Sept. 23, 1947. W. A. EDINGTON 2,427,768

SHOE POLISHING MACHINE

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Fig. 2.

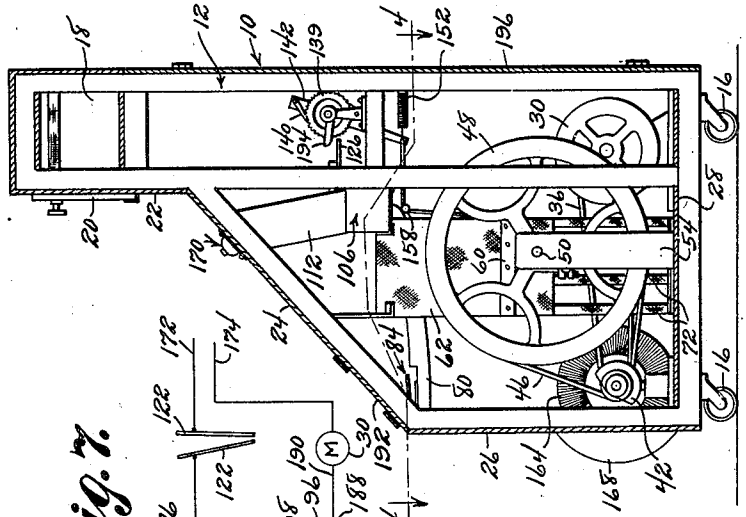
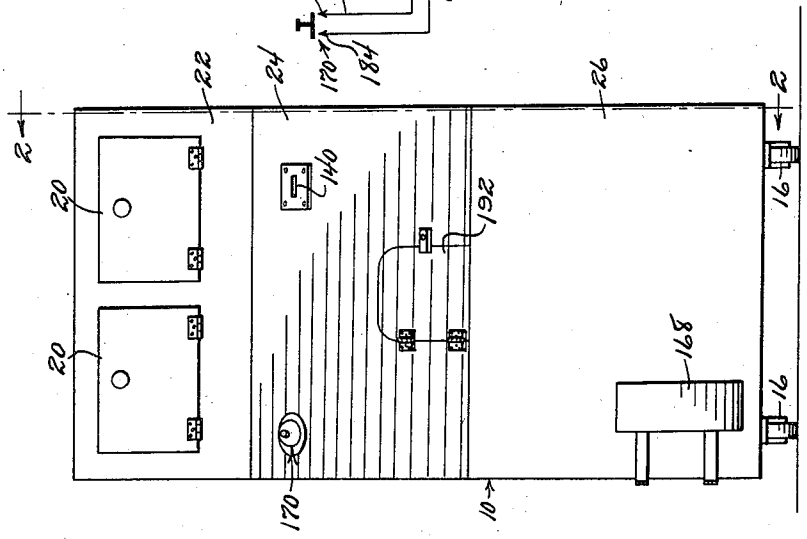


Fig. 1.



