(No Model.) 2 Sheets—Sheet 1.

C. J. BLAKELY.

BURNISHING MACHINE FOR BOOTS AND SHOES.

No. 260,828. Patented July 11, 1882.

Fig. 1.

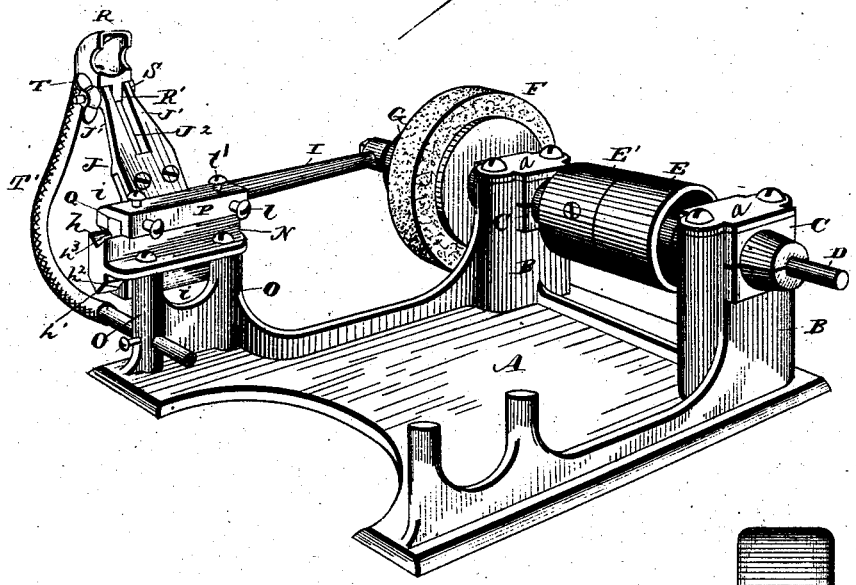
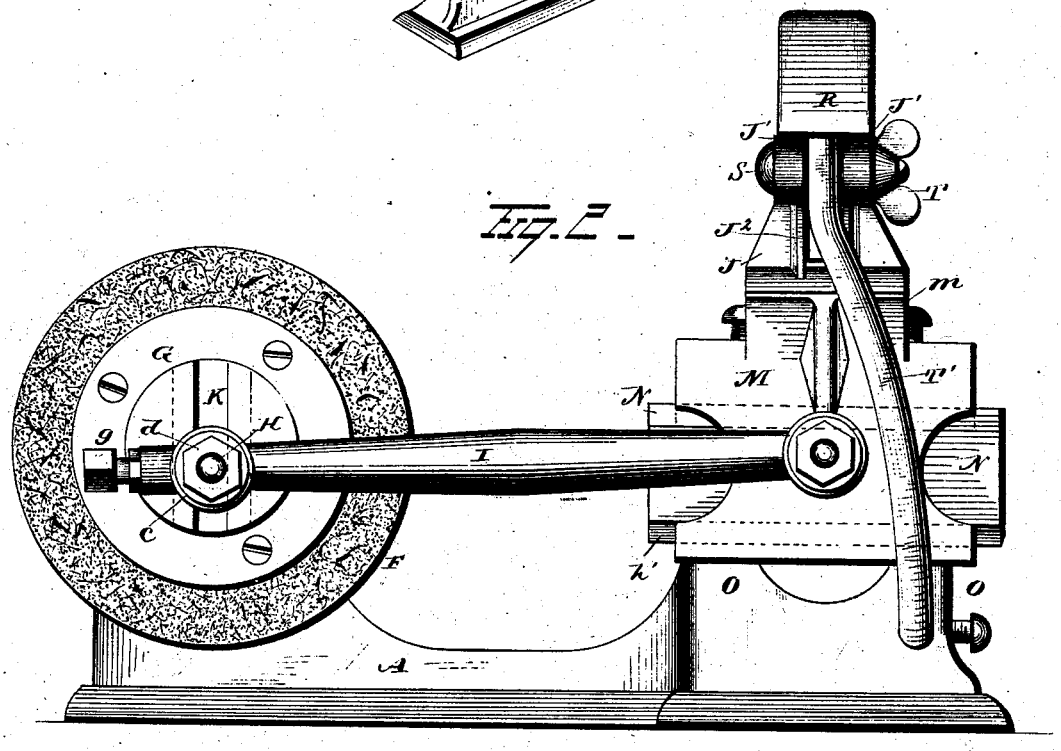


