1,624,758

April 12, 1927. H. POWELL ET AL

ELECTRIC SHOE CLEANING AND POLISHING MACHINE

Filed Oct. 6, 1925

Fig. 1.

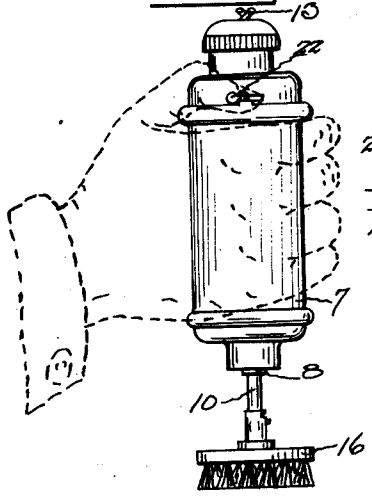


Fig. 3.

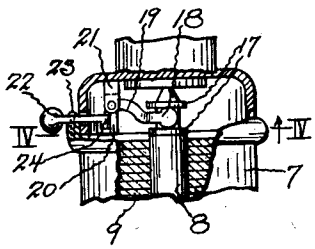


Fig. 2.

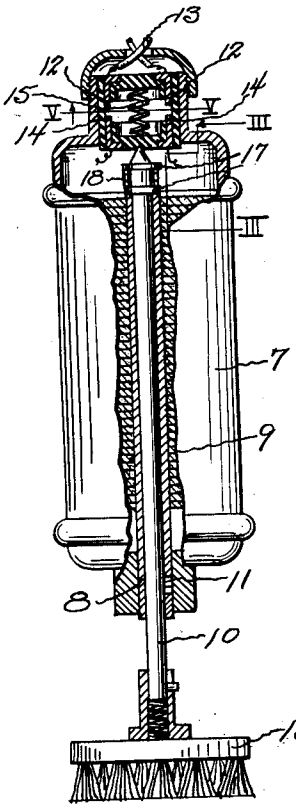


Fig. 5.

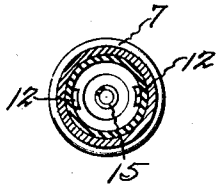
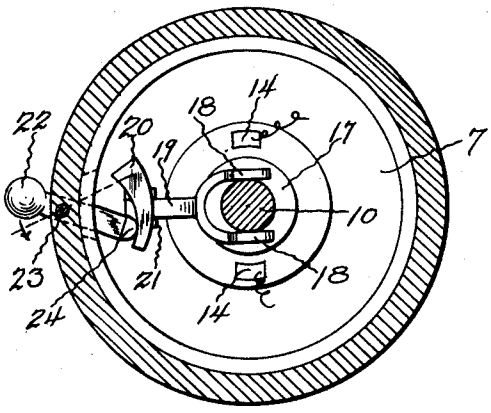


Fig. 4.



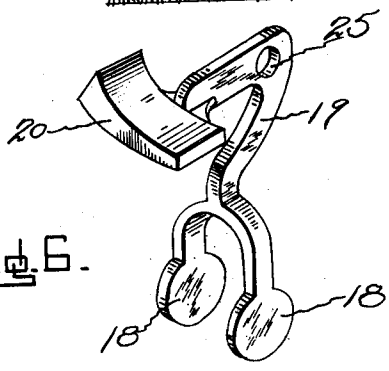


Fig. 6.

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UNITED STATES PATENT OFFICE.

HEZEKIAH POWELL, OF KANSAS CITY, MISSOURI, AND WALTER P. GROVES, OF EDWARDSVILLE, KANSAS.

ELECTRIC SHOE CLEANING AND POLISHING MACHINE.

Application filed October 6, 1925. Serial No. 60,722.

This invention relates to electric shoe cleaning and polishing machines and has for its primary object the provision of certain refinements and improvements of construction to be used in connection with a like machine which has been made the subject matter of United States Letters Patent Number 1,528,628, issued March 3, 1925, to Hezekiah Powell, one of the joint inventors of the improvements which are fully set forth herein.

A further object of this invention is to provide means for imparting switch closing and opening movement to the longitudinally movable shaft of an electric shoe cleaning and polishing machine.

An even further object of the present invention is the provision of a simple and effective combination of easily constructed parts which may be used to render the action of electric shoe polishing machines positive and efficient.

Another object of our invention is to provide means for starting and stopping an electric shoe cleaning and polishing machine, which is formed as a part thereof, and which is positioned at a point within convenient reach to permit the operator to utilize the same without releasing his grip.

Minor objects will appear during the course of the detailed specification which refers to the accompanying drawing, in which;

Figure 1 is a side elevation of an electric shoe cleaning and polishing machine constructed in accordance with our invention.

Fig. 2 is another side elevation with parts broken away for clearness.

Fig. 3 is a fragmentary section of the machine taken on line III—III of Fig. 2.

Fig. 4 is an enlarged detailed cross section of the machine taken on line IV—IV of Fig. 3, looking in the direction of the arrow.

Fig. 5 is a cross section taken on line V—V of Fig. 2, and

Fig. 6 is an enlarged perspective view showing one of the members used for imparting longitudinal reciprocating movement to the shaft of the machine.

