

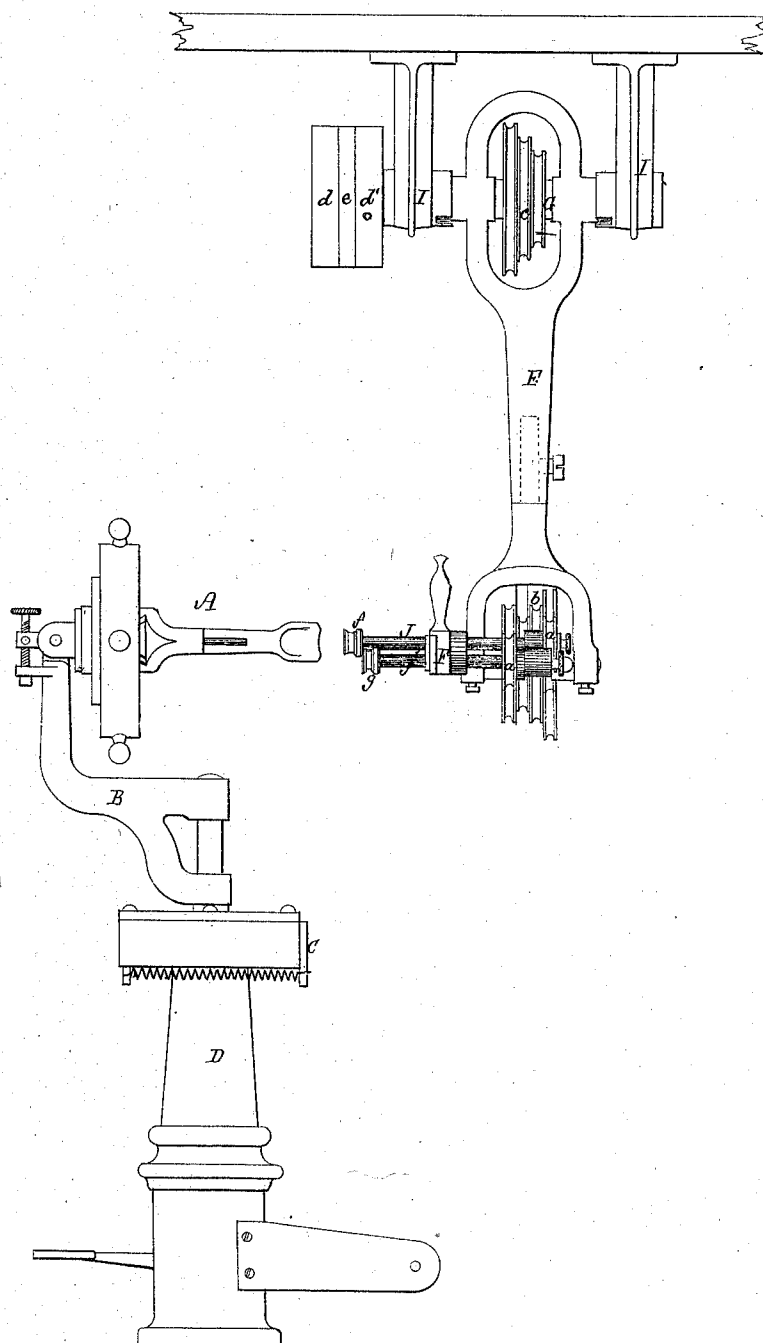
S. H. HODGES.

Improvement in Machine for Burnishing the Edges of Boot and Shoe Soles.

No. 129,825.

Patented July 23, 1872.

Fig. 1.



Witnesses.
H. G. Allen.
H. E. Boardman.

Samuel H. Hodges.
by A. Curtis,
Att'y.

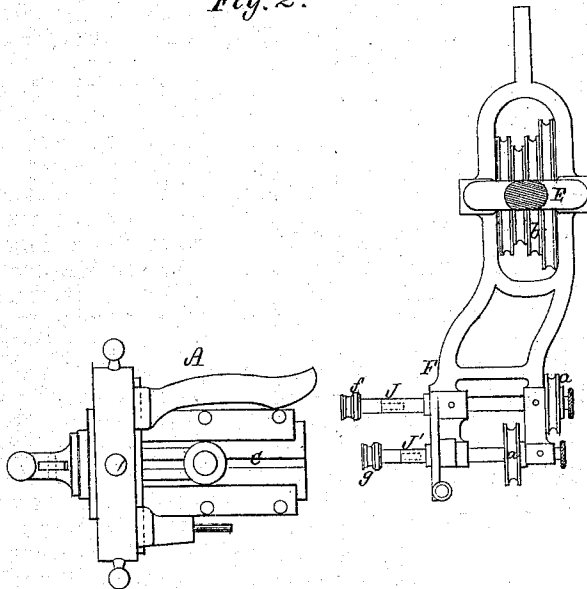
S. H. HODGES.

Improvement in Machine for Burnishing the Edges of Boot and Shoe Soles.

No. 129,825.

Patented July 23, 1872.

Fig. 2.



Witnesses.
W. Geo. Alden.
W. E. Boardman.

Samuel H. Hodges.
by A. Curtis.
Atty.

UNITED STATES PATENT OFFICE.

SAMUEL H. HODGES, OF LYNN, MASSACHUSETTS, ASSIGNOR TO THE HODGES
EDGE TRIMMING AND SETTING MACHINE ASSOCIATION, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR BURNISHING THE EDGES OF BOOT AND SHOE SOLES.

Specification forming part of Letters Patent No. 129,825, dated July 23, 1872.

