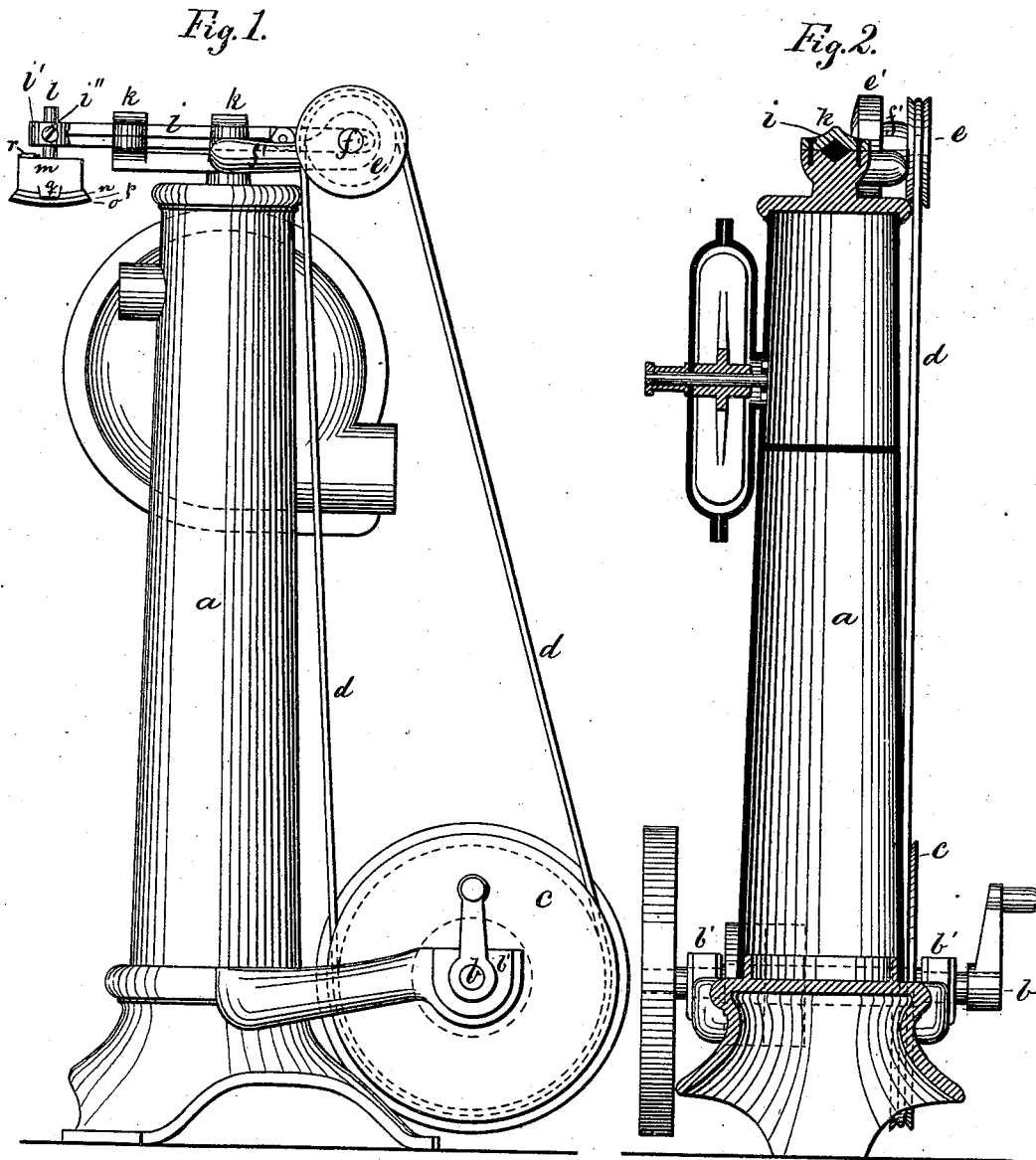


F. E. LARRABEE.
Machine for Finishing Boot and Shoe Soles.

No. 207,610.

Patented Sept. 3, 1878.



Witnesses:

Henry Chadburn.
John H. Foster.

Inventor:

Frank E. Larrabee.
by Wm. Andrew
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Fig. 3.

