

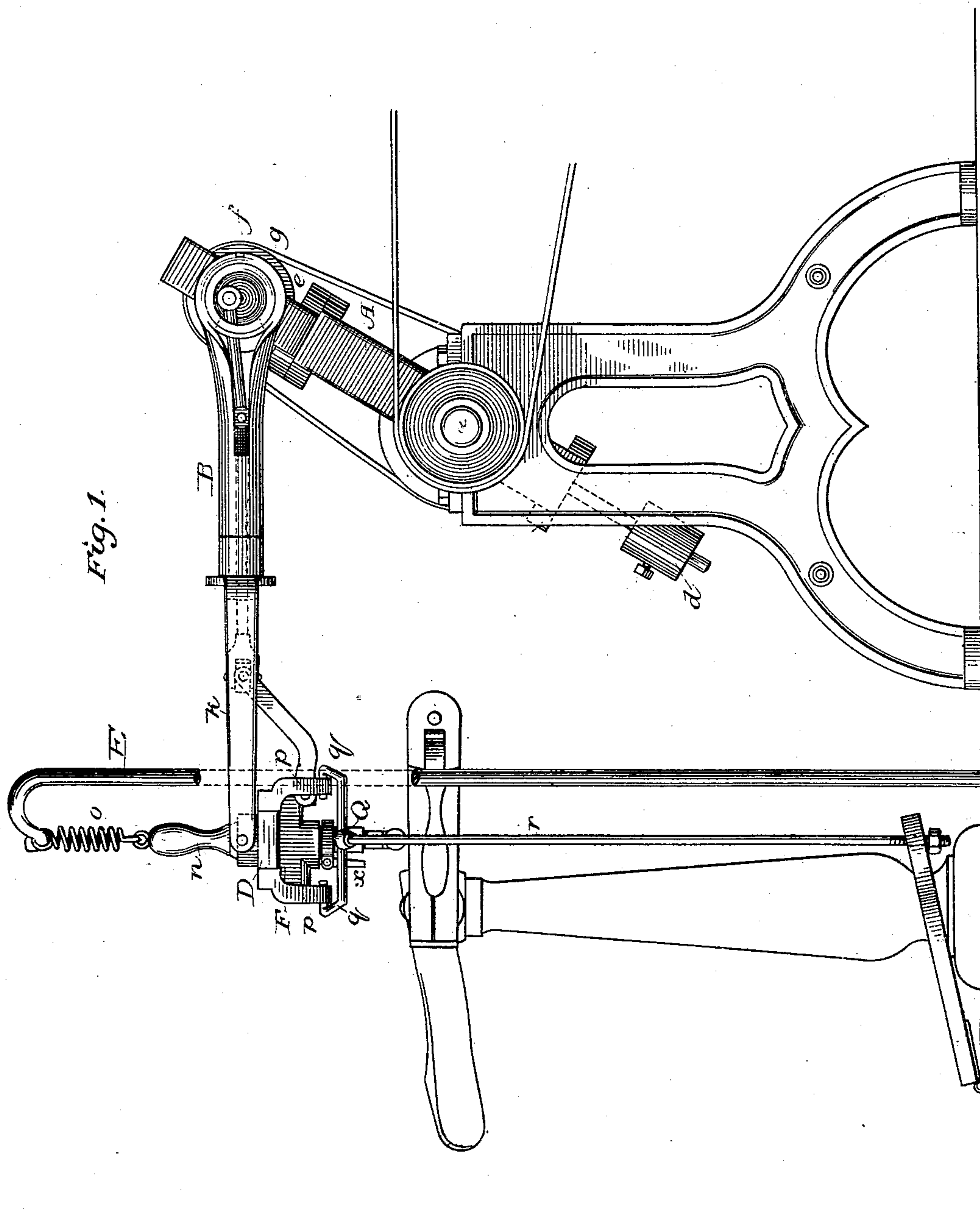
(Model.)

2 Sheets—Sheet 1.

W. F. HUTCHINSON.

Edge Setting and Heel Burnishing Machine.
No. 243,675. Patented June 28, 18

Patented June 28, 1881.



