

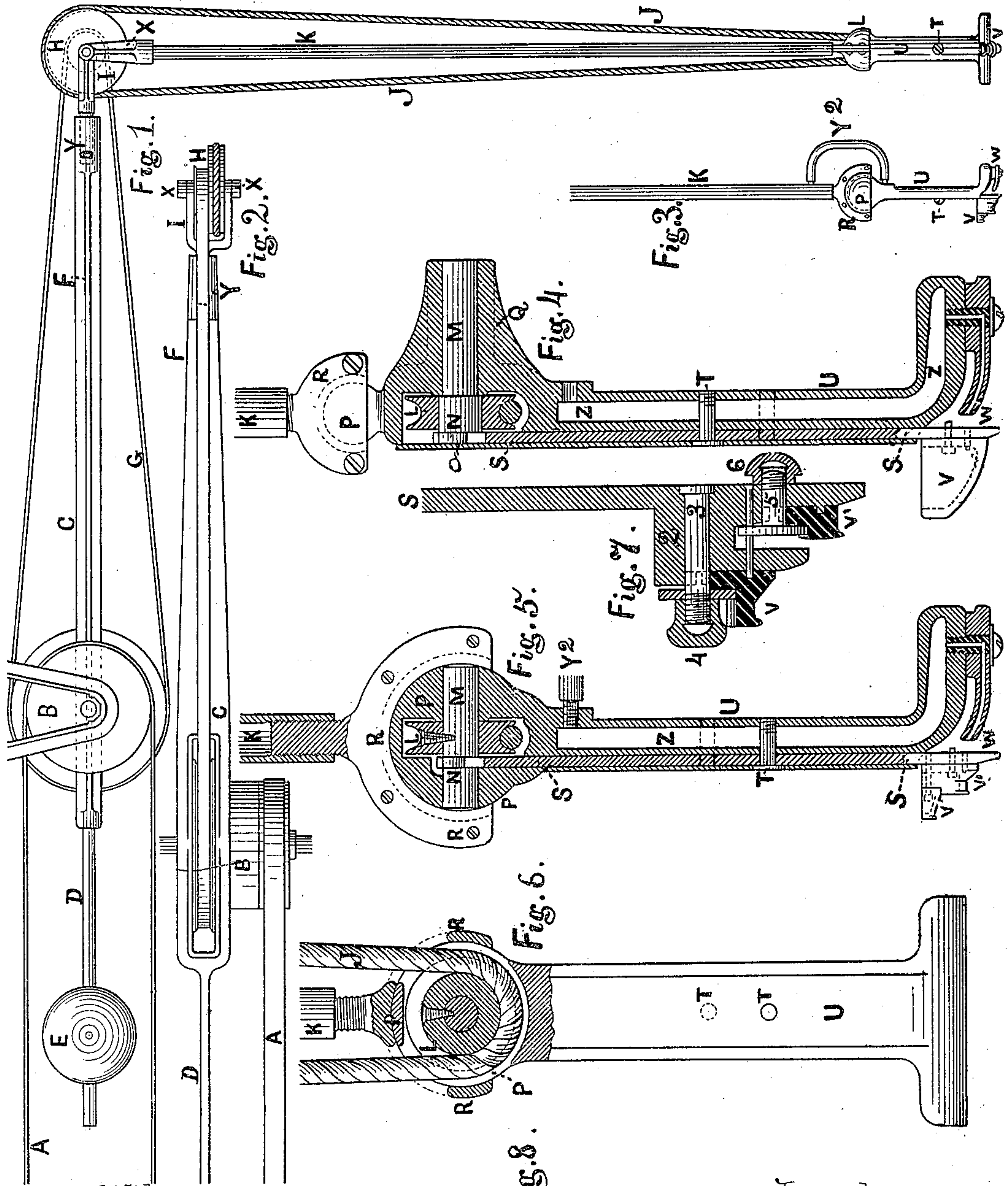
(No Model.)

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BOOT AND SHOE SOLE BURNISHING MACHINE.

No. 249,698.

Patented Nov. 15, 1881.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## BOOT AND SHOE SOLE BURNISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 249,698, dated November 15, 1881.

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*To all whom it may concern:*

Be it known that I, CHARLES H. TRASK, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Boot and Shoe Sole Edge Setting and Burnishing Machines, of which the following is a specification.

