SHOE POLISHING APPARATUS, INCLUDING BRUSH DRIVE AND HANDGRIP WITH CLOSURE FOR ACCESS TO THE DRIVE

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Filed April 28, 1947

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SHOE POLISHING APPARATUS, INCLUDING BRUSH DRIVE AND HANDGRIP WITH CLOSURE FOR ACCESS TO THE DRIVE

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Application April 28, 1947, Serial No. 744,295

1 Claim. (Cl. 15—24)

This invention relates to shoe shining kits and the primary object of the present invention is to provide a shoe shine kit which embodies among its features a hollow body, a cylindrical brush mounted at one end of the body to rotate about a transverse axis, a hollow pivot grip-shaped handle extending perpendicularly from the end of the body remote from the brush, said handle lying along an axis which lies in a plane perpendicular to the transverse axis about which the brush rotates, manually actuated drive means within the body adjacent its junction with the handle and power transmitting means coupling the drive means with the brush to cause the brush to rotate about the transverse axis when the drive means is actuated.

Still other features include said handle having an access opening extending throughout its entire length, a cover for closing the access opening and a reservoir within the handle having a filling opening in its top which is accessible through the access opening in the handle.

In the drawings,
Figure 1 is a perspective view of a shoe shining kit embodying the features of this invention,
Figure 2 is a perspective view taken from the opposite side of Figure 1,
Figure 3 is a longitudinal, sectional view through the shoe shining kit illustrated in Figure 1,
Figure 4 is a vertical sectional view taken substantially along the line 4—4 of Figure 3,
Figure 5 is a transverse sectional view taken substantially along the line 5—5 of Figure 3,
Figure 6 is an enlarged sectional view through the rotary brush and the overriding clutch employed in connection therewith,
Figure 7 is a top plan view of the kit showing the door to the access opening in open position,
Figure 8 is a perspective view of a valve for controlling the discharge of shoe shining liquid from the reservoirs contained within the handle, and
Figure 9 is a perspective view of the brush cover.

Referring to the drawings in detail, a hollow body 10 which is substantially rectangular in cross-section is provided at one end with a curved front wall 11 and a pair of forwardly extending spaced parallel brackets 12 having aligning openings therein the purpose of which will be more fully hereinafter explained. Extending laterally from the body 10 at the end remote from the curved front wall 11 is a handle 12 which as illustrated in the drawings, is hollow and is split longitudinally as at 13 to provide an access opening which is closed by a cover 14 hinged at at 15 to the body 10 intermediate its ends. The bottom wall of the handle 12 is provided with a pair of spaced parallel openings 16 and 17 communicating respectively with reservoirs 18 and 19 which are separated from one another by a vertical partition wall 20. A common top wall 21 encloses the upper end of the reservoirs 19 and is provided with spaced parallel internally screw-threaded openings 22 and 23 forming filling openings for the respective reservoirs 18 and 19. Suitable closure plugs 24 are fitted in the openings 22 and 23 as will be readily understood upon reference to Figure 5. Formed along the inner face of the side wall of the handle 12 opposite the access opening, are spaced parallel tubular guides 25 which form with the bottom wall of the handle 12, and the top wall 21 fluid tight joints, but which also communicate with aligned openings in the bottom wall and top wall for a purpose to be more fully hereinafter explained.

Mounted for vertical sliding movement in the tubular guides 25 are push rods 26 each of which is provided at its lower end with an outwardly extending arm 27 carrying adjacent its extreme outer end a cone-shaped valve 28. These valves 28 are adapted normally to close the openings 16 and 17 in the bottom wall of the handle to prevent the discharge of the contents of the reservoirs 18 and 19. An outwardly extending arm 28 is carried by the upper end of each push rod 26 and extends in the direction of the arm 27 and in a plane parallel therewith, and each arm 29 is provided with an opening 30 for a purpose to be more fully hereinafter described. Projecting laterally from each push rod 26 in the direction opposite the arms 27 and 29 is a knob 31 which extends through a slot 32 formed in the side wall of the handle 12 above each reservoir 18 and 19 and in alignment with the tubular guides 25. A suitable bracket 33 is secured to the side wall of the handle 12 and attached at one end to each bracket 33 is a retractile coil spring 34, the opposite end of each of which is anchored in an opening 30 in an arm 29 of a push rod 26. It will thus be seen that the valves 28 will be urged into closing position with relation to the openings 16 and 17.

Fixed in the aligned openings in the arms 12 previously referred to is an axle shaft 35, the axis of which lies perpendicular to the longitudinal axis of the body 10, and to the plane of...
the longitudinal axis of the handle 12. Mounted for rotation on the axle shaft 33 is a drive sprocket 36 forming one element of an overriding clutch 37. A conventional form of rotary drum 31 in one direction. A cylindrical element 40c is disposed within the drum 33 and its end walls 40d and 40e are centrally apertured to receive shaft 35. The aperture 40d in end wall 40b is internally threaded to receiveingly engage with the threads 40c of clutch 37, so that as the clutch 37 is rotated in one direction the clutch member 37 will be threaded into aperture 40d to clamp the end wall 32' between sprocket 36 and end wall 40b and thereby permit rotation of the drum 33 and sprocket 36 as a unit. Upon rotation of the sprocket 36 in an opposite direction the member 37 will be backed out of aperture 40d and the sprocket 36 will rotate without effecting a rotation of the drum 33. The overriding clutch 37 and the drum 33 may take the form of a conventional coaster brake employed on bicycles or the like, and fitted over the drum, usually being mounted on the hub of the wheel of a conventional bicycle coaster brake is a cylindrical sleeve 39 provided with outwardly extending radially disposed tufts of bristles 40 forming a rotary brush.

