

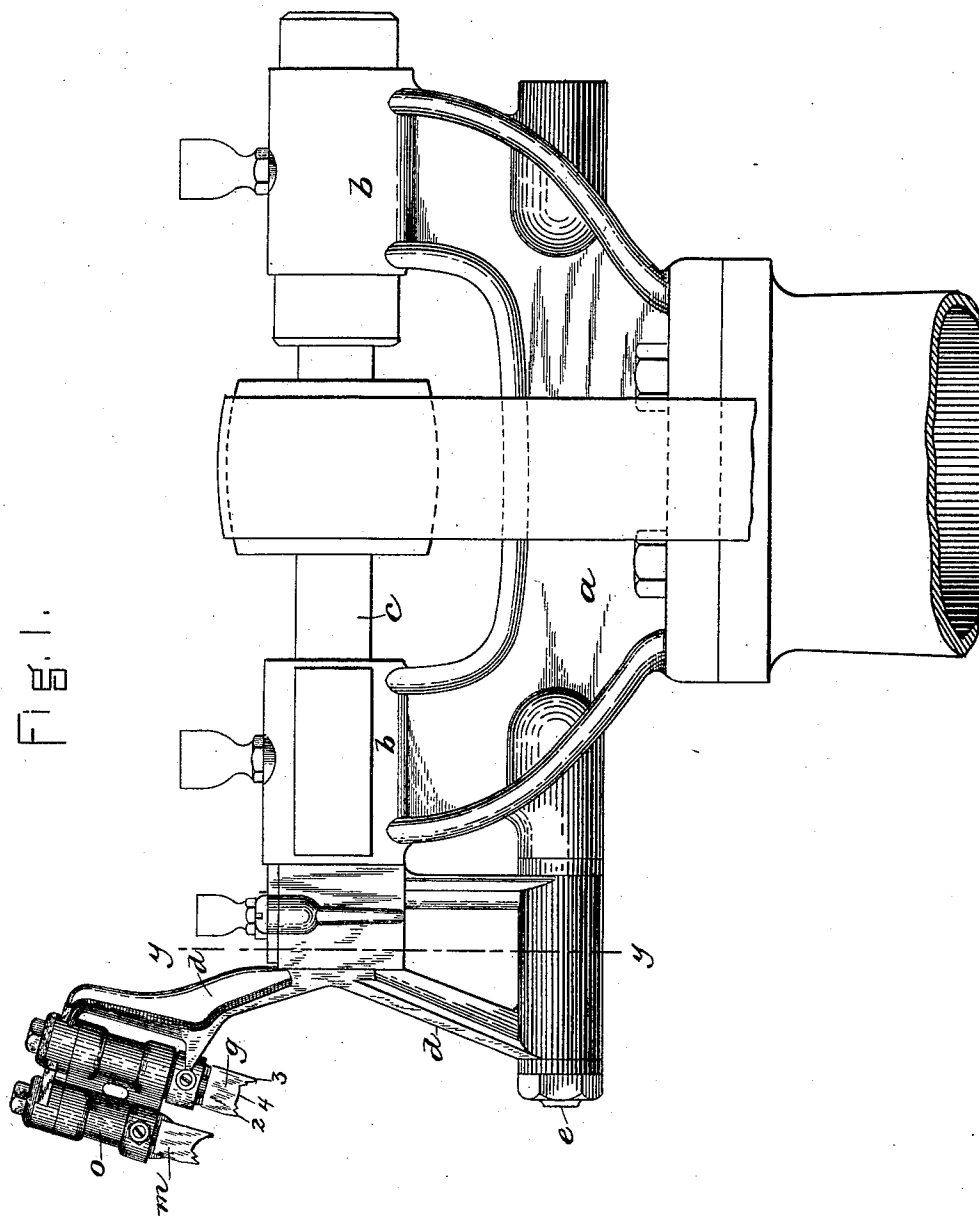
(No Model.)

2 Sheets—Sheet 1.

W. GORDON.
SOLE EDGE BURNISHING MACHINE.

No. 425,217.

Patented Apr. 8, 1890.



