(Model.) 2 Sheets—Sheet 1.

J. W. MALOY.

SOLE EDGE BURNISHING MACHINE.

No. 245,963. Patented Aug. 23, 1881.

Fig. 1.

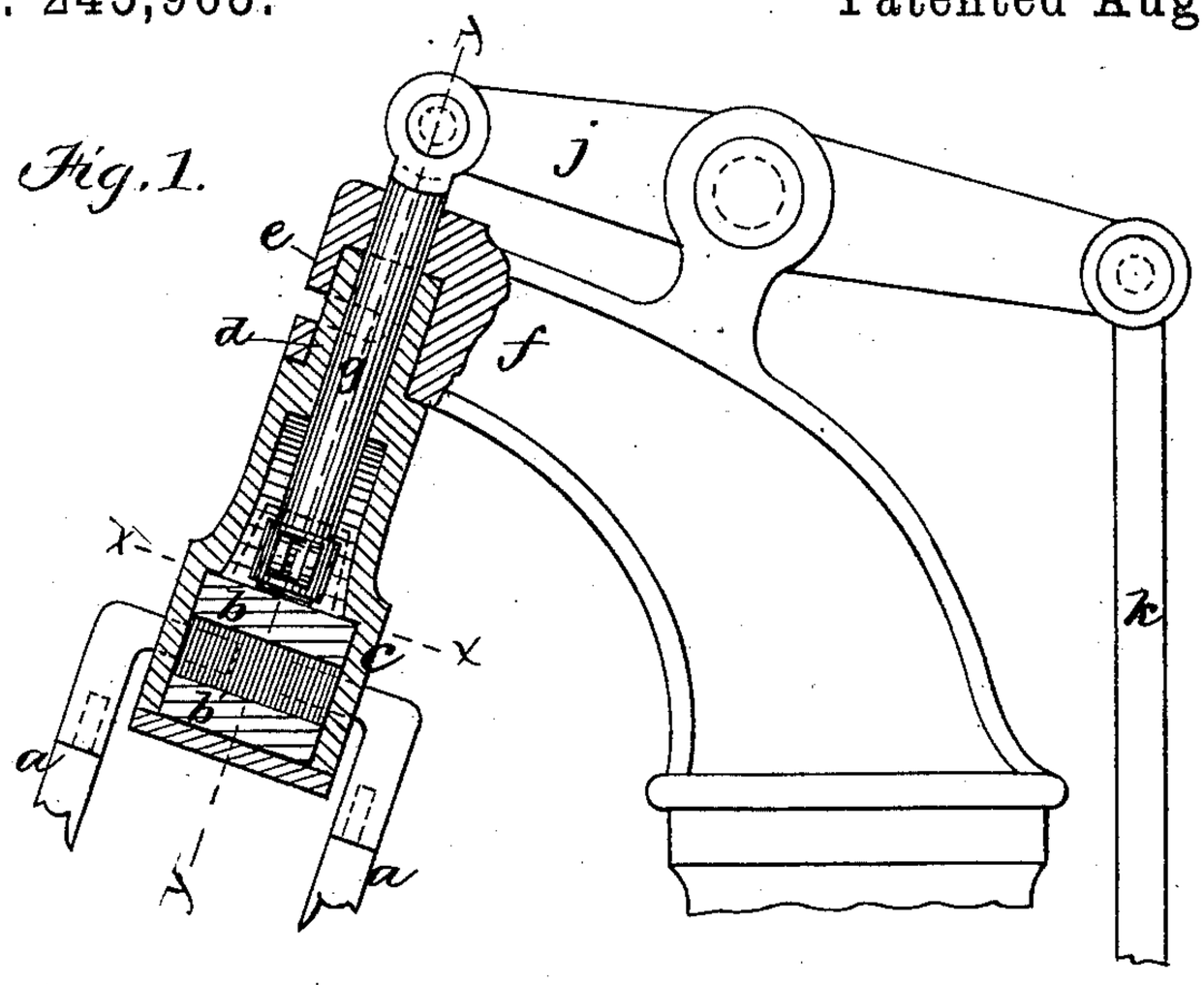
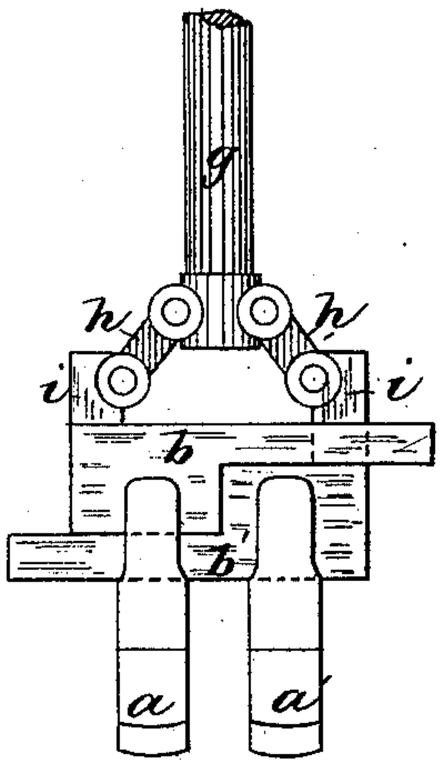