Attest:

R. H. Barnes.
S. W. Leung

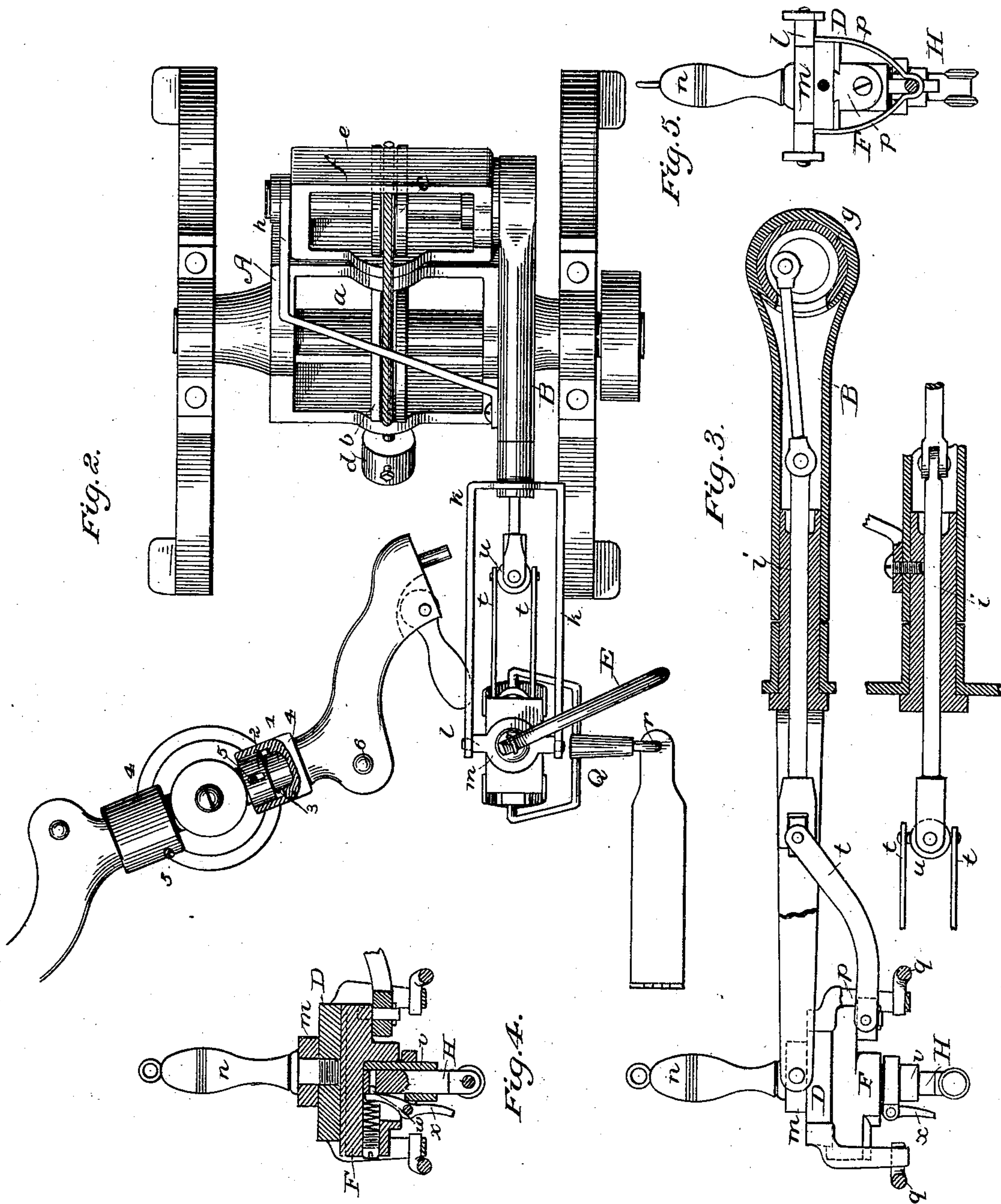
Inventor:

William F Hutchinson
by Elsie Spear
Atty

(Model.)

