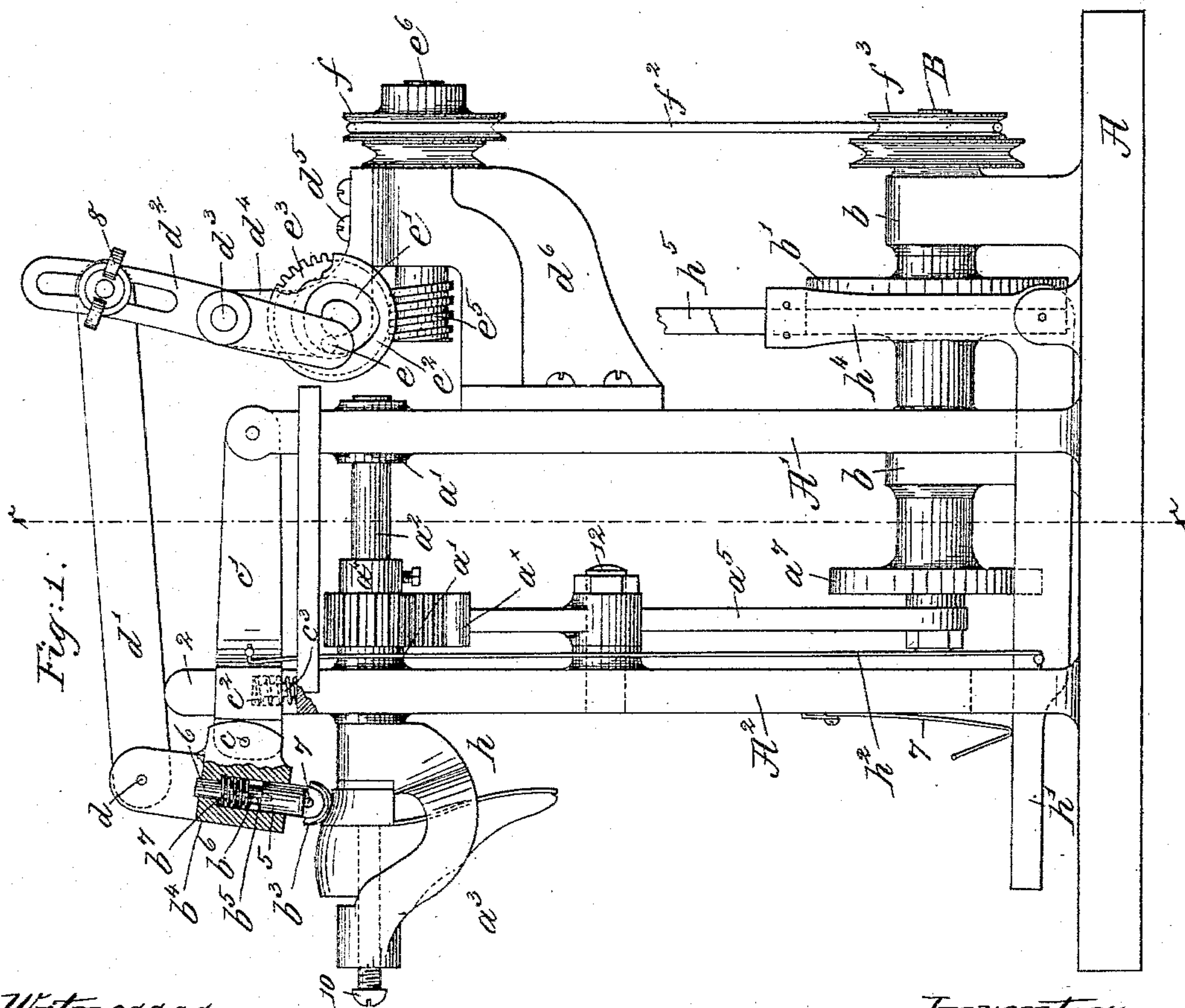
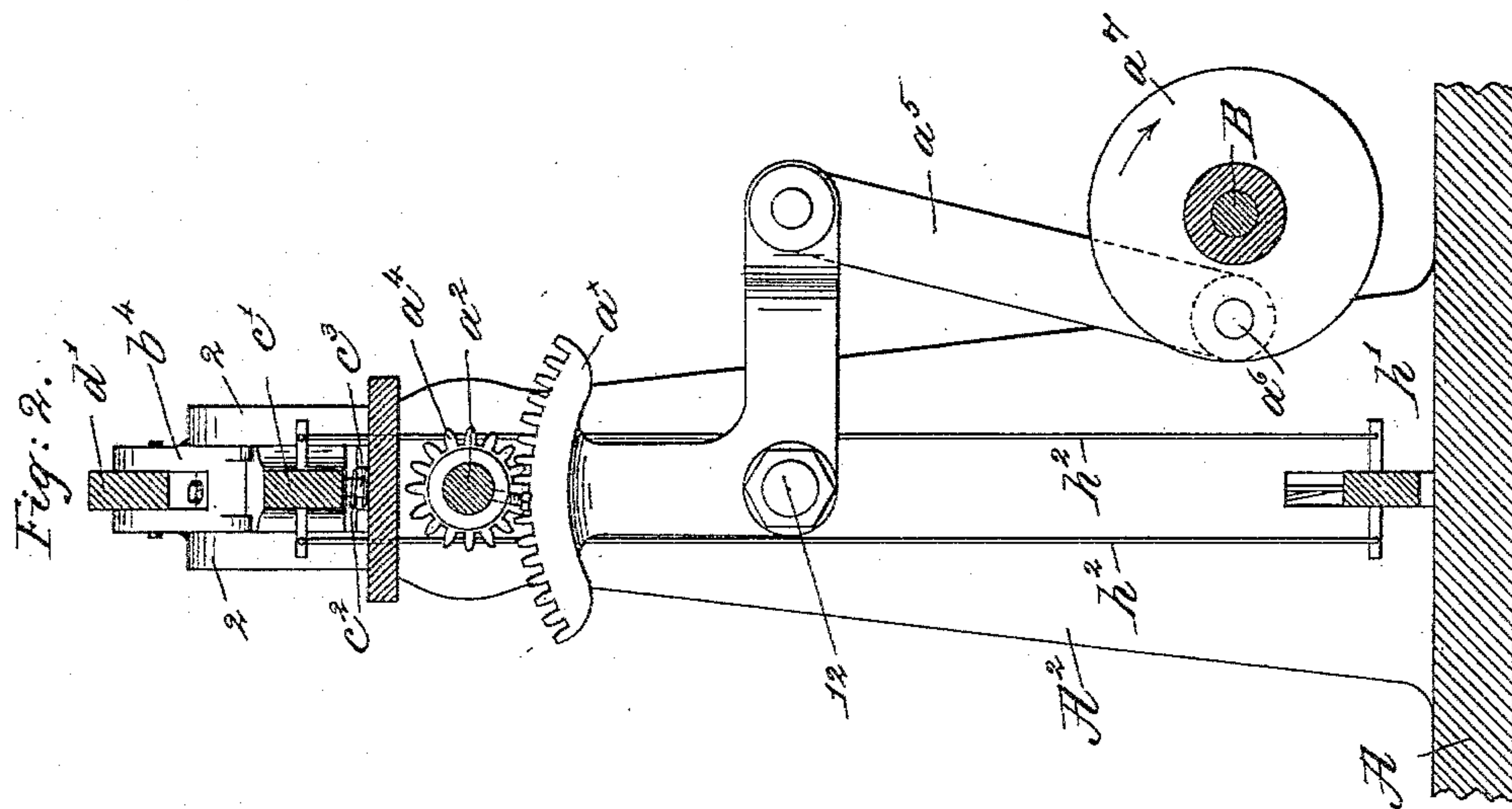


