

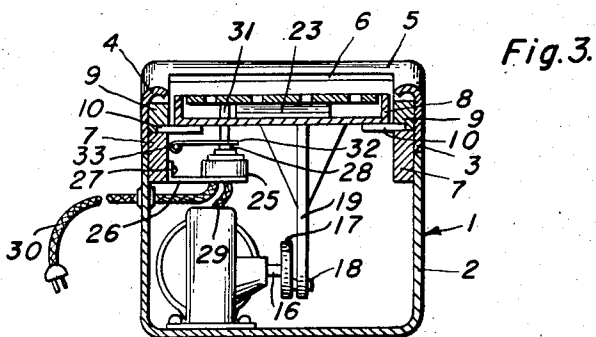
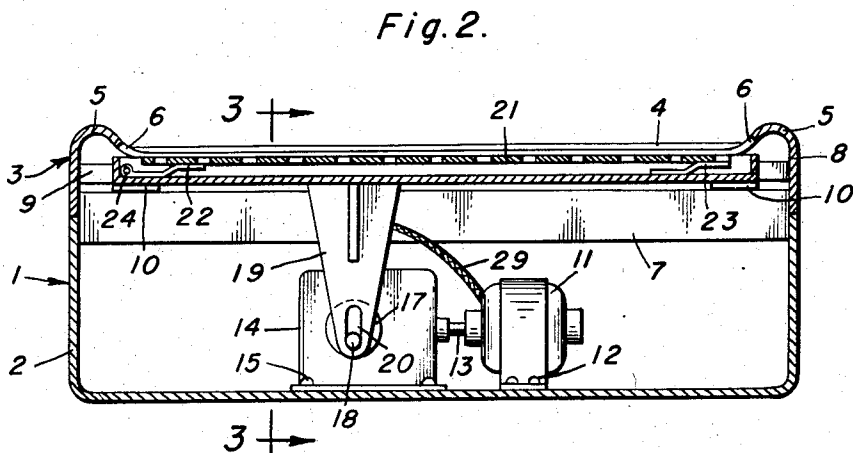
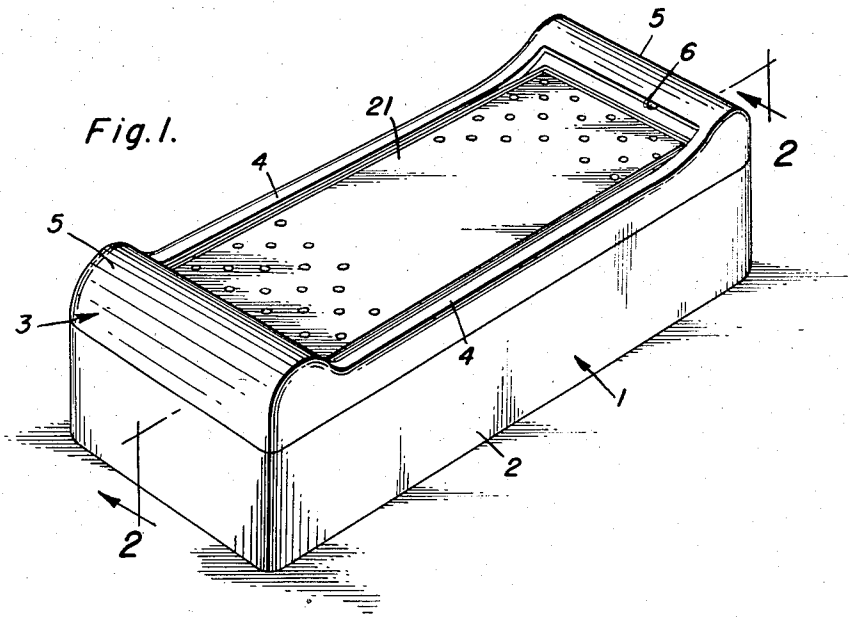
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APPARATUS FOR POWDERING AND SMOOTHING SHOE SOLES

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APPARATUS FOR POWDERING AND
SMOOTHING SHOE SOLES

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6 Claims. (Cl. 91-54.4)

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My invention relates to improvements in apparatus for powdering and smoothing the soles of bowlers' shoes.

By way of explanation, bowling alleys and the soles of bowlers' shoes often become sticky and rough causing bowlers to fall which frequently results in bodily injury.