2 Sheets—Sheet 2.

W. F. HUTCHINSON.
Edge Setting and Heel Burnishing Machine.
No. 243,675.
Patented June 28, 1881.



Attest:
R. J. Barnes.
L. W. Lacy

Inventor:
William F. Hutchinson
by Ellis Spear.
Att'y

UNITED STATES PATENT OFFICE.

WILLIAM F. HUTCHINSON, OF LYNN, MASSACHUSETTS.

EDGE-SETTING AND HEEL-BURNISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 243,675, dated June 28, 1881.

Application filed February 21, 1881. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM F. HUTCHINSON, of Lynn, in the county of Essex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Machines for Burnishing the Heels and Setting the Edges of Boot and Shoe Soles; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to machines for burnishing the sole-edges of boots and shoes of that class in which the burnisher is mounted in a head adapted to have free movement in all directions, and driven by power applied through pulleys and bands.

The object of my invention is principally to simplify the construction of the head, and to avoid the jarring motion communicated to the hand of the operator by having a driving-wheel in the head itself.

The main feature of the invention consists in reciprocating the block which carries the burnishing-tool by means of a rod operated by a crank-pin on a shaft mounted in a swinging frame, or some equivalent device, which carries the arm supporting the burnishing-tool.

It consists, further, of certain details of construction, more or less closely related to this leading feature, and fully described hereinafter in connection with parts that are old, but particularly indicated in the claims.

In the drawings, Figure 1 represents a side elevation. Fig. 2 is a plan view. Fig. 3 represents a side elevation of the head and attachments, with the supporting-arm in section. Fig. 4 is a cross-section of the head, and Fig. 5 a front view.

In the drawings, A represents an ordinary rocking-frame mounted upon a driving-shaft, *a*, and provided with pulleys *b c*. The ordinary weight, *d*, may be used to counterbalance the frame and tend to keep it in vertical position. The upper part of the frame *e* is pivoted upon the lower frame, A, so as to be capable of motion in a horizontal plane, while the frame A swings only in a vertical plane.

The arm B, which supports the head and burnishing-tool, is pivoted to the frame *e* by means of a hollow-boss, *g*, fixed to said frame

around the projecting end of the shaft *f*. The arm B is adapted to turn upon the frame in a vertical plane, and is steadied against lateral movement by a brace, *h*, which has its bearing on the opposite end of the shaft *f*. The arm B is hollow and receives a reciprocating rod, *i*, pivoted to a wrist-pin fixed to the end of the shaft *f* and within the hollow boss *g*. This rod projects through the shaft, and terminates between the two sides of the frame *k k*, which is swiveled on the arm B, so as to rock in a horizontal plane transverse to the axis of the arm B.

In the forward end of this frame *k k* is pivoted a cross-bar, *l*, having a central perforated disk, *m*. To this disk is swiveled a head, D, preferably recessed to receive the disks and arms and prevent limited motion in horizontal plane, so as to swing thereon in horizontal plane.

The head is preferably held to the disk by means of a handle, *n*, which passes through the disk and is screwed into the head. The handle may be suspended by means of a spring, *o*, from the ceiling, or from a suitable standard, E, set in the floor.

Heretofore the burnishing-tool has been held down to its work by pressure of the hand, and in one instance a shank. It has been proposed to hold down a shank-burnisher by means of a treadle connected directly thereto. This mode of connection requires that the rapid motion of the burnisher should be imparted to the connecting-rods. I avoid this and secure the good effects of the treadle by connecting the treadle to the head-block by means hereinafter described.

To the head are attached loops *p p*, which are spread sufficiently to permit the reciprocating block to pass between them. In the bight of the loops rest the bent ends of prongs *q q*, which are set in a socket, Q, swiveled upon a rod, *r*, these devices serving, by means of a treadle to which the rod *r* is attached, to draw down the head and apply pressure to the burnishing-tool. At the same time the bent ends of the prongs have free play in the loops and do not interfere with the rocking motion of the head, the socket Q turning freely upon the bent end of the rod *r*.

