2 Sheets--Sheet 1.

S. G. BROWNE.

Improvement in Cutter for Soles and Heels of Boots and Shoes.

No. 130,358. Patented Aug. 13, 1872.

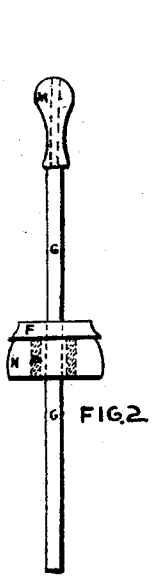
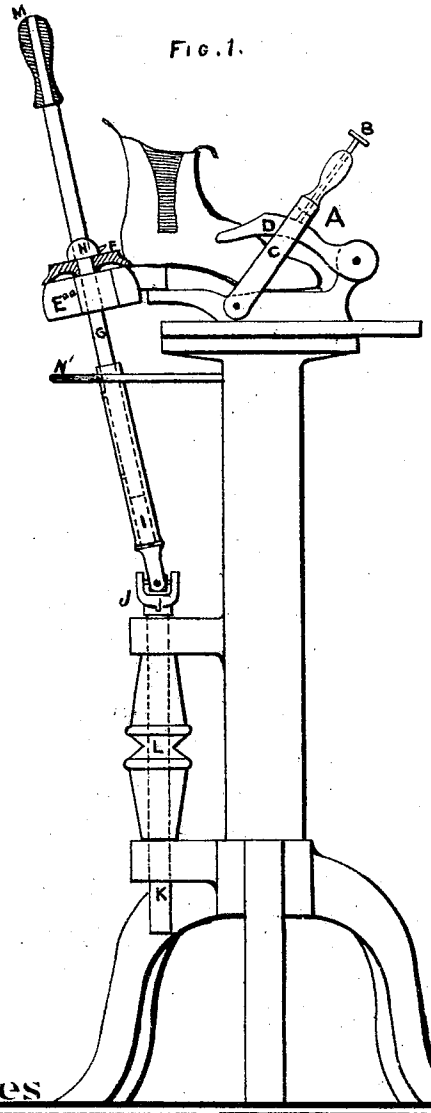


FIG.2

FIG.1.



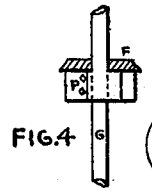


FIG.4

FIG.3

Witnesses

Geo. N. Strong

John L. Smith

Inventor

S. Graham Browne

FIG. 1

2 Sheets--Sheet 2.

S. G. BROWNE.

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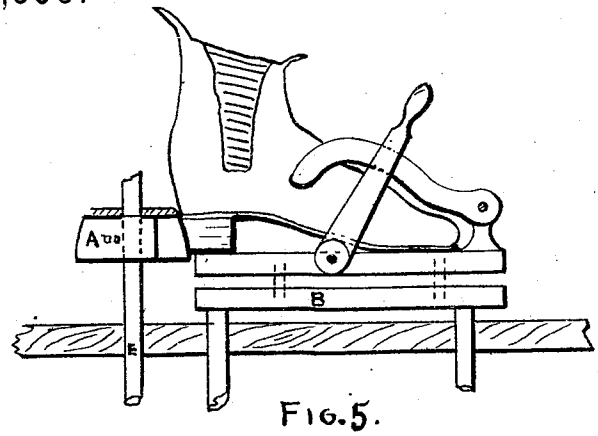

FIG. 5.

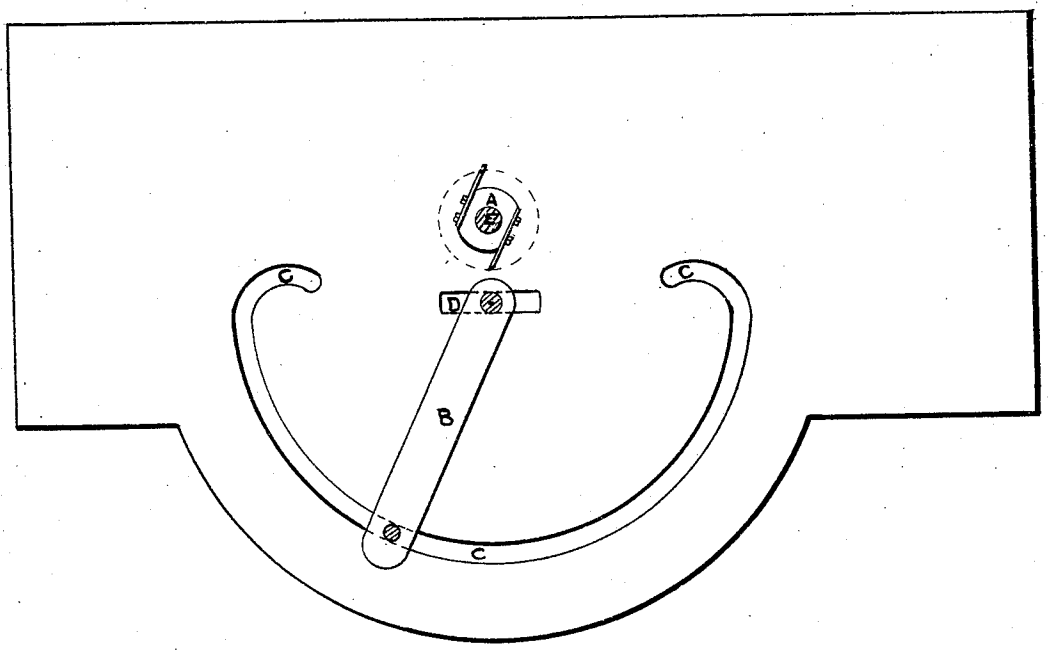

FIG. 6.