With the foregoing in mind, the primary object of my invention is to provide for automatically applying powder to and smoothing the soles of bowler's shoes to obviate falling of and injury to bowlers on rough sticky alleys.

Another object is to provide apparatus for powdering and smoothing shoe soles, for the above purposes, rendered operative by merely placing each foot of a bowler on the apparatus with slight pressure, whereby the powder will be applied and the shoe sole smoothed with a minimum of inconvenience to the bowler.

Still another object is to provide portable apparatus for the purposes above set forth which is inexpensive to use, manufacture and service.

Other and subordinate objects, within the purview of my invention, together with the prewise nature of my improvements will be readily understood when the succeeding description and claims are read with reference to the drawing accompanying and forming part of this specification.

In said drawing:

Figure 1 is a view in perspective of my improved apparatus in the preferred embodiment thereof;

Figure 2 is a view in longitudinal vertical section taken on the line 2-2 of Figure 1;

Figure 3 is a view in vertical cross section taken on the line 3-3 of Figure 2.

Referring now to the drawing by numerals, the apparatus of my invention comprises a metal casing 1 including an oblong, rectangular box section 2, and a similarly shaped open frame section 3 fitting on and seating against the upper edges of the box section 1.

The frame section 2 is formed with internal side edge flanges 4 upwardly arched in cross section to obviate sharp edges, and with similarly shaped internal end flanges 5 for the same purpose, and which are raised above the flanges 4 to act as stops for a purpose presently apparent. The flanges 4, 5 define an oblong rectangular top opening 6 in the casing 1 of adequate size to receive a bowler's shoe. Longitudinal side cleats 7 suitably secured in the box section 2, preferably of metal, extend along the upper side edges of said section and project above the same so that the frame section 3 fits over said cleats 7 and is removably held in position thereby.

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An oblong, rectangular powder containing tray 8 fitting between the side flanges 4 and under the end flanges 5 is slidably mounted, as presently described, for endwise reciprocation in the frame section 3 between longitudinal side guide cleats 9 in said frame section, preferably of metal, and secured in any suitable manner to the sides of said section 3. Horizontal tray supporting plates 10 extend inwardly from the cleats 9 beneath the bottom of the tray 8 at the ends thereof and slidably support said tray 8 for reciprocation thereon.

A motor drive for reciprocating the tray 8 is provided comprising the following. An electric motor 11, in the box section 2 is suitably bolted, as at 12, to the bottom thereof with the armature shaft 13 of said motor driving a conventional speed reducing mechanism 14 bolted, as at 15, to the bottom of said section 2 and having a drive shaft 16 extending transversely of the tray 8. A disk 17 with an eccentric crank pin 18 thereon is suitably fixed on the drive shaft 16. A bracket 19 depends from the tray 8 opposite said disk 17 and is suitably fixed to the bottom of said tray 8 with a vertical slot in the lower end thereof in which the crank pin 18 works.

A perforated treadle plate 21 of oblong rectangular form is yieldingly supported at its ends in the top of the tray 8 for depression therein, by leaf springs 22, 23, the spring 22 being suitably fixed to the bottom of said treadle plate 21 and pivoted, as at 24, on the tray 8 so that said treadle plate 21 may be swung upwardly out of said tray 8 for introducing powder into said tray. The other leaf spring 23 is suitably fixed in the tray 8 and slidably supports the treadle plate 21.

The motor 11 is controlled by depression of the treadle plate 21 through a switch and switching closing mechanism now to be described. A motor controlling switch 25 of the hold down, push button type, is mounted on a bracket 26 fixed, as at 27, on one side cleat 7 with the push button 28 of the switch 25 upstanding from the switch. The switch 25 is connected by a lead cable 29 to the motor 11. A plug-in cable 30 extends from the switch 25 out of the box section 2 for connection to the usual house circuit.

A switch closing plunger 31 vertically slidable in the bottom of the tray 8 slidably rests on a horizontal plate 32 hinged, as at 33, to the cleat 7 to which the bracket 26 is fixed, so that said plate 32 is vertically swingable while resting on the push button 28.