Specification describing certain Improvements in Machinery for Burnishing or Setting the Edges of Boot and Shoe Soles, invented by SAMUEL HORATIO HODGES, of Lynn, Essex county, Massachusetts.

These improvements have for their basis a class of machinery shown and described in Letters Patent of the United States numbered 117,287, and issued to me on the 25th day of July, 1871, the predominant features of which consist mainly in the combination, with a jack for supporting the boot or shoe, of a trimming or burnishing tool actuated by suitable mechanism, and mounted on a flexible or jointed frame, or jointed frame or arms, so operating that the trimming or burnishing tool may, by means of said frame or arms, be brought to bear at any desired point or angle upon the edge or bottom of the sole or heel of the boot or shoe held by the jack. In the patented machine above named, the tool-carrying frame has its bearing and its base of vibration upon the floor of the apartment containing the machine, or upon the bed-plate or foundation of the machine. My present machine is distinguished from this in two particulars: First, the tool-carrying frame is suspended from the ceiling, or some point above the remaining portion of the machine, by which I economize considerable space about the floor, and obtain other advantages, as the workman can use the machine with greater ease, and the flexible tool-carrying frame hangs in position to be used without requiring means to uphold it; while, secondly, the novel feature in the machine herein shown consists in the combination, with the tool-carrying frame or duplex-jointed arms, of two or more burnishing or setting tools, in order that any one of the number may be brought into action instantly, without the loss of time now requisite to affect the change of tool which becomes necessary in burnishing different portions of a sole-edge.

The drawing accompanying this specification represents in Figure 1 a side elevation and in Fig. 2 a plan of a machine embodying my present improvements.

In this drawing, A denotes the boot-holding jack of the machine as supported upon a curved standard, B, attached to a carriage, C, which slides horizontally within the upper part

of an upright post or column, D, such elementary parts being substantially the same as in the patented machine above referred to, and containing in themselves no novelty of construction so far as these improvements are concerned. The tool-carrying jointed frame or arms are shown in the drawing as composed of two arms, one, E, being vertical, and the other, F, horizontal, and swinging in or upon the former in the arc of a circle, the first-named arm also swinging upon its shaft G or point of suspension.

In carrying out the first novel feature in these improvements, I dispose the tool-carrying frame above the level of the post D and carriage C by suspending the upright swinging arm E from a horizontal shaft, G, duly supported and revolving in suitable hangers I I, attached to the ceiling of the apartment containing the machine, or otherwise upheld at the suitable altitude, the second or horizontal arm F being pivoted to the former in such manner as to be susceptible of free swinging motions in the arc of a circle thereupon, or horizontally, if desired, by means of a universal joint, or otherwise. By thus suspending the tool-carrying frame at an altitude above the floor, the latter is left comparatively unobstructed, and the belts and running mechanism are out of the way.

In carrying out the second novel feature in these improvements, I apply to the outer or free end of the arm F two or more horizontal shafts, J J', &c., which are disposed at right angles to the longest plane of such frame, and parallel to the axis of the shaft H, and of the path of movement of the carriage C. Each shaft J is provided with a pulley, *a*, about which and a common pulley, *b*, upon the pivot of the frame F an endless belt travels, the last-named pulley receiving motion from a pulley, *c*, fixed upon and rotating with the shaft G, before named. Upon the outer end of the driving-shaft G I mount loosely two pulleys, *d d'*, while intermediate between these pulleys I affix to the shaft a fast pulley, *e*. In connection with the shaft G and its pulleys I employ two endless belts, which are driven in opposite directions by suitable driving-pulleys, and with these belts I use a double shipping-lever, by which either belt may be run onto

the fast pulley *e* and rotate it and the shaft in one or the other direction, as may be desired, the object of this being to reverse the direction traveled by the setting-tools, and enable them, or any one of them, to act in both directions upon the sole. The shafts *J J'* are of unequal length—that is to say, one protrudes beyond the frame *F* and toward the jack *A* a greater distance than its fellow while the said shafts are not disposed in the same horizontal plane, but are so mounted that the longer is somewhat elevated above the shorter, in order that when the tool *f*, carried by the uppermost and longer shaft, has performed its office in burnishing a given portion of the sole-edge, it may be raised out of contact therewith while the tool *g* of the lowermost and shorter shaft is performing its work. The uppermost tool may be supposed to be the one intended for setting the edge of the shank-portion of the sole edge, and the lowermost one for the remaining portion, though these positions may be reversed.

In the "setting" of sole-edges by the use of a tool or tools always rotating in the same direction, it has been found, in some instances, that the grain of the leather, being laid or presented in one direction, tends to rise upon becoming wet or moist, and produces an unfinished surface. To avoid this difficulty, whether real or fancied, I propose, in some instances, to place the setting-tools closely to-

gether and rotate them in different directions, in order that the action of one may, to a certain extent, be counteracted by that of the other in the matter of laying the grain of the leather, and by this means obviate the objections above named. This arrangement, however, will undoubtedly be found unnecessary, as by my arrangement of reversible pulleys before named I am enabled to reverse the rotation of either setting-tool, which would practically produce the same result.

Claims.

1. In machinery for setting the edges of boot and shoe soles, the combination, with the mechanism for holding and presenting the shoe or boot to the action of the tool, of the flexible or jointed tool-carrying frame and the mechanism carried by it, suspended from a point above the remaining portion of the machine, substantially as and for the purposes shown and set forth.

2. In machinery for setting the edges of boots and shoe soles, the two or more tool-carrying shafts or tools, arranged one above the other and at varying distances from the jack, substantially as and for the purposes stated.

S. H. HODGES.

Witnesses:

FRED. CURTIS,
W. E. BOARDMAN.