Fig. 2.

Fig. 4.



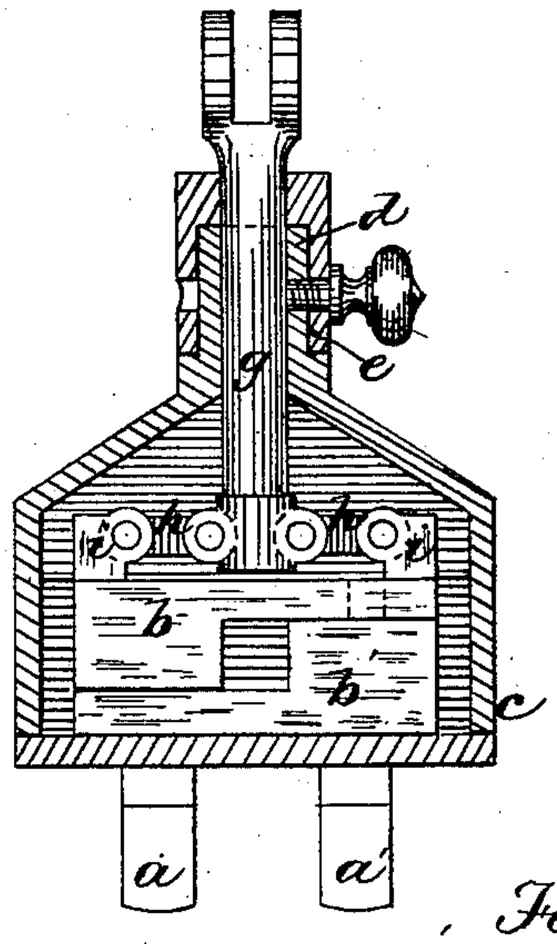


Fig. 5.

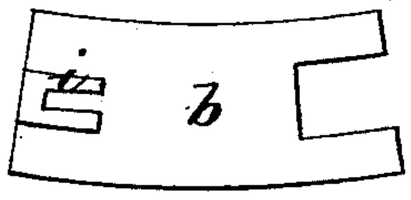
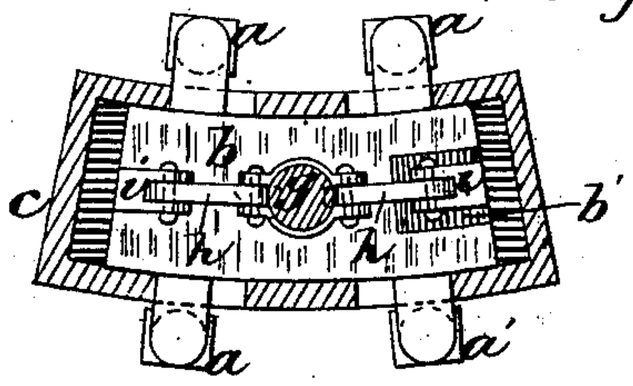


Fig. 3.



Witnesses.
L. B. Morrison.
H. G. Wadlin.

Inventor:
J. W. Maloy
by Wright Brown
Attys.

(Model.) 2 Sheets—Sheet 2.

J. W. MALOY.

SOLE EDGE BURNISHING MACHINE.

No. 245,963. Patented Aug. 23, 1881.

Fig. 6.

