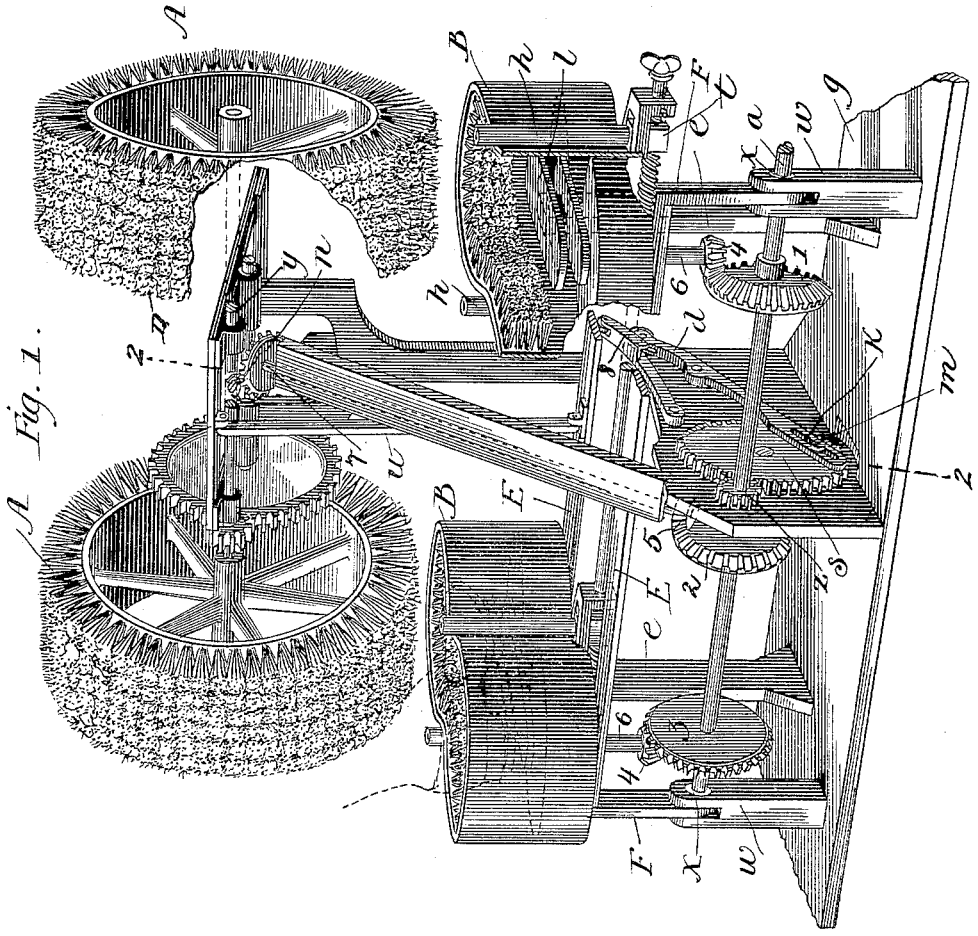
(No Model.) 2 Sheets—Sheet 1.

J. CARDONA.

BOOT AND SHOE CLEANING AND POLISHING MACHINE.

No. 419,244. Patented Jan. 14, 1890.

Fig. 1.



Witnesses:
Frank S. Blanchard
Fred Gerlach.

Inventor:
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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

