O. WEEMAN & J. W. DUNNELLS.

Machines for Burnishing Soles and Heels of Boots and Shoes.

No. 152,584. Patented June 30, 1874.

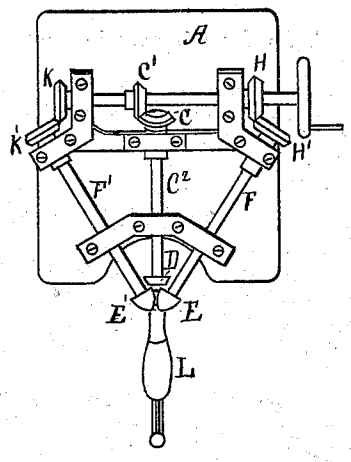

Fig 1

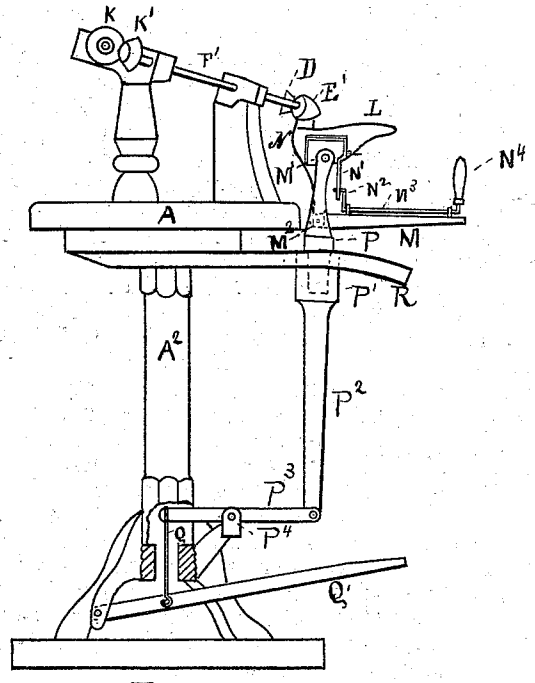

Fig 2

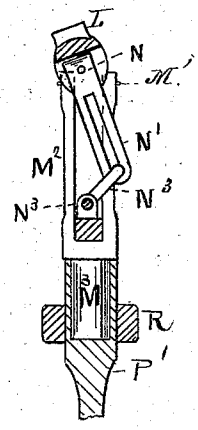

Fig 3

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UNITED STATES PATENT OFFICE.

ORIN WEEMAN AND JOHN W. DUNNELLS, OF LYNN, ASSIGNORS TO THEMSELVES AND CHARLES S. DUNBRACK, OF SWAMPSCOTT, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR BURNISHING SOLES AND HEELS OF BOOTS AND SHOES.

Specification forming part of Letters Patent No. **152,584**, dated June 30, 1874; application filed November 6, 1873.

To all whom it may concern:

Be it known that we, ORIN WEEMAN and JOHN W. DUNNELLS, of Lynn, in the county of Essex and State of Massachusetts, have invented a certain new and useful Machine for Burnishing Boots and Shoes, of which the following is a specification:

The nature of our invention consists in combining, with an adjustable jack of peculiar construction, a series of burnishers, which are so shaped and arranged that they all act at the same point, and are adapted to do all the work required for burnishing all parts of the sole and heel of a boot or shoe.

Figure 1 is a plan of our invention. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical section, showing the jacking device in detail.

D is a burnisher made in the form of a truncated cone, and placed closely to the conical burnishers E and E^1, as shown in Fig. 1. These burnishers are driven by the shafts C^2, F, and F^1 respectively, which in turn are driven by the bevel-gears C C^1 H H^1 K K^1, B being the main or driving shaft, all arranged as shown in Fig. 1.

The above-described device is mounted upon a table, A, which is supported by a standard, A^2. Near the top of this standard we attach a slotted arm, R, Figs. 2 and 3, which serves as a guide for the swinging-jack standard P^1 P^2. This jack-standard P^2 is hung at one end of a lever, P^3, Fig. 2, which is pivoted at P^4. The opposite end of the lever P^3 is connected to the foot-lever Q′ by the link Q, so that the operator, by depressing the link Q, may cause the jack-standard, and through it the jack and shoe, to rise or fall. The form for holding the shoe L is connected to the bent lever M, Fig. 2, by the longitudinal pivot N, so that the form and shoe are free to swing on their longitudinal axis. This bent lever M is pivoted at M^1, so that by moving it up and down the shoe receives a rocking motion on its transverse axis, and as this bent lever M is also hung on a swinging standard, M^2, which turns on a vertical shaft, M^3, in the swinging standard P^1 P^2, it will be seen that the shoe may be turned at will on its vertical axis. These several motions are communicated to the shoe by means of the handle N^4, which, being connected as shown to the bent lever M, it will be seen that by raising and lowering this handle a rocking motion about the pivot M^1 will be given to the shoe. By moving the handle to the right or left the shoe will swing on its vertical axis, and by turning it so as to cause the rod N^3, Figs. 2 and 3, to revolve, motion will be communicated through the crank-arm N^2 to the slotted arm N^1, and thus give a rocking motion to the shoe about its longitudinal axis N. To move the shoe away from the burnishers it may be pulled directly forward, thus drawing the entire jack and its standard free from the burnishing device; or it may be dropped by taking the foot from the lever Q′; or both of these motions may be made.

The use of the three burnishers D E E′ depends upon the work to be done. They are, of course, corrugated, and, before operating, slight heat is applied in any of the known ways—as, for instance, by a lighted jet of gas conducted by a rubber or other tube, and applied to the burnishers. The burnishers may be hollow and each have a minute orifice at the apex, so that, by the draft, heat will more readily operate upon them. In case a shoe is to have side panels only, the lines of the panel-figure are marked out by a knife-cut and then stained, and the two burnishers E and E′ are chiefly brought into use, and the leather between the panels is left unsoiled. In case the whole shank is to be burnished, and there are no heels, the shank is prepared by marking and staining, and then operating the jack so as to bring the shank under the burnishers, when all three may be used, covering a large part of the surface to be burnished, and thus expediting the work.

In case the shank and heel, sides and top, are to be burnished, and the front part or breast of the heel is concave, the surface is first stained and the burnishers are applied to the shank, as before mentioned, and by moving the jack from right to left the burnisher D will finish the work close up to the edge of the breast of the heel. The points of the two conical burnishers E E′ are used to finish the

edges and curves, when a burnisher, as D, could not be brought to bear. The convex sides of the conical burnishers are readily applied to the concavity of the heel, when the heel is concave, and the sides of the heel are pressed against the conical burnishers by raising or depressing the jack together with the guiding-lever on the jack. Thus, by means of the foot-lever and the mechanism of the jack, the operator has full control of the machine, and can bring the burnishers to bear on any part of the shank or heel, and any curve or angle on the shank and heel edge of the shoe.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a burnishing-machine, the combination of the burnishers D and E, operating together as shown and described.

2. In a burnishing-machine, the combination of the two burnishers E and E′, operating together substantially as shown and described.

3. In a burnishing-machine, the combination of the three burnishers D E E′, operating together substantially as shown and described.

4. The combination of the bent lever M, with the form L, and slotted arm N^1, crank-shaft N^2 N^3, and handle N^4, operating substantially as shown and described.

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