

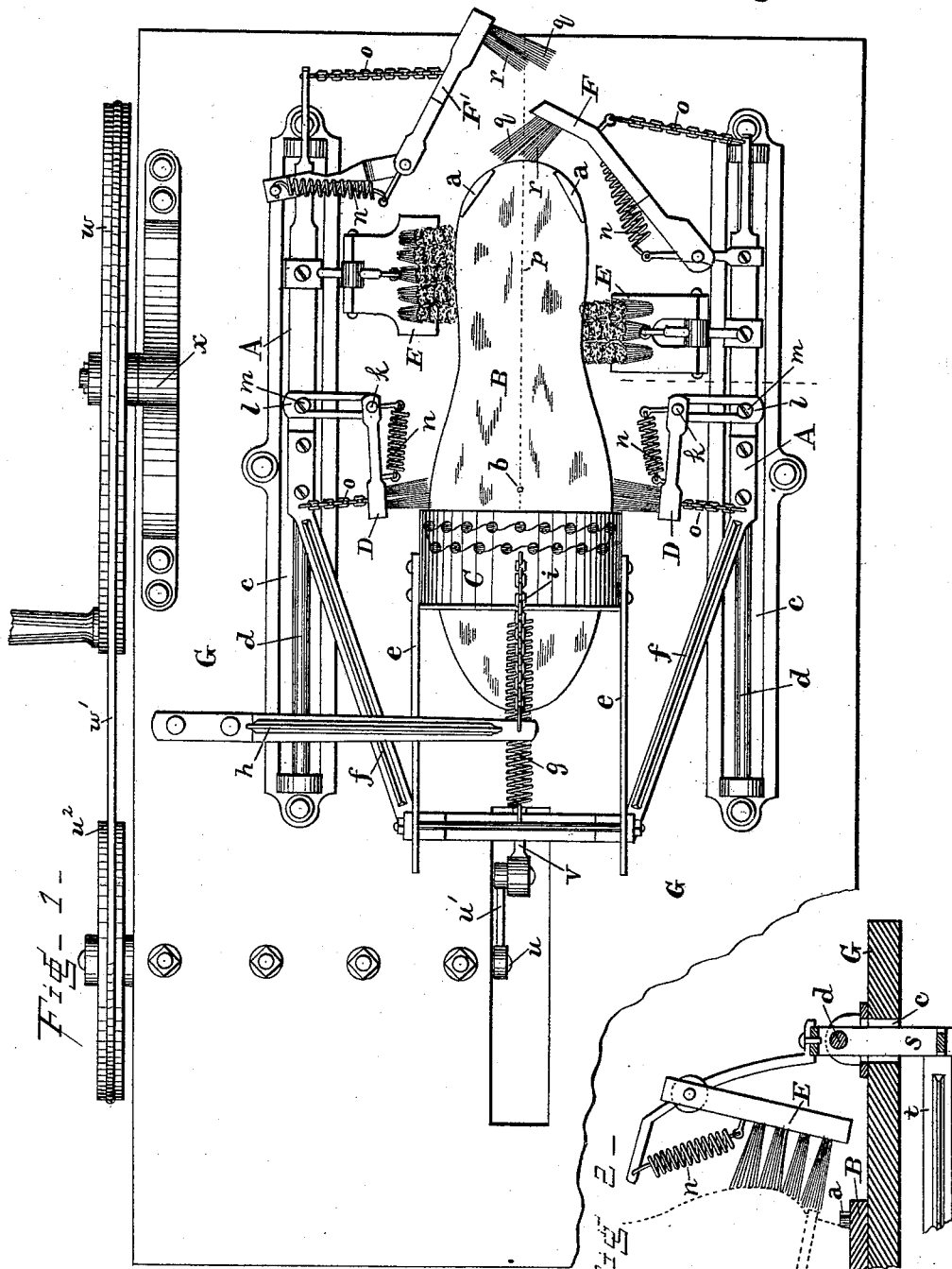
(No Model.)

