

(No Model.)

A. HARDEN.

## SOLE EDGE SETTING MACHINE.

No. 305,814.

Patented Sept. 30, 1884.

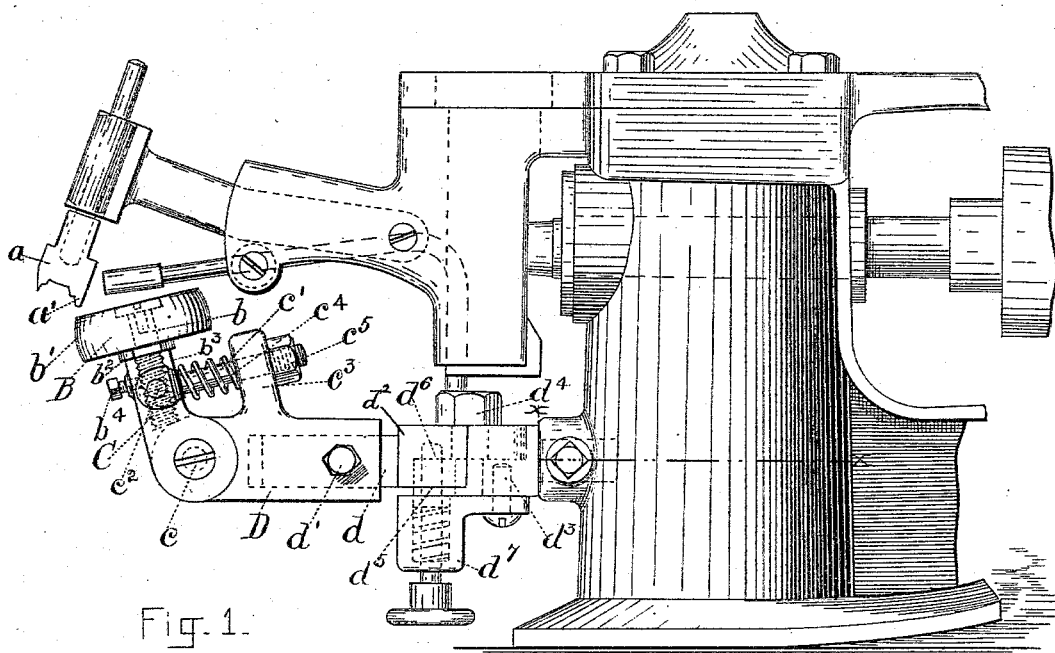


Fig. 1.

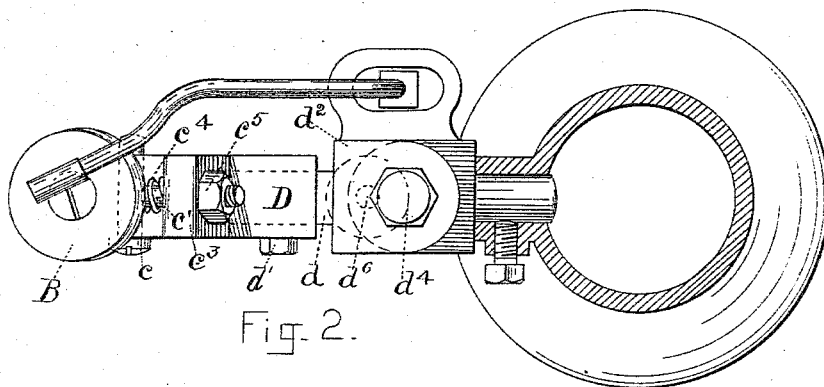


Fig. 2.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

ALBERT HARDEN, OF BOSTON, MASSACHUSETTS.

## SOLE-EDGE-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 305,814, dated September 30, 1884.

Application filed July 23, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT HARDEN, of Boston, in the county of Suffolk and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Edge-Setting Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification in explaining its nature, in which—

Figure 1 illustrates the head or upper section of a "union edge-setter," so called, to which my invention has been applied. Fig. 2 is a plan view of my improvement, and a horizontal section on the line  $xx$  of Fig. 1 of the machine.

In setting the edges of boot or shoe soles upon the union edge-setting machine, the operator grasps the same at the toe and heel and lifts it against the reciprocating tool with some considerable degree of force, and in burnishing the toe he uses what is technically known as a "finger-hook," by means of which he is enabled to hold the edge of the sole about the toe against the tool with sufficient pressure, and at the same time turn it in relation thereto; and my invention is designed to obviate the necessity of the finger-hook.