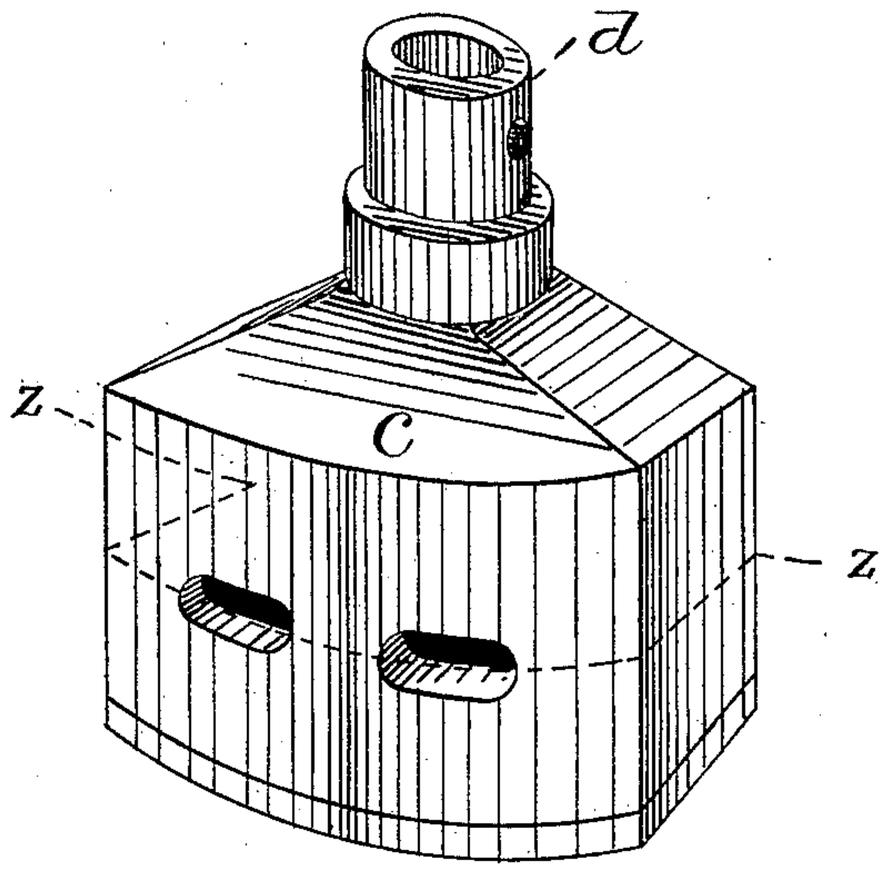
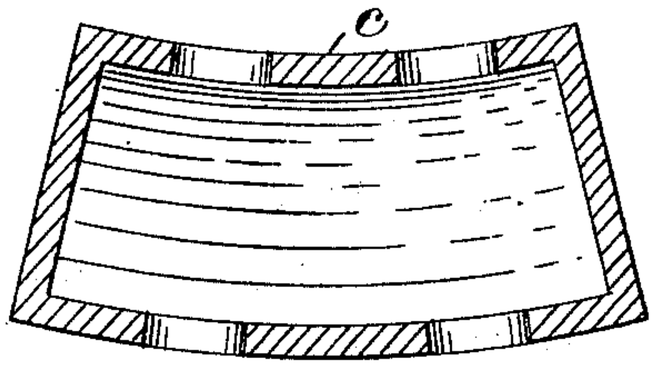


Fig. 7.



Witnesses.
H. G. Madden.
L. B. Morrison

Inventor.
J. W. Maloy
by Wright Brown
Attys.

UNITED STATES PATENT OFFICE.

JAMES W. MALOY, OF SOMERVILLE, MASSACHUSETTS.

SOLE-EDGE-BURNISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 245,963, dated August 23, 1881.

Application filed May 31, 1881. (Model.)

To all whom it may concern:

Be it known that I, JAMES W. MALOY, of Somerville, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in Sole-Edge-Burnishing Machines, of which the following is a specification.

This invention relates to that class of sole-edge-burnishing machines in which the sole is held by the operator and pressed against a reciprocating burnishing-tool.

Heretofore in this class of machines the burnishing has been effected by a single tool.

It is well known that much difficulty is experienced in keeping the sole in contact with the tool when the abrupt curve of the toe is being burnished, on account of the tendency of the tool to throw or displace the sole in the direction of its movement, the tool affording a limited and constantly-shifting bearing-surface, against which the operator presses the edge of the sole with considerable force, and is therefore liable to let the sole slip and pass to one side or the other of the tool, thereby injuring the boot or shoe. It has been usual, therefore, to provide the machine with a rest or device to aid the operator in holding the sole while the toe is being presented to the tool; but even with such adjuncts as have been provided the muscular effort required of the operator in overcoming the above-mentioned tendency of the tool is very severe.