2 Sheets—Sheet 1.

L. T. JONES.
SHOE BRUSHING MACHINE.

No. 347,715.

Patented Aug. 17, 1886.



WITNESSES:

A. C. Eader
John E. Morris.

INVENTOR:

L. T. Jones
By Chas B. Mann
Attorney

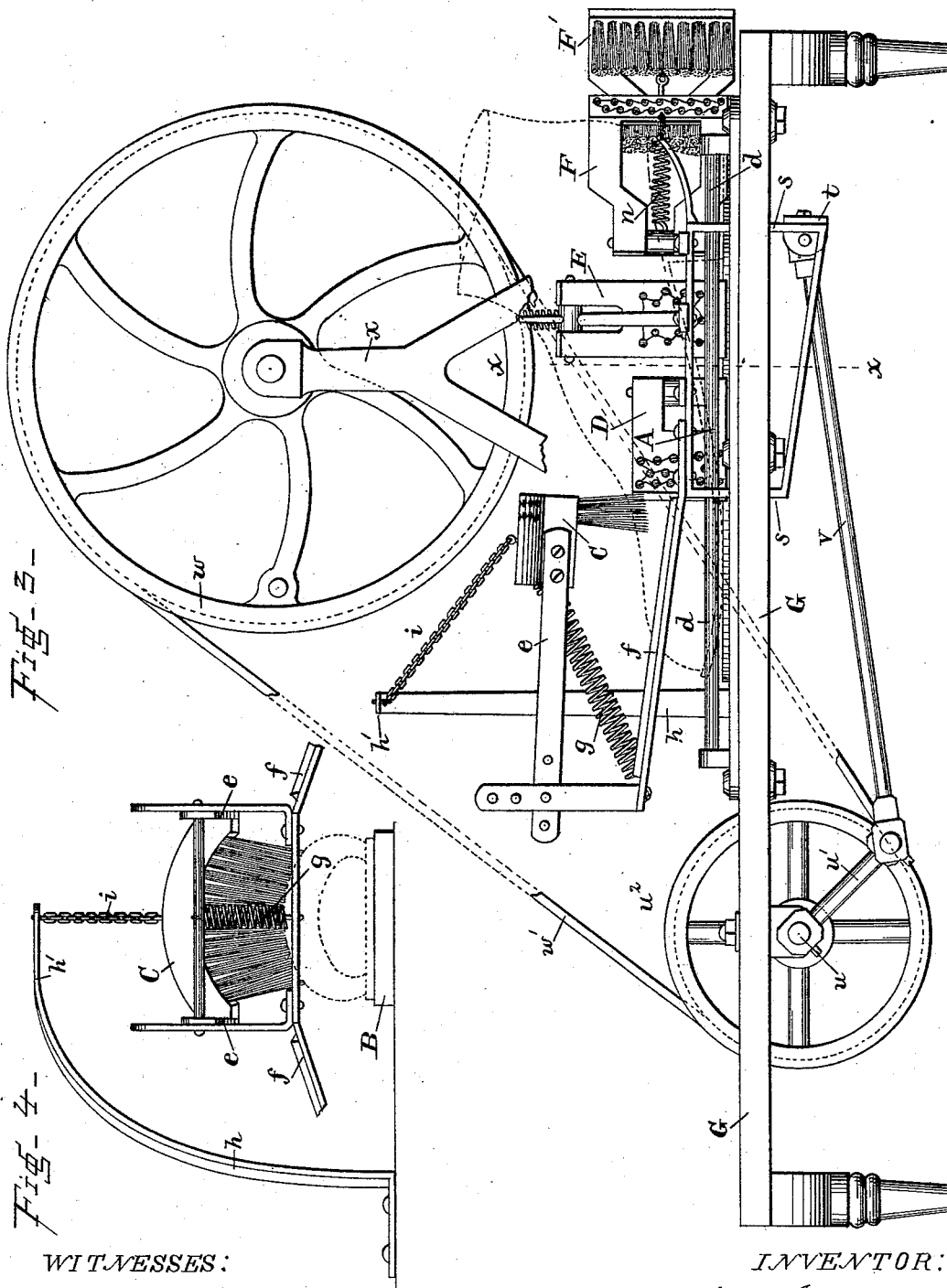
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UNITED STATES PATENT OFFICE.