Extending inwardly from the side wall of the body 10 opposite the door 14 of the handle, and adjacent the end remote from the brackets 12 is a stud or spindle 41 upon which is mounted for rotation a drive sprocket 42. Formed integrally with the hub of the drive sprocket is a drive pinion 43 which has meshing engagement with an arcuate rack 44 carried at one end of a rocker arm 45. This rocker arm is mounted to rock in a suitable bracket 46 carried by the stud or spindle 41 about an axis which lies parallel with the axis of the aforesaid spindle. Pivotedly connected as at 47 adjacent the end of the rocker arm 45 remote from the arcuate rack 44 is one end of a plunger rod 48, the opposite end of which extends outwardly through the end wall of the body 10 remote from the curved front wall 11 and is provided adjacent its outer end with a knob 49. A compression coil spring 50 encircles the push rod between the end wall of the body 10 and the knob 49 in order yieldingly to urge the push rod outwardly with relation to the body. The sprocket 42 has driving connection with the sprocket 36 through the medium of an endless chain 51 and it will thus be seen that when pressure is applied to the knob 49 to actuate the rocker arm and sprocket 42, the sprocket 36 will be driven. By reason of the overriding clutch 37, driving force will be applied to the rotary brush only in one direction.

In order to protect the brush from contact with objects when the device is not in use, I provide a cover 52 of a shape readily to fit over the end of the body 10 on which the brush is mounted and provided with suitable catches 53 which are adapted to engage lugs 54 which project outwardly from the top and bottom sides of the body 10 adjacent the curved wall 11.

In use, it will be understood that the reservoir chambers 15 and 16 may be filled with the desired liquid shoe polish and when it is desired to use the device, the cap or cover 52 is removed from the end of the body 10 enclosing the brush. By simply exerting pressure on one or the other of the knobs, the valve 28 actuated thereby may be disengaged from contact with the walls of its respective passage or opening 16 or 17 as the case may be and by holding the handle in a vertical position over the shoe to be polished, the liquid polish may be distributed thereon. After the desired quantity of polish has been applied, pressure is relieved from the knob 31 and the valve 28 will close the passage. The thumb may then be transferred to the knob 48 and by exerting pressure thereon the rocker arm 45 will cause the drive pinion 43 to rotate and drive the sprocket 42 which in turn will drive the brush through the medium of the chain 51, sprocket 36 and overriding clutch 37. The release of pressure on the knob 48 will permit the plunger rod 48 to return to its initial position ready for the repeat operation, and due to the overriding clutch, the brush 48 will continue to rotate in the direction in which it was originally driven. In this way, repeated depression and release of the plunger rod 48 will keep the brush in motion and its application to the article of footwear to be polished will of course result in the desired buffing thereof. Due to the fact that the entire unit may easily be manipulated by one hand it is obvious that a convenient and easily manipulated shoe polishing kit is provided.

While in the foregoing there has been shown and described the preferred embodiment of this invention it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

I claim:

A shoe shining kit which includes a hollow body, a cylindrical brush mounted at one end of the body to rotate about an axis transverse to the body, a hollow pistol grip-shaped handle extending perpendicularly downward from the end of the body remote from the brush, a sprocket within the body adjacent its junction with the handle, means operable through the body adjacent the handle for oscillating said sprocket, power transmitting means coupling the sprocket with the brush, and means within the brush to cause the brush to rotate about the transverse axis when the sprocket is oscillated, said body having an access opening in one side extending for substantially one half of its entire length through which access may be had to the sprocket and a cover for the access opening hinged to the open side of the body adjacent the end of the opening nearest the brush.

JAMES E. PETTIE.

References Cited in the file of this patent

UNITED STATES PATENTS

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>642,731</td>
<td>Swanson</td>
<td>Feb. 6, 1900</td>
</tr>
<tr>
<td>670,254</td>
<td>Gauthier</td>
<td>Feb. 15, 1908</td>
</tr>
<tr>
<td>902,390</td>
<td>Ford</td>
<td>Oct. 27, 1908</td>
</tr>
<tr>
<td>1,309,610</td>
<td>Davidson</td>
<td>July 8, 1919</td>
</tr>
<tr>
<td>1,483,837</td>
<td>Buck</td>
<td>Feb. 5, 1924</td>
</tr>
<tr>
<td>1,582,377</td>
<td>Spielman</td>
<td>Nov. 17, 1925</td>
</tr>
<tr>
<td>1,684,720</td>
<td>Pfliesser</td>
<td>Oct. 29, 1926</td>
</tr>
<tr>
<td>1,690,876</td>
<td>Acosta</td>
<td>Aug. 23, 1927</td>
</tr>
<tr>
<td>1,679,843</td>
<td>Traube</td>
<td>Aug. 7, 1928</td>
</tr>
</tbody>
</table>

FOREIGN PATENTS

<table>
<thead>
<tr>
<th>Number</th>
<th>Country</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>11,874</td>
<td>Great Britain</td>
<td>Oct. 1900</td>
</tr>
<tr>
<td>851,700</td>
<td>France</td>
<td>Jan. 15, 1940</td>
</tr>
</tbody>
</table>