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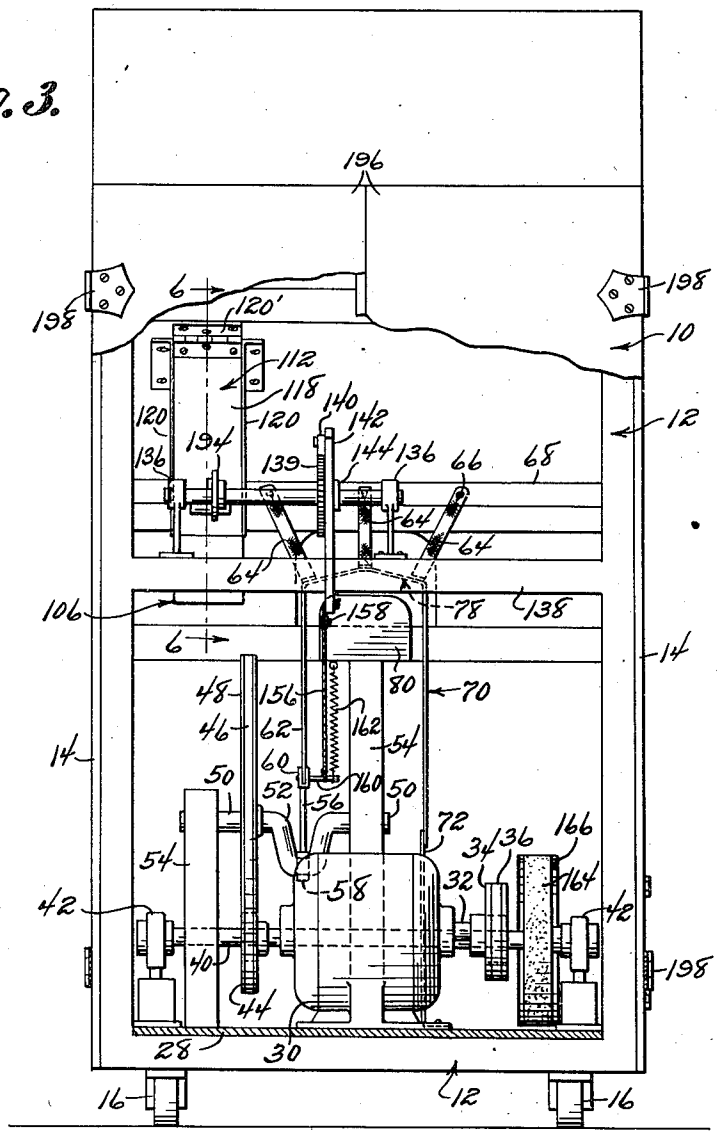
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Fig. 3.



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Fig. 4.

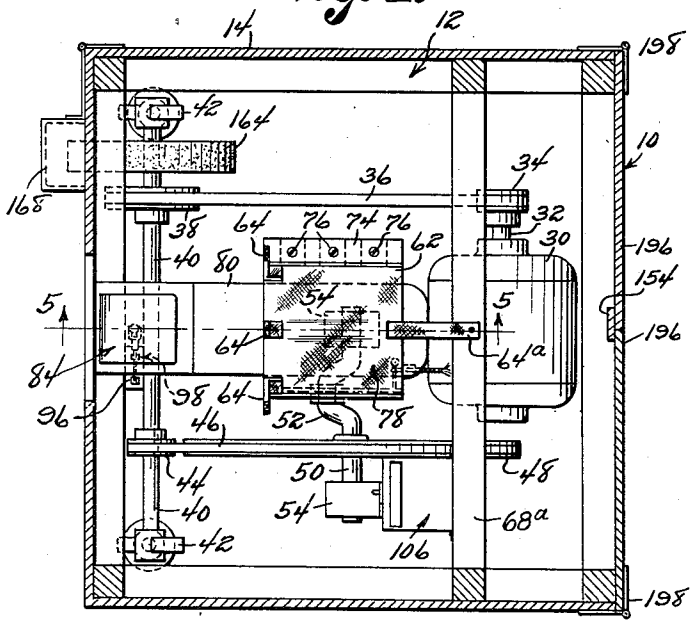


Fig. 5.