Fig. 2.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

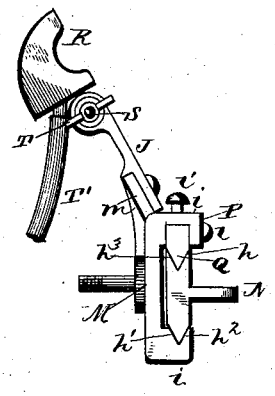


Fig. 4.

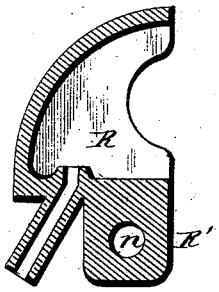


Fig. 5.

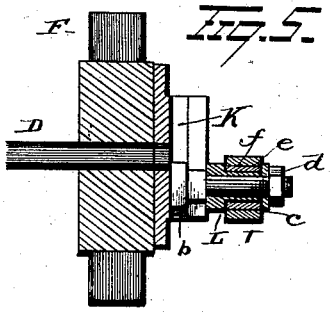
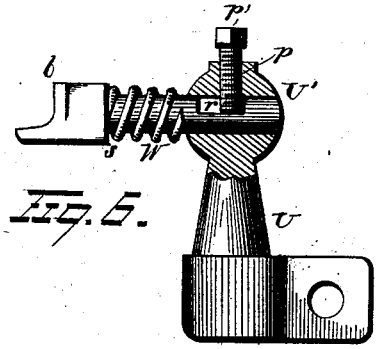


Fig. 6.



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UNITED STATES PATENT OFFICE.

CALEB J. BLAKELY, OF JANESVILLE, WISCONSIN, ASSIGNOR OF TWO-THIRDS L. N. WILLIAMSON AND W. S. WEBBER, BOTH OF SAME PLACE.

BURNISHING-MACHINE FOR BOOTS AND SHOES.

SPECIFICATION forming part of Letters Patent No. 260,828, dated July 11, 1882.

Application filed January 9, 1882. (No model.)

To all whom it may concern:

Be it known that I, CALEB J. BLAKELY, of Janesville, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Boot and Shoe Burnishing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to an improvement in boot and shoe burnishing machines; and it consists in the novel manner of constructing the burnishing-tools and holders, and the manner of operating and limiting the movement of the same with respect to the boot or shoe, which latter is held against the burnishing-tools by the operator.

In the accompanying drawings, Figure 1 represents a perspective view of my improved machine. Fig. 2 is a side view of the same. Fig. 3 is a detached view of the tool-holder. Fig. 4 is a detached view of the top-lift burnisher. Fig. 5 is a vertical section through the cam-wheel and pin, and Fig. 6 is a vertical sectional view of the edge-burnisher with its attachment.

