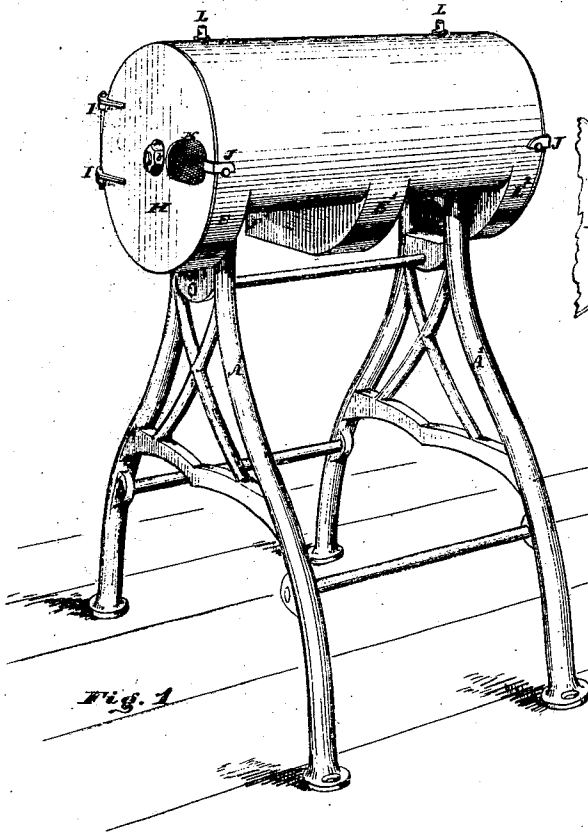


*H. H. Bigelow,*

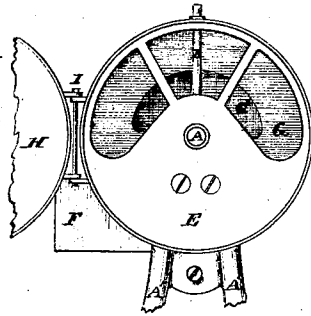
*Keel Machine.*

*No. 108678.*

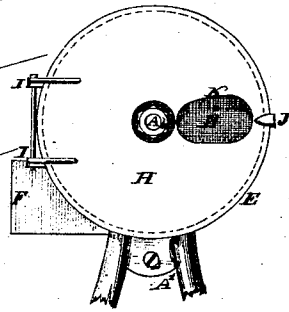
*Patented Oct. 25. 1870.*



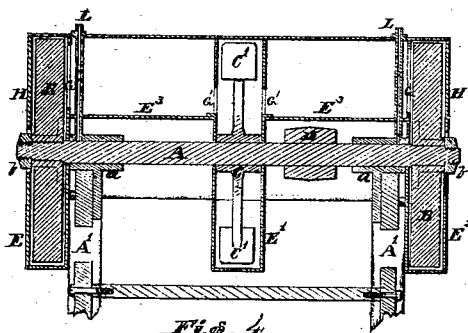
*Fig. 1*



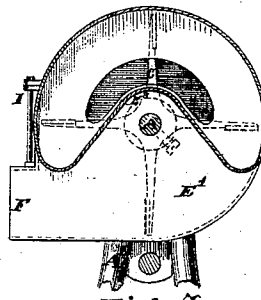
*Fig. 3*



*Fig. 2*



*Fig. 4*



*Fig. 5*

Witnesses,  
*Thos. G. Dodge*  
*A. C. Vance*

Inventor  
*Horace H. Bigelow*

# United States Patent Office.

HORACE H. BIGELOW, OF WORCESTER, MASSACHUSETTS.

Letters Patent No. 108,678, dated October 25, 1870.

