

# C. H. Helms Heel Machine

N<sup>o</sup> 51180.

Patented Nov. 28, 1865.

Fig. 3.

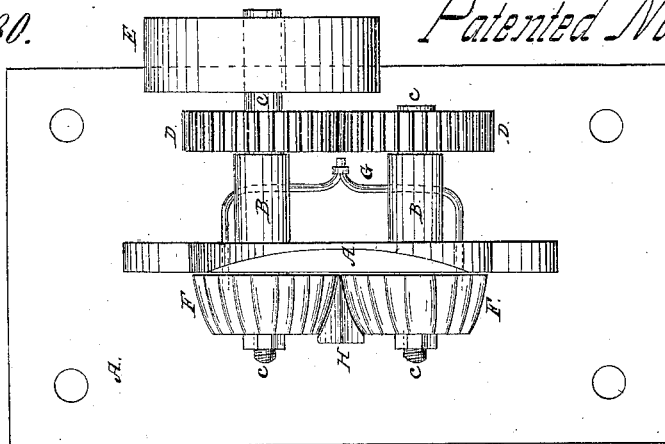


Fig. 2.

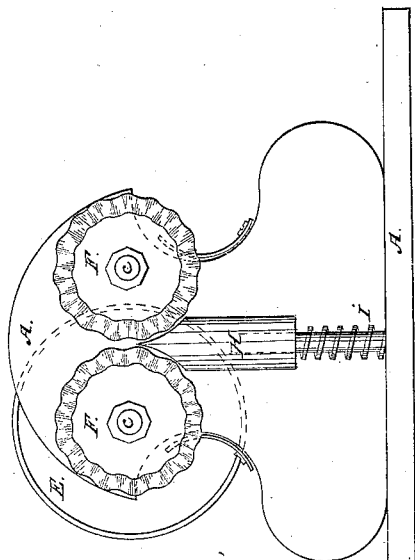
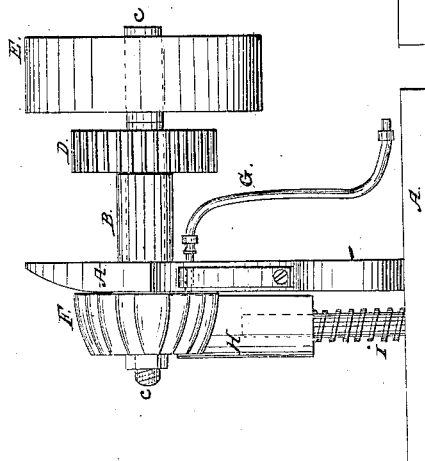


Fig. 1.



Witnesses:

Philip M. Kohler  
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Inventor.

C. H. Helms

# UNITED STATES PATENT OFFICE.

CHARLES H. HELMS, OF POUGHKEEPSIE, NEW YORK.

## IMPROVED BURNISHING-MACHINE.

Specification forming part of Letters Patent No. 51,180, dated November 28, 1865.

*To all whom it may concern:*

Be it known that I, CHARLES H. HELMS, of Poughkeepsie, Dutchess county, and State of New York, have invented certain new and useful Improvements in Machinery for Burnishing the Heels of Boots and Shoes; and I do hereby declare the following to be a full description of the same.

The nature of my invention consists, first, in combining two rollers or burnishers in a frame, so as to burnish two sides of the heel at the same time, and affording a suitable support or rest to sustain the pressure of the heel, firmly and steadily upon the burnishers, that it may be finished up by the single operation almost of a rotation of the heel on the burnishers; second, in the combination, with the two revolving burnishers, of a jet or jets of ignited gas, acting upon the burnishers for the purpose of heating them, to give the requisite finish to the heel; third, in the combination, with the two revolving burnishers, of an elastic rubber or planisher, for keeping the surfaces of the burnishing-rollers bright and with a highly-polished surface, so as to give to the heel a perfectly smooth hard enamel-like finish.

But, to describe my invention more particularly, I will refer to the accompanying drawings, forming a part of this specification, the same letters of reference, wherever they occur, referring to like parts.

Figure 1 is a side view of the machine. Fig. 2 is a front view of the same. Fig. 3 is a plan view of the same.

Letter A is a metal frame of any suitable size and form for the purpose of supporting the bearings of the burnishing-roller spindles, as shown at B, where a hollow axle or box projects back from the upright of the frame for the purpose of giving to the burnishers the requisite amount of steadiness of rotatory motion. In these boxes are arranged on the same horizontal line two spindles, C, which are geared together by two cog-wheels, D, on their back ends, and rotated by means of a pulley, E, on the end of one, the spindles communicating with any suitable propelling power.

On the front end of the spindles are secured metal (or other suitable material) burnishing-rollers F. These rollers are somewhat conical

in form, with a slight curve outward, so as to conform to the shape of the heel, and at the same time have their peripheries slightly fluted parallel with their axis, so as to produce a wave-line of gradual undulations of surface of not more than the sixteenth of an inch in depth. The object of this is to present to the surface of the heel more acute angles of the burnishers than would be the case if their surfaces were perfectly level, and, as a matter of course, act with much greater energy upon the heel to harden and finish its surface up.

Letter G are two gas-burners, which are arranged in any suitable manner so as to cause jets of flame to impinge upon the internal surface of the burnishers, and thereby communicate to them the requisite amount of heat to burnish and finish up the heel.

Letter H is an elastic rubber or planisher, which is supported upon a stud, I, elevated from the bed or frame of the machine so as to bring the upper end of it directly between the two burnishers and in contact with them. By this means, and with the use of fine Tripoli powder, or other suitable material, dusted upon the rubber, I keep the burnishers constantly bright and highly polished to finish the heel.

The operation of the machine is to place the heel of the boot or shoe between the burnishers and resting against the back plate, and then turn it from right to left and back again, at the same time holding it firmly and with considerable force till finished.

It will be obvious that burnishers may be made of soapstone and other substances, to answer a similar purpose as metal burnishers; and, also, that the burnishers may be heated by induction through the axis of the burnishers. As neither of these modifications are of substantial difference from my invention, I wish to have it understood that I include such modifications as embodying the substance of my invention.

I would also state that I do not limit myself to the use of the two burnishers having an undulating or wave-like surface, as plain-surface burnishers do the work equally well, though I believe that the undulating surface does it a little faster. I therefore desire it to be understood that my invention includes burnishers made

in either form as embodying the substance of my invention.

Having now described my invention, I will proceed to set forth what I claim and desire to secure by Letters Patent of the United States:

1. Combining two rotating burnishers with a frame, operating substantially in the manner and for the purposes hereinbefore set forth.

2. In combination with two rotating bur-

nishers, an adjustable-planisher, for the purpose hereinbefore set forth.

3. In combination with two rotating burnishers, jets of gas-flame for heating the same, substantially as hereinbefore set forth.

C. H. HELMS.

Witnesses:

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