The objects of my invention are to provide means or apparatus for imparting a reciprocating motion to the burnishing device, which motion may be varied or adjusted as to its movement horizontally; and a further object is to provide mechanism whereby the burnisher may be suspended vertically and have a reciprocating motion imparted to it, while it is free to be moved in every direction required by the various curves and angles of the edge of the sole of a boot or shoe, when the same is held in a jack of usual construction adapted to edge setting and burnishing machines and devices therefor; and it consists, first, in the construction of a reciprocating bar provided with adjustable pivotal bearings; and it further consists in the construction, combination, and arrangement of certain clamping devices with the reciprocating bar to secure thereto one or more burnishers, and in a hollow operating-handle adapted to conduct gas downward through the same to a burner, which opens and closes the gas-inlet passage by horizontal movement thereof; and it further consists in a ball-and-socket joint having a belt-pulley and eccentric journaled at or near the axial line thereof, and having a driving-belt passing through openings in said joint, and an operating-handle having a reciprocating bar pivoted at or near its central portion, and having its upper end connected with said eccentric and its lower end provided with one or more adjustable burnishers; and it further consists in the combination of a hollow pendent support and a hollow operating-handle united by a ball-and-socket joint having openings in its socket, and having a belt-pulley and eccentric journaled within the ball, at or near the axial line thereof, and of a driving-belt passing through the openings of the socket; and it further consists in the combination, with a tilting frame having an adjustable weight, of the hollow pendent support, ball-and-socket joint having a belt-pulley and eccentric jour-

naled therein, and hollow operating-handle provided with a reciprocating burnisher; and also in the combination, with the hollow pendent tube and hollow operating-handle united by the ball-and-socket joint, of means of conducting gas to the burnishers through said tube and handle and by means of an adjustable burner, and in the details of construction, hereinafter more fully described, and particularly set forth in the several claims.

Figure 1 represents a side elevation of an edge setting or burnishing machine constructed according to my invention. Fig. 2 represents a top plan of the same. Fig. 3 represents an elevation of the burnishing device and connecting mechanism. Fig. 4 represents a vertical section of one modification of the actuating mechanism of the burnisher and connecting devices. Fig. 5 represents a similar view of actuating mechanism and connecting devices and modification of driving-pulley within ball-and-socket joint. Fig. 6 is a section view of pulley and joint at a right angle to that represented in Fig. 5. Fig. 7 represents a vertical section of the burnishing devices and their attachment to the lower end of the reciprocating bar. Fig. 8 represents a detail view, showing the connection of the upper end of the actuating-bar with the concentric formed upon the pulley-journal.

A represents a horizontal belt for communicating power and motion to the shaft and pulleys B, supported by hangers from the ceiling overhead, which also sustain the horizontal tilting frame C, one end of which is provided with an extension-bar D, upon which is attached the adjustable counter-balance or weight E, which may be moved upon the said bar D so as to nearly balance the opposite end or portion, F, with the horizontal belt G and pulleys H, which are journaled within the pivoted frame I, which is connected with the end of the bar F by a socket-joint, Y, provided with a pin and slot, so as to permit a horizontal swinging movement to be imparted to it in this direction; and the journal of the pulleys H permits the vertical pipe K, connected at its upper end to said journal by a yoke-frame, X, to swing at right angles thereto, the pulley H being provided with a vertical belt, J, which extends downward each side of the said pipe K and passes around



the small driving-pulley L, so as to communicate a high rate of speed thereto without disturbing the tension of the belt J when the connecting-pipe K and its burnishing devices have a vertical or horizontal movement imparted through the connecting devices described. It will be seen that this pulley L revolves within the plane of the axial line of the ball P and socket R, and is journaled immediately below said ball-and-socket joint, as shown in Fig. 4, the journal M thereof extending at one side of the pulley L sufficiently to form a suitable bearing in the box Q, within which it revolves, being secured rigidly within the pulley L, its opposite end being formed with an eccentric, N, which revolves within the oblong slot or bifurcated end O of the vertical reciprocating bar S, which is vibrated upon the bolt or pivot T, passing through one of several holes formed in the same at or near the mid-length thereof and engaging within a corresponding hole formed in the case or handle U, which incloses the said reciprocating bar S, the lower end thereof projecting below the same and provided with key-bolts and pins for temporarily securing thereto the burnisher V, which is heated by a jet of gas from the burner W, which may be partially rotated horizontally so as to shut off the same. The gas being introduced within the support-pipe K at a convenient point above the ball-and-socket joint, it is conducted around the same by means of the flexible tube Y<sup>2</sup>, (shown in Fig. 3,) and enters the handle U and passes downward within the hollow space Z (shown in Figs. 4 and 5) to the burner.