WITNESSES.
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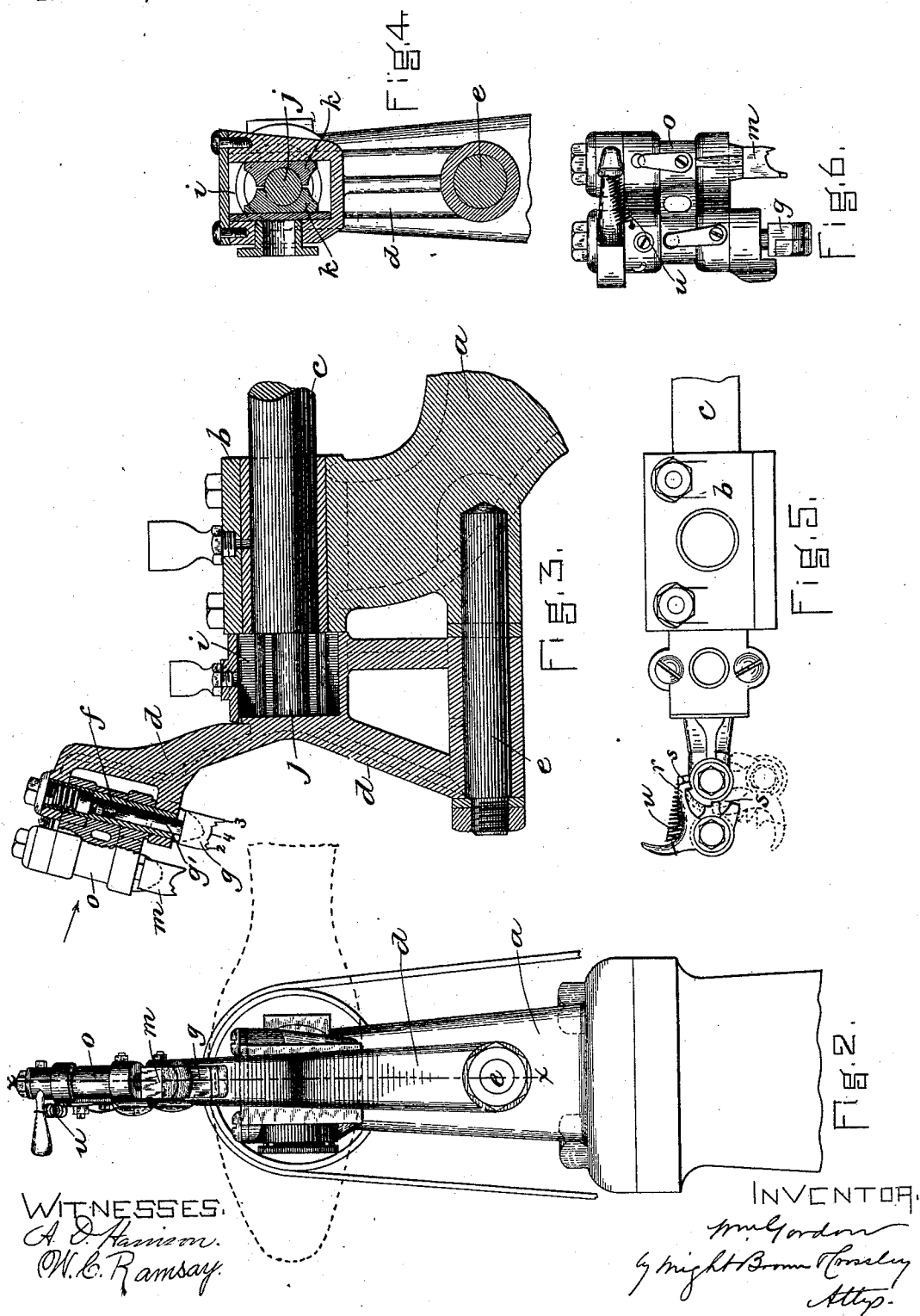
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UNITED STATES PATENT OFFICE.

WILLIAM GORDON, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF TWO-THIRDS TO ARTHUR FULLER, OF SAME PLACE, AND EDWARD C. JUDD, OF LYNN, MASSACHUSETTS.

SOLE-EDGE-BURNISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 425,217, dated April 8, 1890.

Application filed October 15, 1888. Serial No. 288,091. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GORDON, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Sole-Edge-Burnishing Machines, of which the following is a specification.

This invention has for its object to provide improved means for oscillating the operative face of a sole-edge-burnishing tool in a concave path, and thereby making its movement approximately parallel with the convexly-curved edges of a sole. It is well known that the margin of a boot or shoe sole is convex along its side and toe portions and is concave only at the shank portion. The movement of the reciprocating edge-burnishing tool in a concave path therefore conforms the tool to the said convex edge and enables the operator to hold the boot or shoe and present its edge to the reciprocating tool with less effort than he could if the tool oscillated in a convex path.