(No Model.)

C. J. ADDY.  
BURNISHING MACHINE.

No. 356,911.

Patented Feb. 1, 1887.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

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## BURNISHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 356,911, dated February 1, 1887.

Application filed November 5, 1886. Serial No. 218,092. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES J. ADDY, of Malden, county of Middlesex, and State of Massachusetts, have invented an Improvement in Burnishing-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention in machines for burnishing boot and shoe heels is an improvement upon the machine shown and described in United States Patent No. 127,414, dated June 4, 1872. In the machine described in the said patent the shoe is oscillated and the burnishing-tool is moved across the heel-edge by hand.

My invention has for its object to automatically operate the burnishing-tool; and my invention consists, essentially, of mechanism, as will be described, to cause the burnishing-tool to move transversely or horizontally on the heel-edge to polish the same, the said mechanism being made adjustable, so that the burnishing-tool may be made to bear upon and polish uniformly heel-edges of varying sizes and shapes.

Figure 1 is a side elevation of a burnishing-machine constructed in accordance with my invention, one of the standards being broken off at its upper end; and Fig. 2, a section of Fig. 1 on the line  $x x$ , looking toward the left.

The base A, provided, as shown, with two standards or pedestals,  $A' A^2$ , to support suitable bearings,  $a'$ , for the rocker-shaft  $a^2$ , and the carriage or jack  $a^3$ , attached to one end of the said rocker-shaft to carry the boot or shoe, are substantially as shown and described in the patent referred to, the said shaft being rocked or rotated by means of a toothed sector,  $a^4$ , mounted upon the stud 12 and engaging the pinion  $a^1$  on the rock-shaft, the said toothed sector being connected by the link  $a^5$  to the crank-pin  $a^6$  (see Fig. 2) of the crank or disk  $a^7$ , fast on the main shaft B, the latter being supported in suitable bearings,  $b$ , and provided with driving-pulleys  $b'$ , the said parts being and operating substantially as shown and described in the said patent.

The standard  $A'$  has pivoted to it at its top one end of a horizontal bar or carrier,  $c'$ , extended across the machine and entering between the projected ends 2 of the standard  $A^2$ .