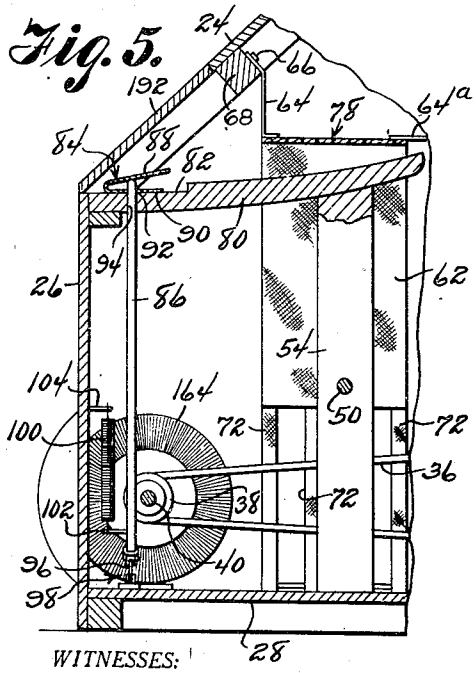
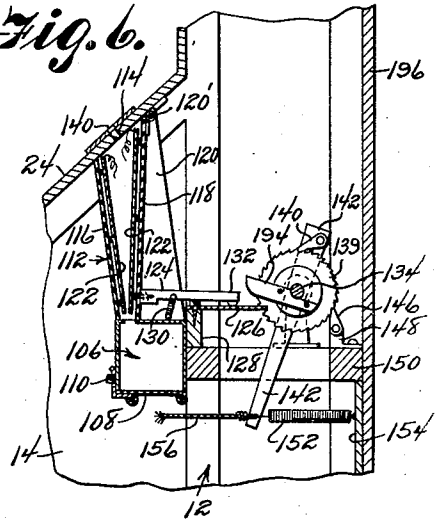


Fig. 6.



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UNITED STATES PATENT OFFICE

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SHOE POLISHING MACHINE

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Application August 22, 1942, Serial No. 455,786

3 Claims. (Cl. 15—97)

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My invention relates to shoe shining facilities, and has among its objects and advantages the provision of an improved shoe shining machine embodying a coin controlled electric circuit for setting the motor in operation upon insertion of a coin of predetermined denomination.

In the accompanying drawings:

Figure 1 is a front elevational view of a machine in accordance with my invention;

Figure 2 is a sectional view taken along the line 2—2 of Figure 1;

Figure 3 is a rear view portion broken away for the purpose of illustration;

Figure 4 is a sectional view taken along the line 4—4 of Figure 2;

Figure 5 is a sectional view taken along the line 5—5 of Figure 4;

Figure 6 is an enlarged sectional view taken along the line 6—6 of Figure 3; and

Figure 7 is a diagrammatic view of the electric circuit.

In the embodiment selected for illustration, I make use of a cabinet 10 having a frame structure 12 to which are secured side walls 14 and mounted on caster wheels 16. The top structure of the cabinet includes a chamber 18 for containing shoe polishes and polish applying brushes and the like. Two doors 20 are hingedly connected to the front wall section 22. The front of the cabinet includes an intermediate inclined wall 24 and a lower wall 26.

Inside the cabinet 10 and upon its floor 28 is mounted an electric motor 30 having its rotor shaft 32 provided with a small grooved pulley 34 for driving a V-belt 36. Belt 36 passes around a somewhat larger grooved pulley 38 keyed to a line shaft 40 supported in bearings 42 mounted on the floor 28. A second small grooved pulley 44 is keyed to the line shaft 40 for connection with a V-belt 46 passing over a large grooved pulley 48 keyed to a shaft 50 having a crank 52 formed therein. Shaft 50 is rotatably journaled in posts 54 secured to the floor 28.

An arm 56 has a bearing 58 connected with the crank 52 and is provided with a channeled crosshead 60 at its opposite end within the channel of which is fixedly connected one end of a shoe shining cloth or web 62. Web 62 extends upwardly from the channel 60 and is supported intermediate its ends by elastic straps 64 and 64a, the former being hooked over ends 66 on a horizontal frame member 68 located above the footstand 80, and the latter being connected to a frame member 68a located forwardly of the footstand. To the depending run 70 of the cloth 62 is secured a plurality of elastic straps 72 having

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their ends clamped between a plate 74 and the floor 28 through the medium of bolts 76.