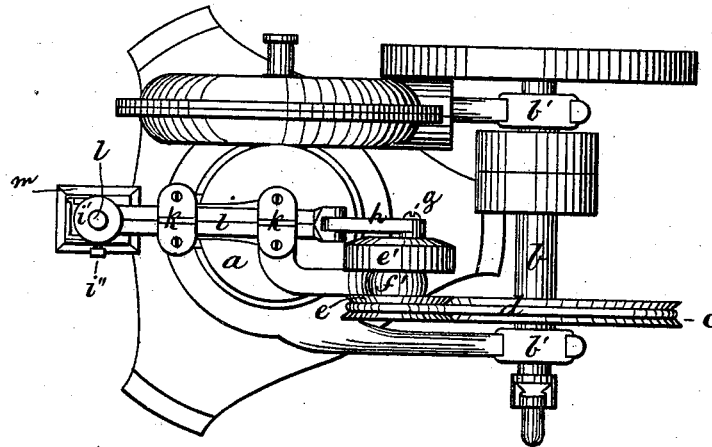


Fig. 4.

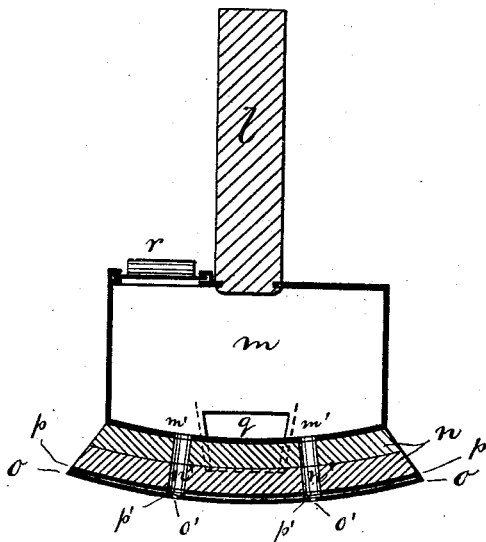
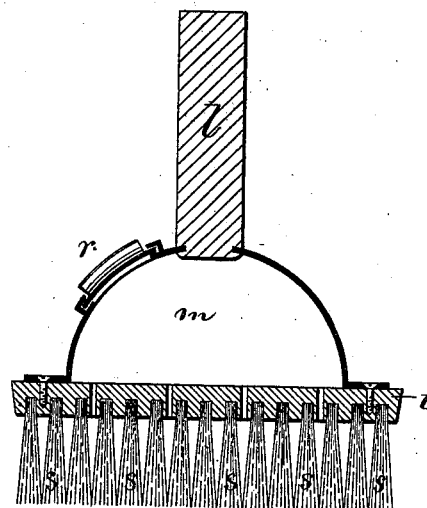


Fig. 5.



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UNITED STATES PATENT OFFICE

FRANK E. LARRABEE, OF LYNN, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR FINISHING BOOT AND SHOE SOLES.

Specification forming part of Letters Patent No. **207,610**, dated September 3, 1878; application filed January 22, 1878.

To all whom it may concern:

Be it known that I, FRANK E. LARRABEE, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Machines for Finishing the Soles of Boots and Shoes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in machines for finishing the soles of boots and shoes; and consists of a reciprocating tool-holder that is movable in stationary bearings, and provided at its forward end with a finishing-tool consisting of a receptacle for pumice-stone, &c. Said receptacle is provided with a perforated bottom, to which is attached an elastic cushion having perforations corresponding with the perforations in the bottom of the pumice-stone receptacle. To the under side of the elastic cushion is glued or cemented a sheet of sand or emery paper or cloth, which sheet is also perforated, but with somewhat smaller holes than those in the bottom of the receptacle, by which arrangement the pumice-stone is shaken out through the perforated sand or emery cloth during the operation of finishing the soles of boots and shoes, which is done by reciprocating said finishing-tool and holding the boot or shoe sole up against the under side of the perforated sand or emery cloth.

When the emery or sand cloth is worn out it is removed and a fresh piece attached, and to be able to do this without defacing or tearing the under side of the elastic cushion I interpose between the latter and the emery or sand cloth a sheet of perforated leather or cloth or other suitable fibrous material.

The pumice-stone receptacle is further provided with one or more orifices on its sides, through which the pumice-stone can escape onto the sole of the boot or shoe that is operated upon, if so desired.