Referring now to the use and operation of the apparatus, the bowler places his foot on the

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perforated treadle plate 21 and depresses the same. The treadle plate 21 depresses the switch closing plunger 31, which swings the plate 32 downwardly and pushes the push button 28 downwardly to close the switch 25 and start the motor 11. With the motor 11 started, the pin 18 is revolved to move the bracket 19 back and forth and reciprocate the tray 8, together with the treadle plate 21 against the sole of the bowler's shoe. With powder, not shown, placed in the tray 8, reciprocation of said tray violently shakes the powder to cause the same to ascend through the perforations of the treadle plate 21 and settle on the sole of the shoe. At the same time, the perforations in the treadle plate 21 provide abrasive edges in said plate which smooth down the sole of the shoe. Any tendency of the foot to reciprocate with the treadle plate 21 may be obviated by holding the toe of the shoe sole against one, or the other, of the end flanges 5. As soon as pressure is relieved on the treadle plate 21, said plate rises, under the action of the springs 22, 23 and permits lifting of the switch closing plunger 31 and hence return of the push button 28 to switch opening position so that the motor 11 stops the drive to the tray 8 and treadle supporting plate 21.

The foregoing will, it is believed, suffice to impart a clear understanding of my invention, without further explanation.

Manifestly, the invention, as described is susceptible of modification, without departing from the inventive concept, and right is herein reserved to such modifications as fall within the scope of the appended claims.

Having described my invention, what is claimed as new is:

1. Apparatus for powdering and smoothing the sole of a bowler's shoe on the foot of the bowler comprising a tray for powder, means to mount said tray for reciprocation horizontally to shake the powder, a plate in said tray reciprocating therewith to slide along the sole of a shoe when the bowler places a foot on said plate, said plate having perforations therein for passing the shaken powder upwardly therethrough onto said sole and providing edges for smoothing the sole, and means for reciprocating the tray.

2. Apparatus for powdering the sole of a bowler's shoe on the foot of the bowler, comprising a tray for powder, means to mount said tray for reciprocation horizontally to shake the powder, a plate in said tray reciprocating therewith to slide along the sole of a shoe when the bowler places a foot on said plate, said plate having perforations therein for passing the shaken powder upwardly therethrough onto said sole, means to mount said plate in the tray for depression by foot pressure, and means for reciprocating said tray controlled by depression of said plate.

3. Apparatus for powdering and smoothing the sole of a bowler's shoe on the foot of the bowler comprising a tray for powder, means to mount said tray for reciprocation horizontally to shake

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the powder, a plate in said tray reciprocating therewith to slide along the sole of a shoe when the bowler places a foot on said plate, said plate having perforations therein for passing the shaken powder upwardly therethrough onto said sole and providing edges for smoothing the sole, means for reciprocating the tray, and a stop on said tray for holding the shoe stationary against reciprocation with said plate.

4. Apparatus for powdering the sole of a bowler's shoe on the foot of the bowler, comprising a tray for powder, means to mount said tray for reciprocation horizontally to shake the powder, a plate in said tray reciprocating therewith to slide along the sole of a shoe when the bowler places a foot on said plate, said plate having perforations therein for passing the shaken powder upwardly therethrough onto said sole, means to mount said plate in the tray for depression by foot pressure, means for reciprocating said tray controlled by depression of said plate comprising a motor, and a motor controlling switch closed by depression of said plate.

5. Apparatus for powdering the sole of a bowler's shoe on the foot of the bowler comprising a tray for powder, means to mount said tray for reciprocation horizontally to shake the powder, a plate in said tray reciprocating therewith to slide along the sole of a shoe when the bowler places a foot on said plate, said plate having perforations therein for passing the shaken powder upwardly therethrough onto said sole, means to mount said plate in the tray for depression by foot pressure, means for reciprocating said tray controlled by depression of said plate comprising a motor, a normally open motor controlling switch, and switch closing means comprising a plunger operated by depression of said plate.

6. Apparatus for powdering and smoothing the sole of bowler's shoe on the foot of the bowler comprising a tray for powder, means to mount said tray for reciprocation horizontally to shake the powder, a plate in said tray reciprocating therewith to slide along the sole of a shoe when the bowler places a foot on said plate, said plate having perforations therein for passing the shaken powder upwardly therethrough onto said sole and providing edges for smoothing the sole, means for reciprocating the tray comprising a motor drive including a revolving crank pin, and a bracket on said tray movable back and forth by said crank pin.

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