The cloth 62 is of U-shaped configuration, when viewed according to Figure 3, with its bight 78 of sufficient length to provide room between the two vertical runs of the belt for easy entrance of the shoe being polished. One of the straps 64 is secured at its lower end to the bight 78 at the transverse center of the bight and near the rear edge thereof. The remaining straps 64 are secured at their lower ends to the bight near the rear edge of the bight and the sides of the web 62. These straps normally support the rear edge of the bight 78 sufficiently above the footstand 80 and in such manner as to enable the shoe to be conveniently placed on the footstand within the bight. The strap 64a, which is secured to the bight 78 at the front edge of the bight, supports the front edge of the bight slightly above the footstand 80 and normally prevents the rearward displacement of the bight with respect to the footstand.

The footstand or stool 80 is secured to the lower wall 26 and one of the posts 54, which stool is arranged substantially horizontally and extends underneath the bight 78 of the polishing cloth. Upon the heel margin 82 of the stool 80 is mounted a U-shaped spring 84 having one end of a rod 86 engaging the uppermost leg 88 of the spring 84, the leg 90 of the spring being provided with an opening 92 through which the rod 86 extends loosely. The rod also extends loosely through an opening 94 in the heel margin 82 and extends downwardly for connection with the blade 96 of a knife switch 98 mounted on the floor 28.

One end of a tension spring 100 is connected with a pin 102 attached to the rod 86 and the other end of the spring is connected with a pin 104 attached to the bottom wall 26. Spring 100 exerts a pull on the rod 86 when pressure is released from the spring 84 for opening the switch 98.

Inside the cabinet 10 is mounted a coin box 106 having a hinged bottom 108 which may be locked in its closed position by inserting a padlock through the hasp 110. A coin chute 112 has communication with the coin box 106, and the wall 24 is provided with a coin slot 114 through which a coin may be inserted.

Coin chute 112 includes front and rear walls 116 and 118, respectively, located between side walls 120. The walls of the coin chute are formed of insulative material, and the rear wall 118 is hingedly connected at 122 with the wall 24. To each of the walls 116 and 118 is secured a con-

ductor 122. Figure 6 illustrates the normal relative positions of the conductors 122, wherein the conductors converge downwardly so as to be slightly spaced one from the other at their lower ends. The spacing is such that when a coin, such as a one-cent piece, is dropped into the chute 112, the coin will electrically bridge the conductors 122.

To the wall 118 is fixedly secured a trip arm 124 having its outer end resting on a spring stop 126 in the nature of a strap having one end fixedly secured to a frame member 128. A tension spring 130 has one end anchored to the coin box 106 and its other end secured to the trip arm 124 for holding the latter in engagement with the spring stop 126, the arm 124 being provided with a bumper element 132 contacting the spring stop.

A shaft 134 is rotatably supported in bearings 136 mounted on a frame member 138, and a ratchet wheel 139 is secured to the shaft 134 and is engaged by a pawl 140 pivoted on a lever 142 having a hub 144 intermediate its ends rotatably mounted on the shaft 134. A second pawl 146 engages the ratchet wheel 138 and is pivotally mounted on a bracket 148 mounted on a frame member 150. Thus counter-clockwise rotation of the lever 140, when viewing Figure 6, imparts similar rotation to the ratchet wheel 138, and the ratchet wheel is restrained from clockwise rotation by reason of the pawl 146.

A tension spring 152 has one end connected with the lever 142 and its other end attached to a vertical frame member 154. One end of a cable 156 is attached to the lever 142 and passes around a grooved wheel 158 attached to the stool 80, see Figures 2 and 3, and downwardly for connection with a pin 160 attached to the channel 60. A tension spring 162 has one end connected with the pin 160 and its other end anchored to the stool 80.

To the shaft 40 is secured a buffing wheel 164, the wall 26 being provided with an opening 166 normally closed by a cover 168. Wheel 164 extends partially through the opening 166. A switch 170 is mounted on the wall 24.