My invention has for its object to obviate the above-mentioned difficulties and to enable the operator to easily hold the sole in place while it is being burnished without the aid of rests or other adjuncts.

To these ends my invention consists in the provision of two or more burnishing-tools adapted to operate simultaneously on the edge of the sole and afford an extended bearing therefor, so that the sole will not be liable to turn or tip when pressed against the tools, and also adapted to reciprocate simultaneously in opposite directions, so that the tendency of each tool to displace the sole will be neutralized by the other.

The invention also consists in the combination of an internally-curved guide or holder, such as is shown in my pending application filed December 6, 1880, with two reciprocating tools guided in a curved path by said holder, and mechanism for reciprocating said tools simultaneously in opposite directions, all of which I will now proceed to describe and claim.

Of the accompanying drawings, forming part of this specification, Figure 1 represents a side elevation and partial vertical section of edge-burnishing mechanism embodying my invention. Fig. 2 represents a section on line *y y*, Fig. 1. Fig. 3 represents an offset section on line *x x*, Fig. 1. Fig. 4 represents a view of a part of the mechanism shown in Fig. 2, but in a different position. Fig. 5 represents a top view of one of the tool-carrying slides. Fig. 6 represents a perspective view of the curved guide or holder detached; and Fig. 7 represents a section on the plane of line *z z*, Fig. 6.

The same letters relate to the same parts in all the figures.

In carrying out my invention I provide two burnishing-tools, *a a'*, adapted to operate simultaneously on a sole-edge and to reciprocate simultaneously in opposite directions, the tools being of the usual or any suitable form. The means for supporting and reciprocating said tools may be variously modified, and they may be guided in a straight line or a curved path, corresponding to the contour of a given portion of a sole-edge, as the single tool shown in my above-named application is guided.

In the present instance I have shown the tools *a a'* attached to slides *b b'*, which are adapted to reciprocate in an internally-curved guide or holder, *c*, one side of which has a concave curve corresponding to the convex upward and downward curves of the sole at the ball of the foot, while the opposite side has a convex curve corresponding to the concave upward and downward curve of the sole at the shank, said holder being reversible, and provided with a pair of burnishing-tools, *a a'*, at each side, as shown in Figs. 1 and 3, so that by turning or reversing the holder the burnishing-tools at its front side can be caused to conform to either of said curves.

The holder is provided with a tubular sleeve, *d*, which is journaled in a socket, *e*, in the supporting-frame *f*, and is adapted to be semi-rotated in said socket, so as to bring either side of the holder to the front.

The means shown in this instance for recip-

rocating the tools *a a'* simultaneously in opposite directions are a rod, *g*, reciprocated longitudinally in a plane at right angles to the plane in which the tools reciprocate, and guided by the sleeve *d* and frame *f*, and two links, *h h*, connecting the rod *g* with ears *i i'* on the slides *b b'*. The slides *b b'* are adapted to move upon each other, as shown in Figs. 2 and 4, and the tools *a a'* are preferably so arranged that at the inner ends of their movements they will nearly or quite touch each other.

The rod *g* may be reciprocated by means of an oscillating lever, *j*, connected by a rod, *k*, to a suitable motor, or by any other suitable means.

It will be observed that the two tools furnish an extended bearing for the edge of the sole, making the latter less liable to tip, and that the simultaneous movement of the tools in opposite directions neutralizes the tendency of each tool to throw or displace the sole in the direction of its movement. The operator is therefore enabled to easily hold and control the boot or shoe.

It is obvious, also, that by the employment of two tools the burnishing operation can be performed much more rapidly than with one, each tool doing the same work that the single tool does in machines heretofore used.

I do not limit myself to the employment of a pair of tools reciprocated simultaneously in opposite directions, it being obvious that two or more pairs of such tools may be employed with the same result as one pair, so far as the above-mentioned neutralizing effect is concerned.

Having thus described my invention, I claim—

1. In a sole-edge-burnishing machine of the class herein described, two reciprocating burnishing-tools adapted to operate simultaneously on one edge of a sole and to move simultaneously in opposite directions, whereby the tendency of each tool to displace the sole is neutralized, as set forth.

2. In a sole-edge-burnishing machine, the combination of an internally-curved guide or holder, two slides adapted to reciprocate in a curved path in said holder, each carrying a burnishing-tool, and mechanism for reciprocating said slides simultaneously in opposite directions, substantially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 28th day of May, A. D. 1881.

JAMES W. MALOY.

Witnesses:
C. F. BROWN,
H. G. WADLIN.