Witnesses

Geo. N. Strong

John L. Smith

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UNITED STATES PATENT OFFICE.

SAMUEL GRAHAM BROWNE, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN CUTTERS FOR SOLES AND HEELS OF BOOTS AND SHOES.

Specification forming part of Letters Patent No. **130,358**, dated August 13, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, SAMUEL GRAHAM BROWNE, of San Francisco, in the county of San Francisco and State of California, have invented a new and useful Heel and Sole Cutter for Boots and Shoes; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The object of my invention is to provide an improved machine for shaping and finishing the edges of the heels and soles of boots and shoes; and it consists, mainly, in the employment of a novel arrangement of mechanism and a rotary cutter, so that every point to be finished can be successively presented to the action of the cutter. It also consists in the use of a peculiar clamp, by which the boot can be rapidly and securely fastened in place for trimming.

Referring to the accompanying drawing for a more complete explanation of my invention, Figure 1, Sheet 1, is a side elevation of my invention. Fig. 2 shows the spindle with a polisher. Figs. 3 and 4 are detailed views. Fig. 5, Sheet 2, is a side view of a modification in which the boot turns. Fig. 6 is a top view of the same.

The boot with the last inside is firmly clamped in the clamp marked A, Fig. 1. The clamp is so arranged that it fastens all sizes of boots, shoes, &c. The screw B can be set in so as to lessen the radius of the lever or arm C, which clamps down the movable arm D, and by means of this set-screw the clamp is made universal for all sizes. The cutter E is beveled or rounded, similar in form to the curve of the heel. The revolving cutter E is let in on shaft G, and movable with a set-screw. Immediately above the cutter is the guide F, which is loose on shaft G, and kept in place by movable collar H. The shaft G is let into the hollow shaft or pipe I, which is slotted, and the shaft, having a corresponding key or feather, makes the connection rigid and allows cutter-shaft G to be readily moved up and down. The shaft I terminates on the universal joint J, which again connects with shaft K, on which the pulley L is keyed or fixed with a set-screw, so that the universal joint can be raised or lowered.

The action of the machine is as follows: The cutter E being made to revolve at any required speed by applying power in any convenient way to pulley L, the operator throws the guide F in contact with the boot, shoe, &c., by means of handle M, which runs free on spindle G. The guide is formed in such a way as to protect the upper of the boot, and at the same time, resting in the upper portion of the heel, forms a guide for itself by working round the upper of the boot with the last inside. The spindle G is weighted, so as to keep it bearing on the surface of the heel. The cutter comes in contact with the superfluous leather, and is then worked round the heel, cutting and smoothing it into the required form, the guide being forced firmly against the boot. The form or bevel of the heel can be altered to any required shape by means of raising the joint J and lowering the cutter E, as it lessens the radius between E and J, and therefore increases the angle when the back of the heel is to be beveled very much. This is easily accomplished by setting the boot back further in the clamp so as to throw the back of the heel further from the center of the joint, and thus increases the angle of the cutter. When not working the cutter and shaft are held up by the hollow bracket N′. The edges of the soles of boots, shoes &c., are to be cut on the same principle, a similar clamp being used, except that the arm B is hollowed so as to clear the back of the last, but giving the pressure on the same place, which will leave the edges of the soles clear. A cutter with a straight-edge, beveled enough to cut the edge square to the boot, and the guide is used (as shown in Fig. 4, Sheet 1) and worked round the sole, the guide preventing the cutter from injuring the upper. As the principle is exactly the same it is not shown in model or sketch. After cutting the heels and soles of the boot we use a polisher, (Figs. 2 and 3, Sheet 1,) which is used after the material used for polishing has been applied and dried—the polisher N to be formed of any desired hard substance, having a rubber ring, O, inserted between the boss on the shaft G, and having its external edge similar to the cutting-edge of the cutter E, the polisher work-

ing with a guide, F, in a similar manner to the cutter. The polisher is revolved and pressed against the heel, the friction giving out enough heat to polish the surface. The object of the rubber ring is to give a lateral play, so as to polish it thoroughly. The edge of the sole is polished in a similar manner, the polishing edge of the polisher being similar to that of the cutter used. If it be found necessary or desirable, the cutter may be mounted upon a mandrel having stationary boxes, and the boot or shoe can be clamped to a movable base or table, which allows the boot to turn instead of the cutter, as shown at Figs. 5 and 6, Sheet 2.

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

1. The cutter E, mounted upon the shaft G, and the sleeve I with its universal joint J, for allowing the necessary movement and adjustment of the cutter, substantially as herein described.

2. The clamp, consisting of the parts D and C, with the adjusting-screw B, substantially as and for the purpose described.

3. A trimming device for boots, consisting of the cutter E, with its guide F mounted upon the shaft G, and the sleeve I with its universal joint J, in combination with the foot-stand and clamp, substantially as herein described.

In witness whereof I have hereunto set my hand.

SAMUEL GRAHAM BROWNE.

Witnesses:

GEO. H. STRONG,

JOHN L. SMITH.