Figure 7 illustrates the electric circuit, wherein the wires 172 and 174, which may be in the nature of a conventional electric cord adapted to be plugged into a wall socket, respectively lead to one of the conductor strips 122 and the motor 30. A wire 176 connects with the other conductor 122 and with a terminal 178 of the switch 98, the blade 96 being adapted for engagement with the terminal 178 when the rod 86 is moved downwardly. A wire 180 connects the terminal 178 with a contact 182 of the switch 170, the contact 184 of this switch being connected with a wire 186 electrically connected with the terminal 188 to which the blade 96 is also connected. A wire 190 leads from the terminal 188 to the motor 30.

In operation, a coin is dropped into the chute 112 and the toe portion of the shoe, while on the foot of the wearer, is placed on the stool 80. A hinged door 192 provides accommodation for the foot when placed in position on the stool. The toe region of the shoe fits snugly within the bight 78. As heel pressure is applied to the spring 84, the rod 86 is pressed downwardly for closing the switch 98 to energize the motor 30, since the coin bridges the two conductors 122. Energization of the motor 30 imparts rotary motion to the crank 52 for drawing the polishing cloth 62 back and forth on the toe region of the shoe. The elastic straps 64 and the straps 72 yield to accommodate reciprocatory motion of the arm 56 connecting the polishing cloth 156 with the crank 52.

Continued operation of the motor 30 actuates the lever 140 for rotating the ratchet wheel 138 one revolution. To the shaft 134 is fixedly secured a trip 194 arranged in the path of the spring stop 126. As the trip 194 engages the spring stop, the latter is flexed downwardly, and as the trip passes beneath the spring arm, the spring arm recoils and strikes the trip arm 124 for pivoting the wall 118 away from the wall 116, thereby releasing the coin lying in engagement with the two conductors 122 for breaking the circuit through the motor.

When polishing the sides and back portions of the shoe, the cover 168 is moved to an open position for exposing the buffing wheel 164, so that the shoe may be manipulated about the buffing wheel for polishing purposes. When employing the buffing wheel 164, the circuit is closed through the motor 30 through the medium of the switch 170 so that the motor may be operated independently of the switch 98.

The rear wall structure of the cabinet 10 comprises two doors 196 hinged at 198 to two corners of the cabinet. The doors 196 lend access to the interior of the cabinet.

Without further elaboration, the foregoing will so fully illustrate my invention, that others may, by applying current knowledge, readily adapt the same for use under various conditions of service.

I claim:

1. A shoe shining machine comprising a polishing web folded to provide a shoe-engaging bight, a plurality of depending elastic straps attached to the machine for yieldingly supporting the bight, the lower ends of two of the straps supporting the medial portion of said bight, the remaining straps being inwardly inclined and relatively spaced from one of said first mentioned straps to properly support and position said bight on a shoe, a footstool for supporting the shoe with its toe portion engaging inside said bight, resilient means attached to one end of said web, a motor, and a crank means operatively connected with said motor and the second end of said web and coacting with said resilient means for moving the web back and forth on the shoe.

2. The invention as described in claim 1 wherein a foot-actuated switch is positioned on said footstool to control the movement of said web by said motor.

3. A shoe polishing machine comprising a polishing web of inverted U-form, a footstand having its forward portion arranged within the bight portion of the polishing web, a frame member located above the footstand between the ends of the sole portion of the latter, a plurality of elastic straps suspending the rear edge of said bight portion from the frame member, one of said straps being connected to the transverse center of said bight portion and the remainder of said straps being connected to the bight portion near the sides of the web, said straps holding the rear edge of said bight portion normally above the footstand at a distance sufficient and in such form as to enable a shoe to be conveniently placed on the footstand within said bight portion, a second frame member located forwardly of the footstand, an elastic strap secured to said second frame member and to the front edge of said bight portion at the transverse center of said portion, said last named strap supporting the front edge of said bight portion above the footstand and normally

preventing the rearward displacement of said bight portion with respect to the footstand, and means for imparting motion to the web.

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