A represents the base of the machine, provided at its rear end with the standards B, which latter are recessed at their upper ends for the reception of the two-part bearings C. These two-part bearings C are held in place by the caps *a*, and are adapted to support the driving-shaft D, which latter is provided between the standards B with the loose pulley E, on which the driving-belt moves when the machine is at rest, and with the rigid pulley E′, on which the belt moves to impart a rotary motion to the brush F and a reciprocating motion to the burnisher. This brush F is situated near one end of the driving-shaft D, just behind the cam-wheel G, and is adapted to remove corrosive inks remaining on the sole. The cam-wheel, as before stated, is secured to the outer end of the driving-shaft D, and is provided with a movable crank-pin, H, to which the pitman I is connected. If this crank-pin H were rigidly secured to the cam-wheel G, the length of the stroke of the tool-holder J would always be the same, and to remedy this defect I have provided means whereby the length of the stroke of the tool-holder and burnisher can be increased or diminished so as to suit the different kinds of work capable of being performed on this machine. Thus, for instance, the shank-burnisher must be operated with a shorter stroke than the top-lift burnisher, and different sizes of heels necessarily require different lengths of stroke. To produce this variable stroke I have provided the cam-wheel G with a T-shaped groove, K, running centrally through the same, in which the crank-pin H can be removably secured at any point from the center to the periphery of the same, thereby regulating the stroke, from the smallest possible one to the largest one, which is dependent on the diameter of the cam-wheel. The crank-pin H is provided with a T-shaped head, *b*, adapted to fit in the T-shaped groove K, which prevents it from turning while the shank thereof is rounded, and provided with a screw-threaded end, by which the pitman I is secured thereto. This crank-pin H is also provided with the removable sleeve L, which latter is adapted to form the bearing for the pitman I. This sleeve is also provided with the enlarged ring or collar *c*, adapted to bear against the outer side of the pitman. To adjust the length of the stroke it is necessary to loosen or remove the nut *d* on the end of the crank-pin, which loosens the parts and allows the said crank-pin to be moved toward the center or toward the periphery, as the case may be. When the proper position that will give the desired stroke has been reached the nut *d* is again screwed up tight, which forces the crank-pin H outward and the sleeve L and collar *c* inward, and causes them to clamp that portion of the cam-wheel between them firmly which holds the parts in position.

The opening *e* in the end of the pitman I for the reception of the crank-pin H is provided with the annular split collar or bearing-ring *f*, by means of which, together with the screw *g* in the end of the said pitman, the wear is taken up, which prevents any loss of movement, as well as the waste of any power. The opposite end of the pitman I is connected to the slide

M, which latter has the tool-holder J removably secured thereto. This slide M moves on the slide-bearing N, which latter is secured to the standards O, and is provided on its upper surface with a V-shaped groove or mortise, *h*, and on its under surface with a V-shaped tenon, *h'*. The slide M is adapted to move on this slide-bearing N, and is provided with the two lateral extensions *i* and *i*, the lower one being provided with a V-shaped groove or mortise, h^2, in which the V-shaped tenon on the slide is guided, while the upper extension is provided with a downwardly-projecting flange, P, which, together with its connected parts, is adapted to receive and retain the adjustable bearing-piece Q. This bearing-piece Q is provided with a V-shaped tenon, h^3, adapted to rest in the groove *h*, and is held in position by the screws *l* and *l'*, adapted to bear against its side and top, respectively. When this part Q becomes worn the screws *l* are loosened and the screws *l'* driven farther in, which forces the piece Q to its proper position on the slide-bearing, when the screws *l* are again tightened, which holds the said piece firmly in such position. The slide M is provided on its outer side above the pitman-connection with an inclined lip *m*, adapted to afford bearing and means of attachment for the tool-holder J. This tool-holder J is provided at its lower end with screw-holes for its attachment to the lip *m*, and at its upper end with the arms J', between which the burnishing-tools are adapted to be secured. The slot J^2 between the arms J' is sufficiently long to allow the arms a slight spring, which is necessary to securely fasten the holders therein.

The top-lift burnisher R is curved, substantially as shown in the drawings, and is provided with the shank R', having the hole *n* therein, through which the bolt S passes. This shank R' is placed between the arms J', and the bolt S passed through suitable openings in the upper ends of the arms J' and through the opening in the shank, where it is secured in any desired position and inclination by the thumb-nut T. This burnisher R is hollow, and is heated by gas conveyed to the same through the flexible pipe T'.

The shank-burnisher shown in Fig. 6 of the drawings is provided with the attachment U, by which it is secured between the arms J', precisely like the top-lift burnisher, already referred to. The head U' of the attachment is provided with the opening *p*, extending through the same, into which one end of the screw *p'* is adapted to project more or less and restrict the opening at that point. The shank of the burnisher *b* is provided with the rectangular cut-away portion *r*, into which the end of the screw *p'* projects and prevents the said burnisher from being withdrawn from its attachment. That portion of the shank of the burnisher between the head of the attachment and the shoulders *s* is surrounded by the spiral spring W, adapted to allow the burnisher to yield when pressure is exerted on the end thereof and return to its position when the pressure is removed. By cutting away the shank of the burnisher, as before described, the said burnisher is allowed to partly turn in the head, which enables it to follow the curves of the shank of the boot or shoe.