LEVIN T. JONES, OF BALTIMORE, MARYLAND.

SHOE-BRUSHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 347,715, dated August 17, 1886.

Application filed May 22, 1885. Serial No. 166,412. (No model.)

To all whom it may concern:

Be it known that I, LEVIN T. JONES, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Shoe-Brushing Machines, of which the following is a specification.

My invention relates to a machine for brushing boots and shoes; and it consists of certain improvements in a machine of the kind for which Letters Patent of the United States were granted me December 23, 1879.

The object of my present invention more particularly is to provide toe and heel brushes of greater effectiveness.

In the drawings herewith, Figure 1 is a top view of the machine. Fig. 2 is a vertical section on the line *x x*, looking toward the rear part of the machine. Fig. 3 is a side elevation of the machine. Fig. 4 is an end view of the front part of the reciprocating carriage and an elevation of the guiding-standard.

The letter A designates a frame having two sides, and B the foot-block located between the two sides. The foot-block has at the heel end two upward-projecting flanges, *a*, one at each side. The inner faces of these flanges are straight, and each has a lateral inclination toward the other; or, in other words, one flange extends in a line at an angle with respect to the other, whereby when the heel of the shoe is drawn back between them they will serve to center the heel. A pointed prong, *b*, projects up from the center of the sole part of the foot-block, and when the heel has been centered the sole of the shoe becomes fixed on the said prong. Thus the heel flanges and prong both center and hold the foot steadily on the foot-block. The stand G has two parallel slots, *c*, and a slide-rod, *d*, is suitably secured to the stand above each slot. Each side of the frame A is fitted to slide freely on one of these rods, so that the frame has a horizontal reciprocating movement. All the brushes are carried by the frame. The front brush, C, serves to polish both shoe toe, top, and instep. This result is obtained by attaching two horizontal arms, *e*, to the brush, constructing the frame so that its front part, *f*, will project forward far enough to allow the horizontal arms and brush to drop in front of the foot-block, and pivoting the brush-arms *e*

to the said forward-projecting part. By this construction and arrangement of parts the one front brush has the requisite movement, 55 to brush the shoe-toe, the top of the shoe, and the instep. A spiral spring, *g*, has one end attached to the forward-projecting part below the brush-arm pivot and the other end to the brush, and serves to press the brush down on the shoe. A standard, *h*, is fixed rigidly to the stand, and its upper part, *h'*, has position above the fore part of the reciprocating frame, so that the frame moves below it. A chain, *i*, 60 has one end attached to the upper part of the standard and the other end to the front brush, C. As the frame A reciprocates, the lower end of the chain has a swinging movement. When the frame moves forward the front brush, C, passes from the instep down the shoe, and drops in front of the toe. 70 Then upon the frame moving back the standard *h* and chain *i* serve to lift the front brush up on the toe, and this device continues to lift it as it passes up the high part of the instep. Some kind of a lift device 75 to raise the front brush is necessary. In the present instance the standard and chain are employed for this purpose; but it is obvious other lift devices might be used. The two 8c side brushes, D, are each pivoted or hinged at *k* to a slotted bar, *l*. These brushes swing in a horizontal plane. The slotted bar is made fast to the frame side by a set-screw, *m*, whereby the brush is capable of adjustment toward 85 or away from the shoe. A spring, *n*, serves to keep the brush pressed toward the foot, while a chain, *o*, having one end attached to the reciprocating frame and the other end to a brush, limits the movement of the brush in 90 that direction. The chain thus acts as a "stop," and prevents the bristles from being jammed and flattened against the foot. The two shank-brushes E polish the hollow part of the shoe at each side. These brushes are 95 pivoted or hinged and provided with springs, substantially as the side brushes, except they swing in a vertical plane.