The invention consists in certain details of construction and combinations of parts, which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation of a sole-edge-burnishing machine embodying my invention. Fig. 2 represents a front elevation of the same. Fig. 3 represents a section on line *x x*, Fig. 1. Fig. 4 represents a section on line *y y*, Fig. 1. Fig. 5 represents a top view of a part of the machine. Fig. 6 represents a front view of the sole-edge-burnishing tool, showing the shank-burnishing tool swung to an inoperative position at one side.

The same letters and figures of reference indicate the same parts in all the figures.

In the drawings, *a* represents a supporting frame or standard having bearings *b b*, in which is journaled the driving-shaft *c*.

d represents a lever or tool-carrier mounted to oscillate on a pivot *e*, affixed to the supporting-frame below the shaft *c*. To the swinging end of said lever is affixed a sleeve or socket *f*, Fig. 3, in which is fitted the shank *g'* of a sole-edge-burnishing tool *g*, said tool

having a rand-lip 2 and a longer lip or guard 3, which serves as a rest for the face of the sole of a boot or shoe, the edge of which is presented by the hand of the operator to the acting-face 4 of the tool between said lips, and is prevented thereby from slipping laterally from the face 4. The lever is provided with a chamber or cavity *i* between the pivot *e* and the outer end of the lever. Said cavity receives an eccentric *j* on the shaft *c* and suitable check-pieces *k k*, interposed between said eccentric and the sides of said cavity, as shown in Fig. 4, said pieces constituting a slide in which the eccentric rotates, and which is moved up and down in the cavity *i* by the revolutions of the eccentric.

It will be seen that the rotation of the driving-shaft causes the lever or carrier *d* to oscillate on the pivot *e*, the tool being thus oscillated. It will also be seen that the relative arrangement of the tool and pivot *e* is such that the boot or shoe to be acted on is held between the pivot *e* and the acting-face of the tool, said face being presented toward the said pivot, so that it oscillates in a concave curve or path instead of in a convex path, as it would if it were arranged at the outer end of the lever *d*, or between the pivot *e* and the edge of the sole presented to it, as in the machine shown in Letters Patent No. 381,497, granted to me April 17, 1888. The result of this arrangement is that the path in which the acting-face of the tool moves is concave or approximately parallel with the convex portions of the sole-edge, said portions including the sides and toe of the sole. The motion thus given to the tool enables it to operate on the concave portions of the sole with less jar and hammer than a tool moving in a convex path, as in the patent above mentioned, so that the operator can hold the boot or shoe with less effort, particularly while the abruptly-curved toe portions are being acted on by the tool.

m represents the shank-burnishing tool, which is mounted in a short arm *o*, having at its inner end a socket which fits upon the sleeve *f*, in which the shank of the tool *g* is fitted. The arm *o* is therefore adapted to

swing on the sleeve *f*, so that the tool *m*, which is in the swinging end of said arm, can be located in front of the tool *g* when it is desired to burnish the shank-edge or at one side of the tool *g*, as shown in Fig. 6 and in dotted lines in Fig. 5, so that it will be out of the way when the tool *g* is in use. The arm *o* is held in each of said positions by the engagement of a dog *r*, Fig. 5, pivoted on the swinging end of the arm *o*, with recesses *s s'*, Fig. 5, formed in the lever or carrier *d*, said dog engaging with the recess *s* when the tool *m* is in its operative position and with the recess *s'* when said tool is in its inoperative position. The dog is held in engagement with said recesses by a spring *n*, fastened at one end to the dog and at the other end to the arm *o*.

I am aware that a heel-burnishing tool has been oscillated in a curved path about a heel, the latter being supported by a jack, which prevents lateral displacement or slipping of the work from the tool. I am the first, however, so far as I am aware, to combine a sole-edge-burnishing tool, a holder therefor mounted on a pivot toward which the face of the tool is presented, and the lip 2 and guard 3, whereby the sole-edge is kept in place on the face of the tool.

I claim—

1. In a sole-edge-burnishing machine, the combination of the tool-carrier *d*, mounted at one end to vibrate on a pivot *e*, the tool *g*, having its lips constructed and arranged substantially as described and mounted in the other end of said tool-carrier, the driving-shaft *c*, and an eccentric *j* thereon extending into a cavity in the tool-carrier between its ends to connect the shaft and tool-carrier and vibrate the tool-carrier and its tool in a concave path, substantially as and for the purposes set forth.

2. The combination of the oscillating carrier *d*, having the tool-holding sleeve or socket *f* and tool *g* therein, the arm *o*, holding a second tool and mounted to oscillate on said sleeve, and the latch *r* and shoulders *s s'*, whereby said arm may be held in its operative and inoperative positions, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 12th day of October, A. D. 1888.

WILLIAM GORDON.

Witnesses:

C. F. BROWN,

A. D. HARRISON.