Referring to the drawings,  $a$  represents the burnishing iron or tool. It is supported preferably by a holder, such as is described in Patent No. 190,485, granted Geo. A. Fullerton, assignor, dated May 8, 1877, which is reciprocated by either the mechanism therein described or in any other desirable manner.

Immediately below the lip  $a'$  of the tool is arranged the roll B, having substantially a vertical axis. This roll is free to revolve upon the post or stud  $b$ , and it has various adjustments in relation to the burnishing-tool to provide for all the necessary requirements of the work. It has, first, an adjustment whereby it is moved into and out of operative position, for it is only useful during the burnishing of the toe or front edge of the boot or shoe-sole, and is moved into place immediately before this part of the sole edge is burnished and out of place immediately after. It must also have an adjustment whereby its operative surface  $b'$  shall be brought in line with the surface of the tool-lip  $a'$ , for, in order that

it may bear the best relation thereto, it is desirable that said surface shall have substantially the same pitch as the surface of said lip, and as these lips vary in that respect, it is of course necessary to give the roll this adjustment. The third adjustment is one that grows out of the second, and comprises providing the roll with vertical movements in relation to its support. The fourth adjustment is one that supplements the second, and that is provided by giving its support a horizontal movement upon its holding arm or bracket. It may have in addition to these adjustments a slight yielding movement horizontally against spring-pressure.

The construction by which these adjustments are obtained will be indicated as I proceed with the description. The spindle or stud  $b$  has the collar or nut  $b^2$  and the screw-spindle  $b^3$ , which screws into the arm C. By revolving the nut  $b^2$  the roll B may be raised or lowered in relation to the arm C, and the screw-spindle is then locked in position by a set-screw,  $b^4$ . The arm C is pivoted to the block D by the pivot  $c$ , and the rod  $c'$ , which is pivoted by the pivot  $c^2$  to the arm C, attaches it to the lug or projection  $c^3$  in such a manner as to permit of the movement of the arm C in relation thereto in opposition to the stress of the spring  $c^4$ . A nut,  $c^5$ , on the end of the rod  $c^3$  regulates the tension of the spring and the position of the arm C. The block D slides upon the horizontal bar  $d$ , and is fastened in any desirable position thereon by means of the screw  $d'$ . The arm  $d$  projects from a plate,  $d^2$ , which is secured to a bracket,  $d^3$ , by a stud,  $d^4$ , in a manner to permit its swinging movement upon a horizontal plane in relation thereto, and it is automatically locked in operative position by means of the spring-bolt  $d^5$ , which shuts into a hole,  $d^6$ , in said plate, opening downward in line with the spring-bolt or adapted to be brought in line therewith. The spring-bolt is supported by means of the bracket  $d^7$ , which is bolted or screwed to the bracket  $d^8$ . It will be seen from this description that the movement of the roll into and out of position is obtained by pivoting the bracket  $d$  to swing horizontally, that provision for changing the pitch of the working surface of the roll is obtained by providing

the block D with a horizontal movement, and the arm C with a swinging movement on a horizontal center thereon, and that the proper location or adjustment of the roll in respect to vertical position is obtained by means of the screw-spindle  $b^3$ . I would not be understood, however, as limiting myself to the especial forms of mechanism herein described for furnishing the roll with the adjustments indicated, as I may use any mechanical equivalents therefor.

In operation, the side edge of the sole is first set or burnished. The roll B is then moved into position, and the under surface of the sole placed upon the surface of the roll and the boot or shoe pressed against the same with some force, and the toe edge held against the burnishing-surface of the tool and moved or swung in relation thereto in the ordinary way.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The reciprocating edge setting or burnishing tool  $a$ , in combination with the roll B, having the working-surface  $b'$ , all substantially as and for the purposes described.

2. The combination of a setting or burnish-

ing tool,  $a$ , the roll B, and a screw for adjusting it vertically, all substantially as and for the purposes described.

3. The combination of the burnishing or edge-setting tool  $a$ , the roll B, and its supporting-arm C, pivoted to the block D, all substantially as and for the purposes described.

4. In an edge-setting machine, the roll B, its supporting-arm C, block D, and spring  $c^4$ , all substantially as and for the purposes described.

5. In an edge-setting machine, the roll B and the sliding block D, in combination with the arm  $d$ , all substantially as and for the purposes described.

6. In an edge-setting machine, the combination of the block D, the swinging arm  $d$ , and the locking-bolt  $d^5$ , all substantially as and for the purposes described.

7. The combination of the roll B, the arm C, pivoted to the slide-block D, the bracket  $c^3$ , the rod  $b^3$ , the spring  $c^4$ , and nut  $c^5$ , all substantially as and for the purposes described.

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Witnesses:

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