As a modification of this invention I employ, for finer grades of boots and shoes, a brush

attached to the under side of the pumice-stone receptacle instead of the elastic cushion and its sand or emery surface, the bottom of said receptacle being also in this case provided with perforations, through which the polishing-powder escapes between the bristles onto the sole of the boot or shoe.

These finishing-tools are each provided with an upward-projecting shank or handle, that is inserted in a perforation in the forward end of the reciprocating tool-holder, where it is secured by means of a set-screw or similar locking device.

The pumice-stone receptacle is provided with a cover that is capable of being opened, for the purpose of filling said receptacle with the desired polishing-powder.

The finishing-tools may be detached from the reciprocating tool-holder, and operated by hand, if so desired.

The advantage of this invention is that the polishing-powder is evenly and automatically distributed upon the sole of the boot or shoe during the reciprocating motion of the tool, and by this invention great speed is obtained in the execution of the work, besides preventing a waste of pumice-stone, &c.

As usual on finishing-machines, I employ a suction-blower, having its suction-pipe located in close proximity to the works, by which the dust and grit are drawn away from the operator in the ordinary way.

On the accompanying drawings, Figure 1 represents a side view of my improved finishing-machine. Fig. 2 represents a central longitudinal section of the same. Fig. 3 represents a plan view. Fig. 4 represents a vertical section of my improved finishing-tool; and Fig. 5 represents a similar section of the modification of said tool.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

a represents the frame of the machine, with its driving-shaft *b* located in bearings *b'* *b'*, in the usual way.

c is the cord or belt pulley on the shaft *b*, and *d* is the belt or cord by which the rotary motion is conveyed to the rotary pulley *e*, as shown.

The pulley *e* is secured to the shaft *f*, that is made to rotate freely in the bearing *f'*. To the face of the small disk *e'* is attached a crank-pin, *g*, to which is jointed the connecting-rod *h*, having its other end jointed to the reciprocating tool-holder *i*, as shown. This tool-holder is guided in the bearings *k k*, in which it is set, in a forward and back motion by means of the mechanism described or equally well-known equivalent devices.

i' is the forward end or head of the tool-holder *i*, that is provided with a perforation, through which the shank of the polishing-tool is inserted, and secured by means of the set-screw *i''* or equivalent well-known device.

The finishing-tool shown in Fig. 4 is composed of the shank or handle *l*, box or receptacle *m* for pumice-stone or suitable polishing-powder, elastic cushion *n*, and emery or glass cloth or paper *o*.

p represents the sheet interposed between the elastic cushion *n* and emery or glass cloth *o*, for the purpose set forth.

m' m' represent the perforations in the bottom of the receptacle or box *m*.

n' n' represent the perforations in the elastic cushion *n*.

In a similar manner, *o' o'*, and *p' p'* represent corresponding perforations in the emery or glass cloth *o* and interposing sheet *p*. In Fig. 1, *q* represents a side orifice, through which the finishing-powder is allowed further to escape from the box *m* without passing through the elastic cushion *n* and emery or glass paper *o*.

r represents the cover in the box *m*, for the purpose set forth.

The modification of my improved finishing-tool is shown in Fig. 5, in which *s s* represent bristles secured to the under side of the box or receptacle *m*, or to a piece of wood, *t*, that is secured to the bottom of said receptacle. The bottom of said receptacle, as well as the wood *t*, is perforated in a manner as hereinbefore set forth, so that the finishing-powder may escape between the bristles *s s* during the forward and back motion of the polishing-tool.

What I wish to secure by Letters Patent and claim is—

1. In a finishing-machine for the soles of boots and shoes, the combination of the reciprocating tool-holder *i* with the finishing-tool, consisting of the box *m* with its perforated bottom, perforated elastic cushion *n*, and gritty finishing-surface *o*, as and for the purpose set forth.

2. The herein-described finishing-tool, consisting of the box or receptacle *m*, with its perforated bottom, one or more side orifices, *q*, perforated elastic cushion *n*, and gritty finishing-surface *o*, or their equivalents, as and for the purpose set forth.

In testimony that I claim the foregoing as my own invention I have affixed my signature in presence of two witnesses.

FRANK E. LARRABEE.

Witnesses:

ALBAN ANDRÉN,
B. F. LARRABEE.