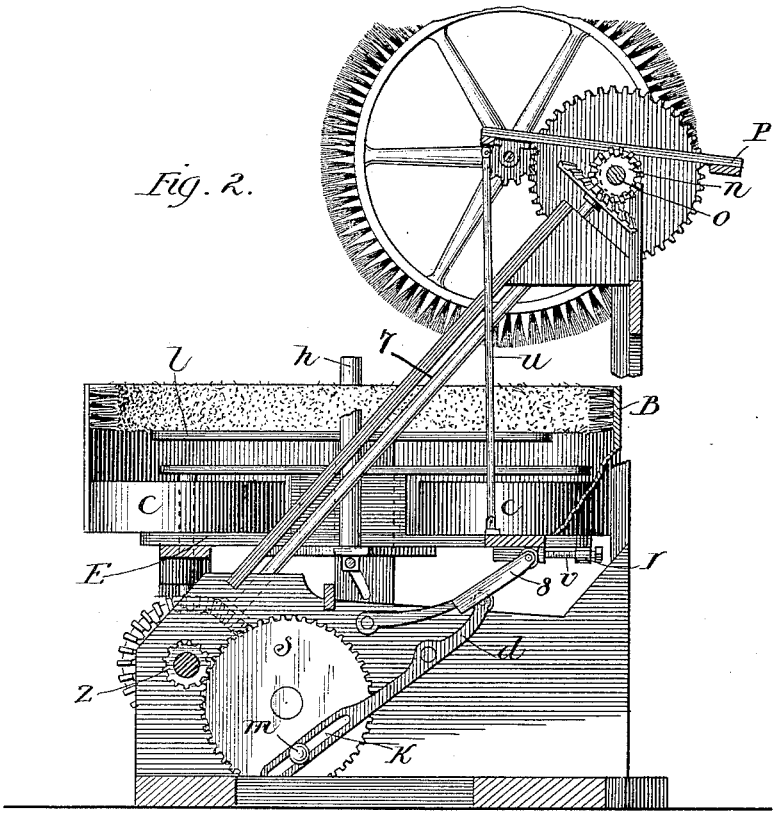
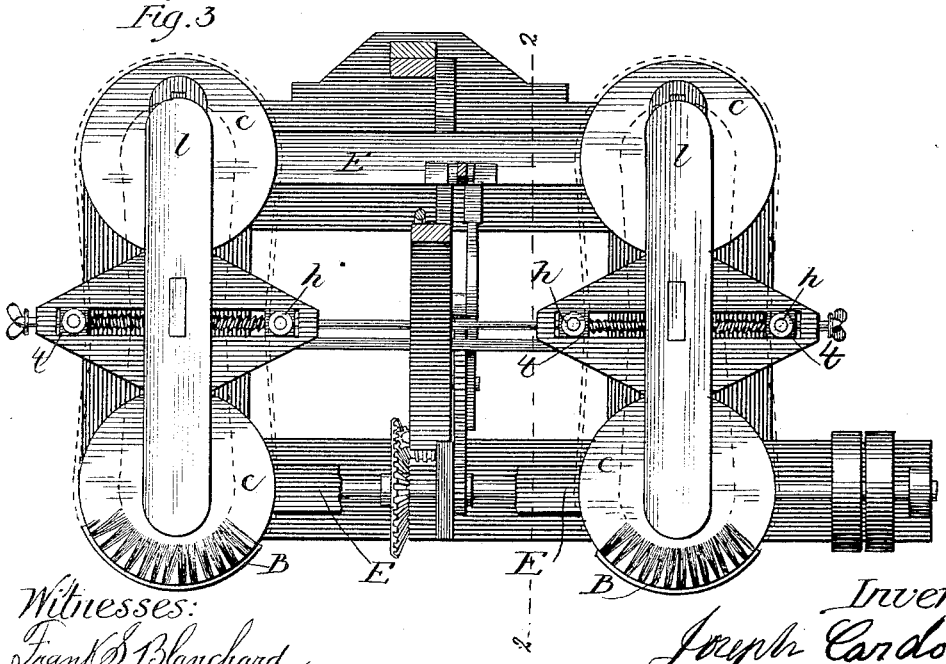


Fig. 3



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Joseph Cardona

UNITED STATES PATENT OFFICE.

JOSEPH CARDONA, OF CHICAGO, ILLINOIS.

BOOT AND SHOE CLEANING AND POLISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 419,244, dated January 14, 1890.

Application filed April 4, 1888. Serial No. 269,639. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH CARDONA, a citizen of the United States, residing in the city of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Shoe Cleaning and Polishing Machines, of which the following is a specification.

My improvement relates to improvements in shoe cleaning and polishing machines in which vertically-revolving brushes operate in conjunction with horizontal revolving brushes for the purpose of cleaning and polishing footwear. I accomplish my purpose by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the machine in proper position. Fig. 2 is a vertical section on line 2, Fig. 1. Fig. 3 is a longitudinal cross-section to expose the foot-rests.

Similar letters refer to similar parts throughout the drawings.

I construct a frame of wood or other suitable material, and running through this frame is a shaft with the different wheels thereon for the purpose of transmitting and conveying motion to a series of vertical and horizontal revolving brushes, and operated by mechanism hereinafter described.