The reciprocating block to which the tool is attached is marked F. It is connected to the

reciprocating rod in the arm B by means of curved bars *t t*, which are pivoted on pins on opposite sides of small disks *u*, pivoted on the under side of the end of the block. The bars
 5 *t t* are swiveled in like manner to the end of the reciprocating rod. Other means may be used to connect the block and reciprocating rod. The block reciprocates in guides in the head in any suitable way, and carries on its
 10 lower side a socket-piece, *v*, into which the shank of the tool H is inserted. The tool is held by a pin, *w*, which is drawn out by means of a lever, *x*, and pressed in by a suitable spring, so as to catch in the hole in the upper
 15 end of the shank of the tool. By pressing the lever inward the tool is removed.

The handle *n* is for the hand of the operator, who can thereby move the tool or turn it to any required position while the reciprocating
 20 shaft is imparting the necessary motion for rubbing the edge of the sole.

By placing the driving-pulley in the frame, as indicated above, I simplify the construction of the head and reciprocating block and avoid
 25 the jar imparted to the hand by the rapid revolution of a pulley in the head itself. I simplify to some extent, also, the devices in other respects, and render the apparatus lighter and more easy to handle.

30 The devices described for connecting the treadle to the head may be modified, and the connection may be made to the arm B or to the frame *k k*, without any material modification of the essential part of my invention.

35 I use for holding the boot or shoe during the process of burnishing the sole-edge a double jack, such as has been heretofore known. I have, however, introduced one element into the supporting-jack applicable to a single or
 40 double arm.

In some classes of work it is necessary, for easy working of the machine, to adjust the jack slightly in or out. In order to accomplish this without interfering with the rotation, I fix
 45 upon the shaft 1 a sleeve, 2. The sleeve 2 is held upon the shaft by a pin, 3, and may be revolved thereon, but has no longitudinal movement. The hub 4 of the jack slips over this sleeve and is held upon it by means of
 50 the pin 5, which passes into a slot made in the sleeve in a line parallel with the axis of the shaft. This permits the jack to be set in or out, and when set at any required point it is held by a set-screw, 6, in the hub, and bears
 55 against the sleeve.

The tool shown is designed for setting edges;

but it is obvious that one for burnishing heels may be substituted therefor, the movement being adapted equally to either tool.

I am aware that treadles connecting directly 60 to the reciprocating tool are not new. I am also aware that an arm carrying a tool is not new, and do not broadly claim such devices.

Having thus described my invention, what I claim as new, and desire to secure by Letters 65 Patent, is—

1. In a machine for burnishing the sole-edges of boots and shoes, in combination, a head carrying the reciprocating tool and pivoted in the arm supporting said head, said arm being 70 pivoted upon an oscillating frame, a shaft in said frame driven by suitable mechanism and connected with the reciprocating tool in the head by means of suitable rod and wrist-pin, whereby reciprocating movement is imparted 75 to said tool, said head, arm, and frame being constructed to permit the ordinary movements, all substantially as described.

2. The combination of the shaft *f*, pivoted arm B, frame *k k*, pivoted head D, the sliding 80 block F, and the connecting-rod, substantially as described.

3. In an edge-setting and burnishing machine, the combination of the reciprocating block, the reciprocating rod, bars *t t*, and their 85 swivel connections with block and rod, as set forth.

4. In an edge-setting and burnishing machine of substantially the construction described, the combination of the head D, the 90 cross-bar *l*, having perforated disk *m*, and handle *n*.

5. The combination, in a jack, of the axle, the sleeve 2, held upon the said axle by a pin, and slotted, as described, and the hub con- 95 nected to said sleeve by a pin and set-screw, whereby lateral adjustment is obtained, substantially as described.

6. The combination of the pivoted arm, the swinging frame, the head pivoted in the arm, 100 the reciprocating block carrying the tool, and the treadle and connecting-rod attached directly to the parts which carry the reciprocating block.

In testimony that I claim the foregoing I 105 have hereunto set my hand this 17th day of February, A. D. 1881.

WILLIAM F. HUTCHINSON.

Witnesses:

W. C. LAMPHIER,
 C. B. TUTTLE.