It will be seen in Figs. 5 and 6 that the driving-pulley L is constructed within an opening formed within the ball P, which is enlarged sufficiently to receive it and its journal M, which revolves within the axial line of said ball P and has bearings at each side of the said driving-pulley L, said journal M being provided with an eccentric, N, which actuates the vertical reciprocating-bar S, as described above, the socket R, in this construction, being provided with suitable openings to permit the vertical belt J to pass freely, as shown in Fig. 6. By this latter construction the weight is more evenly distributed, and the friction of the journal and eccentric is reduced to the minimum, while the movement of the said handle and its burnishing devices in any and every direction required by the various curves and angles presented upon the edge of the sole and heel of a boot or shoe is free and unobstructed, and permits the same to be held in a "jack," and turned or revolved, so as to quickly burnish and set the edge of the sole and heel of a boot or shoe by increasing or reducing the amount of pressure upon the burnisher, or the distance of its movements thereon, as the nature of the work may require.

The burnishers V and V' are connected to the lower end of the reciprocating bar S by means of short projecting steadying-pins, which enter corresponding holes formed in the bearing-face of the burnishers, and are clamped firmly to the

block 2 by screw-bolt 3 and thumb-nut 4 bearing upon a washer, as shown, the lower burnisher, V', being secured in a similar manner, the head of the screw-bolt 5 having a bearing thereon, and prevented from turning by a groove or hole formed therein, and adapted to slide upon the steadying-pin, as shown, this bolt passing through the block 2 and reciprocating bar S, and provided with a thumb-nut, 6, as shown clearly in Fig. 7.

It will be seen that when the two parts or members upon which the ball-and-socket joint P R is formed are brought into a vertical plane with each other the driving-pulley L, carrying the eccentric N, which actuates the reciprocating bar S, carrying the burnisher V, is revolving within the vertical plane of the said ball-and-socket joint, the bar may have a partial rotary movement horizontally, thus imparting a reciprocating movement to the burnisher radiating from or about a common center, or segment of a circle on a horizontal plane, or nearly so.

Having thus described my invention, what I claim is—

1. The reciprocating bar having an adjustable pivotal bearing and connected at its upper end with an eccentric, and having its lower end provided with a burnishing device, as and for the purposes set forth.

2. The reciprocating bar pivoted at or near its central portion, and having its upper end connected with an eccentric, and having its lower end provided with the adjustable clamping devices described, whereby one or more burnishers may be secured thereto, substantially as and for the purposes set forth.

3. The combination, with a ball-and-socket joint having a belt-pulley and eccentric journaled at or near the axial line thereof, of a reciprocating bar pivoted at or near its central portion and provided with one or more burnishers, substantially as described, as and for the purposes set forth.

4. In a burnishing-machine, a suspended ball-and-socket joint having a belt-pulley and eccentric journaled at or near the axial line thereof, and provided with a hollow operating-handle having a reciprocating bar connected at its upper end with said eccentric, and having its lower end provided with adjustable clamping devices adapted to secure thereto one or more burnishers, substantially as described, as and for the purposes set forth.

5. In a burnishing-machine, a pendent ball-and-socket joint having a belt-pulley journaled within the ball at the axial line thereof, and provided with a gas-conducting handle having a reciprocating bar pivoted therein, and having its lower end provided with adjustable burnishing devices, substantially as described.

6. In a burnishing-machine, a ball-and-socket joint having a belt-pulley and eccentric journaled at or near the axial line thereof, and having a driving-belt passing through openings in said joint, and an operating-handle supporting a reciprocating tool-holder, for the purposes set forth.



7. In a burnishing-machine, the combination of a hollow pendent support and a hollow operating-handle supporting a reciprocating bar or tool-holder united by a ball-and-socket joint  
5 having openings in its socket, and having a belt-pulley and eccentric journaled within the ball at or near the axial line thereof, and of a driving-belt passing through the openings of the socket, as and for the purposes set forth.

10 8. The combination, with the hollow operating-handle and the pivoted reciprocating bar connected at its upper end with the eccentric and provided at its lower end with one or more burnishers, of the pivoted gas-burner, where-  
15 by the gas-inlet passage may be opened and closed by horizontal movement thereof, substantially as described, as and for the purposes set forth.

20 9. The combination of the hollow pendent support, the hollow operating-handle, united

by a ball-and-socket joint, and the flexible gas-tube, whereby gas may be conducted downward through said support and operating-handle to the burnisher, substantially as described, as and for the purposes set forth.

25 10. The combination, with the tilting frame having an adjustable weight, of the hollow pendent support, ball-and-socket joint having a belt-pulley and eccentric journaled therein, and hollow operating-handle provided with a  
30 reciprocating burnisher adapted to be moved in every direction, substantially as described, so as to rapidly set and burnish the edge of the sole and heel of a boot and shoe, as set forth.

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