The carrier  $c'$  at its front end has pivoted to it, as at  $c$ , a tool-carrier,  $b^4$ , provided, as shown, with a longitudinal opening, through which a rod, 5, is extended.

The rod 5, as shown, is reduced in diameter for a portion of its length, as at 6, which latter is extended up through a narrow portion of the opening referred to, and is provided with a pin,  $b^6$ , extended through slots  $b^5$  in the sides of the tool-carrier  $b^4$ , only one of said slots being shown in Fig. 1.

The rod 5 has secured to its lower end, as herein shown, by set-screw 7, the iron or other usual burnishing-tool,  $b^3$ , which in operation is normally pressed against the heel by a spring,  $b^7$ , the latter encircling the narrow portion 6 of the rod 5, and having one end bearing against the upper wall of the opening through which the rod 5 is extended, the lower end of said spring resting on the pin  $b^6$ .

The bar or carrier  $c'$  is recessed at its under side to receive a spring,  $c^2$ , encircling a post,  $c^3$ , extended upward from the standard  $A^2$ , the said spring normally acting to raise the carrier  $c'$ . The tool-carrier  $b^4$  is also pivoted at its upper end, as at  $d$ , to a lever,  $d'$ , having its free end adjustable in a slotted arm of a lever,  $d^2$ , pivoted at  $d^3$  to an arm,  $d^4$ , the latter being attached, as herein shown, by screws  $d^5$  to an arm or bracket,  $d^6$ , secured to the upright  $A'$ . The lever  $d^2$  at one end has a stud,  $e$ , (see dotted lines, Fig. 1,) which enters a cam-groove,  $e'$ , in a disk,  $e^2$ , attached to or forming part of a worm-gear,  $e^3$ .

The worm-gear  $e^3$  and disk  $e^2$  are rotated by a worm,  $e^5$ , on a shaft,  $e^6$ , having bearings in the arm or bracket  $d^6$ , the said shaft having mounted thereon pulleys  $f$ , connected by belt  $f^2$  to pulley  $f^3$  on the main shaft, there being a fast and slow pulley on each shaft, to produce a fast or slow movement of the mechanism operating the burnishing-tool.

During the rotation of the worm-gear the lever  $d^2$  is turned on its pivot, the outer periphery of the cam-groove acting on the stud  $e$ , and as the said lever is turned on its pivot the tool-carrier  $b^4$  is rocked or moved forward and backward on the pivot  $c$  through the lever  $d'$ , the backward and forward movement of the tool-carrier causing the tool to travel laterally or substantially horizontally over the



heel-edge of the boot or shoe held in the jack, as herein shown, by the screw 10, the tread of the heel resting against the pattern-plate  $h$  of the said jack.

5 By adjusting the free end of the lever  $d'$  in the slotted arm of the lever  $d^2$  by means of the set-screw 8, the stroke of the burnishing-tool  $b^3$  laterally over the heel-edge may be varied, so as to enable heels of various heights or  
10 sizes to be burnished or polished uniformly and equally well.

In operation the boot or shoe is jacked and the burnishing-tool is brought down in contact with the heel-edge by the operator pressing upon  
15 a foot-lever,  $h'$ , fulcrumed to the base  $A$  and connected to the carrier  $c'$  by rods  $h^2$ , as in the patent referred to, the said foot-lever having erected upon it a shipper,  $h^4$ , to ship the belt  $h^5$  from the loose to the fast belt-pulley as the  
20 carrier is depressed. The foot-lever is maintained depressed and in operative position by means of a catch or stop, herein shown as a rod, 7.

The pivotal point  $d^3$  of the lever  $d^2$  and the  
25 slot in the said lever are all so constructed and shaped that in any adjustment the stroke of the tool-carrier and tool is such as to always come back to and stop at the pattern-plate, against which the tread end of the heel  
30 rests, or, in other words, the inward stroke of the tool  $b^3$  is always to the same point; but its

outward stroke may be varied more or less by altering the position of the set-screw 8 in the slot of the lever  $d^2$ .

I claim—

1. In a machine for burnishing heels of boots and shoes, the jack or carriage and means to oscillate it, a burnishing-tool, a pivoted carrier therefor, a cam, and means, substantially  
35 as described, to rotate it, combined with the lever  $d^2$  and with a second lever having one end secured to the pivoted tool-carrier and its other end adjustable on the lever  $d^2$ , to operate substantially as described. 40

2. In a machine for burnishing heels of boots and shoes, the jack or carriage, means to oscillate it, a burnishing-tool, a carrier for it, a lever,  $c$ , on which the said carrier is pivoted, and means, substantially as described, to depress the said lever to force the tool against the  
45 heel, combined with the lever  $d^2$  and with a second lever having one end secured to the pivoted tool-carrier and its other end adjustable on the lever  $d^2$ , to operate substantially as described. 50

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

CHARLES J. ADDY.

Witnesses:

GEO. W. GREGORY,  
JAS. H. CHURCHILL.