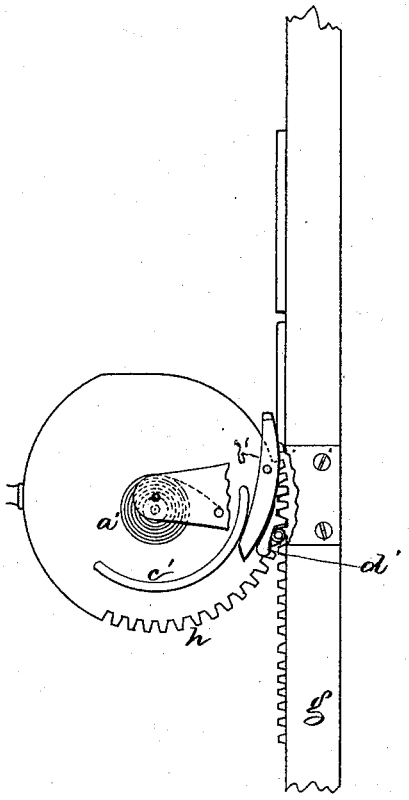


Fig. 2.



Witnesses.
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W. J. Pratt.

Inventor.
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UNITED STATES PATENT OFFICE.

ROBERT DWYER, OF WEYMOUTH, MASSACHUSETTS.

IMPROVEMENT IN SOLE-LINING MECHANISMS FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. **169,790**, dated November 9, 1875; application filed October 25, 1875.

To all whom it may concern:

Be it known that I, ROBERT DWYER, of Weymouth, in the county of Norfolk and State of Massachusetts, have invented an Improvement in Sole-Lining Mechanism for Boots and Shoes, of which the following is a specification:

This invention relates to mechanism for applying a thin inner lining to a boot or shoe.

In the manufacture of boots and shoes it is common, and especially with machine-made work, to paste within or apply to the inner side of the boot or shoe a thin lining of leather or other material, inserting the same by hand, which is sometimes a tedious operation, specially if the shoe is narrow.

The object of this invention is to accomplish automatically the insertion of the lining.

Figure 1 represents this improvement in section, showing a shoe with the lining as being applied, the table or supporting base being shown in dotted lines. Fig. 2 is a side view of the rack-bar of the pressing device and its operating segment, and Fig. 3 shows the presser.

The post *a*, over which the boot or shoe to be operated upon is placed, projects from a suitable table or support, *b*, (see dotted lines,) the shape of this being immaterial, and the post may be vertical or in any other desired direction. Within the post is placed a rod, *c*, shown as provided with teeth, adapted to be engaged by teeth of a sector, *d*, or equivalent moving surface, and with a flexible end piece, *e*, preferably a strip of metal, and this end piece carries a toe-holder, *f*, consisting of a plate, provided with points or other holding devices, to engage the leather or other material forming the lining. At the side of this rod, and suitably held in the post, is a second rod or rack, *g*, adapted to be engaged by a sector, *h*, or equivalent moving surface. This rod *g* carries a flexible metallic strap or connection, *i*, provided at top with a presser, *j*—shown, in this instance, as two rollers mounted at the upper end of the connection *i*, and free to rotate, and also to move longitudinally on their supporting-pins, a spring, *k*, between the rollers, moving them outward for the widest portion of the sole and permitting them to approach each other for the narrowest portions of the bottom. By permitting the rollers to yield in this way, their ends, when they strike the upper, will not injure the upper, and while passing into the end of the toe of the boot or shoe the presser will adapt itself to the toe, the rollers of the presser being each carried on a pin projecting from one of the forked expansible end pieces *v v* of the presser-carrier. A rod, *l*, in the post carries at top a lifting or stripping plate, *m*, and it operates to lift the heel of the lining-piece from the heel-holder for the lining, which is shown as a pin, *n*. A spiral or other spring, *o*, in connection with rod *l*, holds the stripping-plate up substantially level with the top of the heel-holder *n*, its upward motion being governed by a collar, *p*, on the rod, and when the rod *c*, carrying the toe-holder, is at its lowest position, the toe-holder *f* then being substantially at the point *r* of the post, then the projection *s* acts on the collar *t*, and depresses the rod *l* and the stripper. In such position a lining-piece, *u*, may be applied to the pins or equivalents of the heel and toe holders, the presser standing substantially at the level of the stripper, and so as to partially support an intermediate portion of the lining, it having been pasted and then hanging in a folded condition in an opening, *x*, and the inner portion of the sole opposite the heel then resting against the stripper, it being down against the post. By moving the sectors *d h* through the handle or other suitable way, the rod *g* of the toe-holder first moves, carrying the toe of the lining over beyond the instep and into the toe of the boot or shoe; and then the rod *c*, carrying the presser, is lifted, and bears on the lining between the heel and toe, rolling or pressing along the sole of the boot or shoe, and applying the lining closely to the bottom on the inside, the presser passing forward into the toe, as represented in dotted lines, the flexible connection or strip *i* permitting it so to do, and before reaching the toe of the boot or shoe the end of the toe of the lining is removed by it from the toe-holder, and when the shoe is lifted from pressure on the stripper or post, then the stripper rises and removes the heel of the lining from the heel-holder, and after the lining is properly insert-

ed the handle is released, and a spring, a', or a weight throws the shaft, carrying the sectors and operating the toe-holder and presser back to their normal position, within or at the top of the post. During the time that the bar c of the toe-holder is rising, a latch, b', engages a notch in the rod or bar g of the presser, and holds it down; but at the proper time a cam-piece, c', on the sector h trips the latch, which is held by a spring, d', and releases bar g, and allows the presser to operate. A spring-catch, e', prevents the bar of the toe-holder from rising too far, and at the same time the catch serves as a friction device, and prevents the bar c from descending when not brought down positively.

I do not desire to limit myself to the exact construction of the devices shown, as their form may be variously modified without departing from my invention. In some instances the upper forked end pieces of the steel or other flexible connection of the presser may be hinged or pivoted to move laterally, and I might use a flat, oval, or other rubbing presser, instead of the roller-presser. The flexible parts i e run, preferably, in contact with rollers. In lining congress-shoes, or those having elastic gussets, I provide an expander to enter the ankle portion and spread open the ankle. This expander is movable up and down about the post.

I claim—

1. In a machine for lining boots and shoes, a heel-holder and a movable toe-holder for the lining, adapted to carry the toe of the lining forward into the shoe, substantially as described.

2. A heel-holder and a movable toe-holder for the lining, in combination with a movable presser adapted to lay the lining against the bottom of the inside of the shoe, substantially as described.

3. In a machine for lining shoes or boots, an expansible presser adapted to fit the varying width of the bottom of the shoe, and to be projected along the bottom, and into the toe of the shoe, substantially as described.

4. The post, in combination with the toe and heel holding devices, substantially as described.

5. The combination of the post and holder for the heel of the lining, with a stripping-plate, to operate substantially as described.

6. The rods c and g, and toe-holder and presser, in combination with the sectors d h, and spring or equivalent to operate the bars, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT DWYER.

Witnesses:

G. W. GREGORY,

S. B. KIDDER.