To fully illustrate my invention I use counter-shaft *a*, Fig. 1. On the end of said shaft *a* will be placed pulleys forward loose and backward, for the purpose of producing a reverse motion, if desired. (These pulleys are not illustrated in the drawings.) On the same shaft *a* I place three beveled gear-wheels 1 2 3, (I reserve the right to use friction-wheels if I so desire,) connecting and engaging the same with smaller beveled gear-wheels 4 4 on the vertical shafts 6 6, for the purpose of transmitting power to operate the brushes. Beveled gear-wheels 1 and 3 engage with the small bevel gear-wheels 4 4, for the purpose of giving motion to the horizontal brushes B B. Said brushes B B are placed or constructed in a suitable manner on a horizontal belt revolving around two wheels *c c* of a suitable size, said wheels *c c* revolving upon vertical shafts placed on horizontal balancing or tilting frame E, the brushes being placed on the belt or made as a belt, the bristles or brush pointing inward and continually revolving, thus securing a sufficient friction for the purpose desired. The bevel gear-wheel 2 on the main shaft *a* engages with a smaller bevel gear-wheel 5 on the vertical or inclined shaft 7, and transmits its power to another bevel gear-wheel, which engages with a smaller wheel *n*, Fig. 2, on a horizontal shaft *o*, Fig. 2, which being provided with two gear-wheels, the same being connected and transmitting power to an additional counter-shaft *y* on the same frame, for the purpose of giving motion to the revolving brushes A A, by this method obtaining whatever speed may be desired.

The brushes are automatically elevated and depressed by the operation of a lifting-toe 8, operated by a lever *d*, working freely in a slot *k* on a pin *m*, Fig. 2, connected with the large gear-wheel *s*, receiving its motion from a small gear-wheel *z* on the main shaft *a*. In order to prevent a collision of the vertical and horizontal brushes the same motion automatically elevates and depresses the horizontal brushes B B, thus preventing them interfering with each other. This movement is more explicitly illustrated in Fig. 2, in which it will be observed that to one side of the frame P, in which the shaft for the vertically-revolving brushes is journaled, is attached a vertical bar *u*, with its lower extremity resting upon one side of the balancing or tilting frame E, on which is placed the horizontal belt or brushes B B, which is operated upon by the lifting-toe 8, which alternately elevates and depresses the sides of the frames E and P. Between the two wheels *c c*, around which the horizontal belt and brushes B B revolve, I raise the posts *e e*, resting on the bottom of the frame *g*. On the top of these posts *e e* I place the foot-rests *l l*, on each side of which I place vertical rolls *h h*, so arranged as to increase the friction of the horizontal belt and brushes at the instep of the shoe by acting as a compress to contract the brush-belt in the hollows or cavities of the shoe or boot, in order to increase or diminish the friction and to graduate the belt or brushes to the size of the boot or shoe to be polished or cleaned. I attach the vertical rolls or spools *h h*

(which revolve by the movement of the belt or brush) to a sliding clamp *t*, through which is passed a screw threaded to the right on one end and to the left on the other. The wheel *c* may also be moved forward and back, as may be required, by means of an adjustable frame made with a nut *r* underneath, threaded, and through which is passed a screw *v*, Fig. 2, thus changing the center of said wheel for the purpose of shortening or lengthening the belt, as may be desired.

The balancing or tilting frame E has two supporting-posts F F, which rest upon the top of two other posts *w w*, constituting a part of the frame *g*, and which support the shaft *a*. The posts are joined by a mortise and tenon. A sleeve *x* is inserted, through which the shaft *a* passes in a manner to permit the movement of the frame E.

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

1. The combination of the frame *g*, counter-shaft *a*, bevel gear-wheel 2, similar wheel 5 on inclined shaft 7, bevel gear-wheel *n*, and horizontal shaft *o*, having its bearing in the tilting or balancing frame P, and being connected with and transmitting power to an additional counter-shaft for the purpose of giving motion to vertical revolving brushes, as above set forth.

2. The combination of the lifting-toe 8, lever *d*, slot *k*, pin *m*, gear-wheels *s* and *z*, shaft *a*, tilting or balancing frame E, vertical bar *u*, and frame P, for the purpose of alternately elevating and depressing the series of brushes, as and for the purpose specified.

3. The combination of the frame *g*, posts *e e*, frame E, wheels *c c*, brushes B B, foot-rests *l l*, rolls or spools *h h*, sliding clamp *t*, nut *r*, and screw *v*, as and for the purpose above set forth.

4. The combination of the frame *g*, shaft *a*, bevel gear-wheels 1 2 3, smaller wheels 4 4 5, incline shafts 7 6 6, frames E and P, brushes B A, vertical and horizontal rod *u*, bevel gear-wheel *n*, communicating with similar wheels on horizontal shaft *o* and *y*, the lifting-toe 8, lever *d*, slot *k*, gear-wheels *s* and *z*, posts *e e*, foot-rests *l l*, rolls or spools *h h*, wheels *c c*, clamp *t*, the nut *r*, and screw in same, supporting-posts *w* and F, and sleeve *x*, for the purpose of constructing a boot and shoe cleaning and polishing machine, as above specified.

JOSEPH CARDONA.

Witnesses:
H. C. HUNSBERGER,
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