If desired, the burnisher *b* can be rigidly secured in the head U' by simply tightening the screw *p'*. The burnisher can be heated by gas in any ordinary manner.

In using this machine to burnish boots or shoes the operator stands to the side of the machine and holds the portion thereof being burnished against the burnisher, which is reciprocated over it. If desired, another burnisher, with its connected parts, can be secured to the opposite side of the machine and connected with a cam-wheel on the opposite end of the shaft D, thereby enabling a shank-burnisher to be operated on one side and a top-lift burnisher on the other side, or two top-lift burnishers to two shank-burnishers on the one machine. It is also evident that a tool to burnish the entire shank or for setting the edges can be used in connection with this machine, and hence I would have it understood that I do not limit myself to the exact construction of parts shown and described, but consider myself at liberty to make such changes as come within the spirit and scope of my invention.

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

1. In a boot and shoe burnishing machine, the combination, with a reciprocating slide having a burnishing-tool connected therewith, of a pitman, a revolving disk provided with a transverse groove, a wrist-pin provided with a head adapted to fit within said groove and be radially adjusted therein, a sleeve encircling the wrist-pin and serving as the bearing for the pitman, and a nut for securing the wrist-pin in any desired adjustment for regulating the length of the stroke of the burnishing-tool, substantially as set forth.

2. In a boot and shoe burnishing machine, the combination, with a reciprocating slide having a burnishing-tool connected therewith, of a pitman, a revolving disk provided with a transverse groove, a wrist-pin provided with a head adapted to fit within said groove and be radially adjusted therein, a split sleeve encircling the wrist-pin and serving as a bearing for one end of the pitman, and a set-screw for adjusting the sleeve, substantially as set forth.

3. In a boot and shoe burnishing machine, the combination, with a reciprocating slide having an arm rigidly secured thereto, said arm being constructed with two yielding arms, of a burnishing-tool provided with a shank adapted to fit between said yielding arms, and a fastening-bolt extending through the shank of the burnishing-tool and the outer ends of the yielding arms, the construction being substantially as shown and described, whereby the burnish-

ing-tool may be oscillated at right angles to the movement of the reciprocating slide and secured in any desired adjustment by its frictional engagement with the yielding arms, substantially as set forth.

4. In a boot and shoe burnishing machine, the combination, with a reciprocating slide provided with an outwardly-inclined lip, and an arm removably secured thereto by screws, said arm being bifurcated to form two elongated yielding arms, of a burnishing-tool fitted between the outer ends of said arms, and a fastening-bolt for securing the tool by frictional contact with said arms, the burnishing-tool being arranged to be adjusted at right angles to the movement of the reciprocating slide, substantially as set forth.

5. In a boot and shoe burnishing machine, the combination, with the slide-bearing constructed with a horizontal flange adapted to be secured to the frame of the machine, of a reciprocating slide having a burnishing-tool connected therewith, substantially as set forth.

6. In a boot and shoe burnishing machine, the combination, with the slide-bearing, of the slide having a burnishing-tool connected therewith, a wearing-plate fitting in a groove in the slide-bearing, and set-screws engaging the top and side of said wearing-plate, substantially as set forth.

7. In a boot and shoe burnishing machine, the combination, with a bifurcated arm removably secured to a reciprocating slide, of a hollow burnishing-tool provided with a shank adapted to fit between yielding arms, and bolt for securing the hollow burnishing-tool in proper adjustment, and a flexible gas-tube connected with the burnishing-tool.

8. A boot and shoe burnishing machine provided with the driving-shaft carrying a rotary buffing-wheel and a revolving disk, the latter having a pitman connected therewith which operates a reciprocating burnishing-tool, substantially as and for the purpose set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CALEB J. BLAKELY.

Witnesses:
ED. F. CARPENTER,
L. N. WILLIAMSON.