The two heel-brushes F F' have a position with respect to each other different from any 100 that have heretofore been used, and this difference produces a useful result. One heel-brush, F', hinged to one side of the frame, is at the rear of the other heel-brush, F, hinged

to the opposite side of the frame, and in a normal position the bristles of each brush project across a longitudinal line, *p*, drawn through the center of the foot-block. Each heel-brush has a spring, *u*, and a chain, *o*, same as the side brushes and for the same purpose. As the reciprocating frame moves forward, the first heel-brush, *F*, takes effect on the greater part of the rear of the shoe-heel, and as soon as the first brush passes from the rear to one side of the heel the second brush, *F'*, takes effect likewise on the greater part of the rear and opposite side. Thus the two brushes together, by reason of their position, are capable of thoroughly polishing the rear of the shoe-heel. When the frame moves back, the operation of the heel-brushes is reversed, and the frame has a back movement sufficiently far to allow both heel-brushes to entirely clear the shoe-heel, thus permitting the bristles on these brushes to assume their normal position. Some advantage is also derived from the peculiar construction of these brushes. Each brush has at the outer part a row, *q*, of bristles, and adjoining them is an inner row, *r*, of shorter and stiffer bristles. By this construction the requisite sweep of the bristles on the shoe-heel is obtained. In the present instance the position of the two brushes—one at the rear of the other—is brought about by hinging them to the frame at varying distances from the rear end; but it is obvious this may be brought about if the two brushes are hinged to the frame at the same distance from the rear end by making the brush for the rear with a longer shank than the other.

Each side of the frame has two bars, *s*, that pass down through the slot *c*, and a cross-bar, *t*, below the stand connects the bars *s* at one side with those of the other side. A shaft, *u*, carries a crank, *u'*, and a pitman-rod, *v*, connects the crank with the cross-bar *t*. The shaft also has a pulley, *u''*, and a large pulley, *w*, is mounted on a standard, *x*, and has a crank-handle within convenient reach of the operator, who has his foot on the foot-block. A drive-cord, *w'*, connects the pulleys *u''* and *w*.

From the foregoing description the operation of the machine will be readily understood.

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

1. A shoe-brushing machine having in com-

bination a reciprocating frame, a front brush, *C*, provided with horizontal arms *e*, which are pivoted to the forward part of the frame, and a lift device, substantially as described, connected with the brush, as set forth.

2. A shoe-brushing machine having in combination a reciprocating frame, a front brush, *C*, provided with horizontal arms *e*, which are pivoted to the forward part of the frame, a spring to press the brush on the shoe, and a lift device, substantially as described, connected with the brush, as set forth.

3. A shoe-brushing machine having in combination a reciprocating frame, a front brush, *C*, provided with horizontal arms *e*, which are pivoted to the forward part of the frame, a standard fixed to the stand, and a chain connecting the brush with the standard, as set forth.

4. A shoe-brushing machine having in combination a reciprocating frame, a front brush, *C*, provided with horizontal arms *e*, which are pivoted to the forward part of the frame, a spring to press the brush on the shoe, a standard fixed to the stand, and a chain connecting the brush with the standard, as set forth.

5. A shoe-brushing machine having in combination a two-side reciprocating frame, a heel-brush hinged to one side of the frame and projecting across a longitudinal line centered between the frame sides, and a heel-brush hinged to the opposite side of the frame, projecting across the said center line, and having position at the rear of the other heel-brush, as set forth.

6. A shoe-brushing machine having in combination a two-side reciprocating frame, two heel-brushes, one hinged to each side of the frame and one at the rear of the other, and both overlapping a longitudinal line centered between the frame sides, and a spring and stop device to control each brush, as set forth.

7. A shoe-brushing machine having in combination a reciprocating frame, a heel-brush hinged to each side to swing in a horizontal plane, and each brush provided with an outer row, *q*, of bristles, and an inner row, *r*, shorter and stiffer, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

LEVIN T. JONES.

Witnesses:

JNO. T. MADDUX,
JOHN E. MORRIS.