Like reference characters refer to similar parts throughout the several views, and the numeral 7 designates an electric motor, the housing of which is formed to provide a handle of a size convenient to be gripped as shown in Fig. 1.

The primary tubular shaft 8 extends axially through the motor 7 and carries the armature 9 of said motor which is constructed in the well-known, ordinary way and which is here illustrated in a diagrammatical way, the important features of this invention only being clearly and accurately illustrated. Secondary shaft 10, carried by the primary shaft 8, has a pin and slot connection 11 therewith which permits longitudinal movement of secondary shaft 10 within primary shaft 8, and causes shaft 10 to be driven by shaft 8.

An electric switch carried by the housing of motor 7 adjacent one end thereof has a pair of stationary contact points 12 connected by any suitable means 13 to a source of electrical energy. A pair of co-acting contact points 14 are slidably mounted to be moved into and out of engagement with contact points 12 whenever secondary shaft 10 is moved inwardly to depress a spring 15. It is clear that this longitudinal movement of secondary shaft 10 takes place whenever an inward pressure is exerted through the brush or other removable member 16, which is mounted on that end opposite the switch engaging points.

It has been found in practice, that the required pressure to depress spring 15 and close contact points 12 and 14 is oftentimes greater than it should be, and as a result, the proper touch for polishing can not be obtained.

A novel means has been devised whereby the switch may be held closed, or opened again without pressure being exerted through brush 16 and secondary shaft 10. This means may be used in connection with the pressure method of closing the switch without interfering with the same.

The preferred form of carrying out this feature has been illustrated in the drawing. The end of shaft 10 adjacent to the electric switch is provided with a pair of spaced apart collars 17, between which the ends 18 of yoke 19 are positioned to impart longitudinal movement to shaft 10 and, at the same time, permit its rotation.

As shown in Fig. 6, a cam plate 20 is formed integrally with yoke 19 and is disposed at right angles to the axis of shaft

10 passing between ends 18. Any suitable lug or lugs 21 may be used to pivotally support yoke 19 within motor housing 7.

An operating trigger 22 also pivotally supported as at 23 to motor housing 7 has its housed or inner end 24 in sliding engagement with the cam surface of plate 20. The outer or un-housed end of trigger 22 is engaged to operate the same. When trigger 22 is in the position shown in Fig. 4, spring 15 is holding contact points 12 and 14 apart as shown in Fig. 2, and the device is not operating. When it is desired to cause brush 16 to rotate without imparting a great deal of inward pressure thereto, it is merely necessary to actuate trigger 22 to the position shown by the dotted line in Fig. 4. This action causes the end 24 of trigger 22 to ride over the cam surface of plate 20 and force the same laterally through an arc having its center at the pivotal point 25 of yoke 19. Obviously, this causes ends 18 to force shaft 10 inwardly against the pressure of spring 15, thus bringing contact points 12 and 14 together. To release or stop the machine, trigger 22 may again be snapped into the position illustrated in Figs. 3 and 4.

The application and operation of the device and especially the novel means for imparting longitudinal reciprocating movement to the shaft 10 has been made clear through the above description.

It is understood that many changes and modifications may be made in the construction of this invention, and it is desired to be limited only by the scope of the appended claims.

What we claim is:

1. In a machine of the kind described, having in combination with an electric motor, a shaft rotatable by said motor and mounted therein for longitudinal movement, a switch associated with the motor and adapted to control the current thereto, said switch being opened and closed as said shaft is moved longitudinally and means including a pivotally mounted shaft engaging member having a cam member integral therewith and a manually operable means for actuating said shaft engaging means around its pivot, engaging said cam member for imparting longitudinal reciprocating movement to said shaft.

2. A machine of the kind described, having in combination with an electric motor, a shaft rotatable by said motor and mounted therein for longitudinal movement, a switch associated with the motor and adapted to control the current thereto, said switch being opened and closed as said shaft is moved longitudinally and means for imparting longitudinal reciprocating movement to said shaft supported within the motor housing, including an operating trigger having a portion thereof extending exteriorly of said housing, said operating trigger adapted to engage a cam shoe integral with said movement imparting means.

3. In a machine of the kind described, having in combination with an electric motor, a shaft rotatable by said motor and mounted therein for longitudinal movement, a switch associated with the motor and adapted to control the current thereto, said switch being opened and closed as said shaft is moved longitudinally and means for imparting longitudinal reciprocating movement to said shaft including a shaft engaging member having a cam plate, and a trigger slidably engaging the cam surface of said plate.

4. In a machine of the kind described, having in combination with an electric motor, a shaft rotatable by said motor and mounted therein for longitudinal movement, a switch associated with the motor and adapted to control the current thereto, said switch being opened and closed as said shaft is moved longitudinally, a pivotally mounted shaft engaging yoke, a cam plate disposed at right angles to the axis of said shaft formed integrally with said yoke and a pivotally supported trigger having its inner end in sliding engagement with the cam surface of said cam plate whereby when movement, transverse to the axis of said shaft is imparted to the outer end of said trigger, said shaft is moved longitudinally.

In testimony whereof we hereunto affix our signatures this 29th day of September, 1925.

HEZEKIAH POWELL.
WALTER P. GROVES.