## IMPROVEMENT IN MACHINES FOR FINISHING HEELS ON BOOTS AND SHOES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HORACE H. BIGELOW, of the city and county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Machines for Finishing Heels on Boots and Shoes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing which forms a part of this specification, in which—

Figure 1 represents a perspective view of my improved machine for finishing heels;

Figure 2 represents an end view of the same, supporting standards not shown;

Figure 3 represents an end view with the finishing-wheel removed to show the interior;

Figure 4 represents a central longitudinal section; and

Figure 5 represents a transverse section.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

The nature of my invention consists in a heel-finishing machine, the parts of which are constructed and combined as hereinafter described.

My improved machine for finishing heels is constructed as follows:

The main shaft, indicated by A in the drawing, is mounted upon and arranged to turn in the bearings *a a* at the upper ends of the supporting standards A' A'.

Upon each end of the shaft A is arranged a finishing-wheel, B, the outer side of which is coated with emery.

The wheels B B are held upon the shaft A by means of nuts *b b*, which screw onto the ends of the shaft outside the wheels. The nuts can be easily taken off when it is desirable to remove the wheels from the shaft for any purpose.

A fan-wheel, C, is attached to the central part of the shaft A, and it is also provided with a suitable driving-pulley, D.

The working portions of the machine are inclosed in metallic casings E E' E<sup>2</sup>, the upper portions of which are joined so as to form a continuous casing the full length of the machine, while at the lower side it is divided into sections, as shown in the drawing, the portions E<sup>2</sup> being curved upward at the under side, so that they do not inclose the main shaft A and driving-pulley D.

The lower portion of the casing E', which surrounds the fan-wheel, is extended to the rear, as shown at E, and provided with a suitable opening for the exit of the air from the fans C.

Suitable openings G G' are formed through the sides of the casings E E' E<sup>2</sup> into the divisions E<sup>2</sup>, as indicated, to permit the passage of air to the fan-wheel C.

Doors H are arranged in the casings E E<sup>2</sup>, outside the emery-wheel B. Said doors are hinged to the rear

of this casing, as indicated at I, and are provided with latches J at their front sides for keeping them closed.

An opening is formed in the center of the doors H, to allow space for the nut *b*, while a second opening, K, is formed near their front edges, through which the heels of the boots and shoes are introduced to the finishing-wheels B.

Tubes L pass from the outside of the casing to the bearings *a*, through which the oil for lubricating said bearings is entered.

The power is applied by belt to the pulley D, and the shaft and wheels driven at a high velocity.

The operator enters the heel of the boot or shoe through the opening K, and presses the bottom of the heel squarely against the side of the finishing-wheel B, which grinds off the rough ends of the nails and uneven portions of the lifting in a very rapid and effective manner, the action of the emery leaving their surface in such condition that the heels can be quickly smoothed by their application to the sand-paper wheel.

It will be observed that by the use of my improved machine, the slow and laborious process of filing the heels is superseded and much time and labor saved, and the operation of finishing the heels greatly facilitated, while the work is done in a more thorough and satisfactory manner.

By making the machine with two finishing-wheels, it enables two operatives to work at the machine at the same time.

All dust and dirt occasioned by the filing or grinding of the heels are drawn into the casing through the space around the edge of the wheels B, and the openings G G', by the action of the fan-wheel C; and thereby discharged through the rear exit-branch F, from which a conductor may extend to the outside of the building, or into any suitable receiver.

The heels may be introduced to the wheels B through the openings K, or, provided the operators be experts in the art of grinding, the doors may be swung back, so as to expose the whole side of the wheels.

Having described my improved machine for finishing heels on boots and shoes,

What I claim therein as new, and of my invention, and desire to secure by Letters Patent, is—

1. The arrangement of the shaft A and the fan-wheel and finishing emery-wheels, mounted on the same, and the casing constructed to cover and surround said fan and emery-wheels without inclosing the said shaft, as herein shown and described.

2. The arrangement in the ends of the casing and opposite the emery-wheels of the doors H, provided with openings K, substantially as and for the purposes shown and set forth.

HORACE H. BIGELOW.

Witnesses:

THOS. H. DODGE,  
A. E. PEIRCE.