July 13, 1926. 1,592,016

M. TOZIAN

SHOE POLISHING APPARATUS

Filed April 12, 1924

Fig. 1

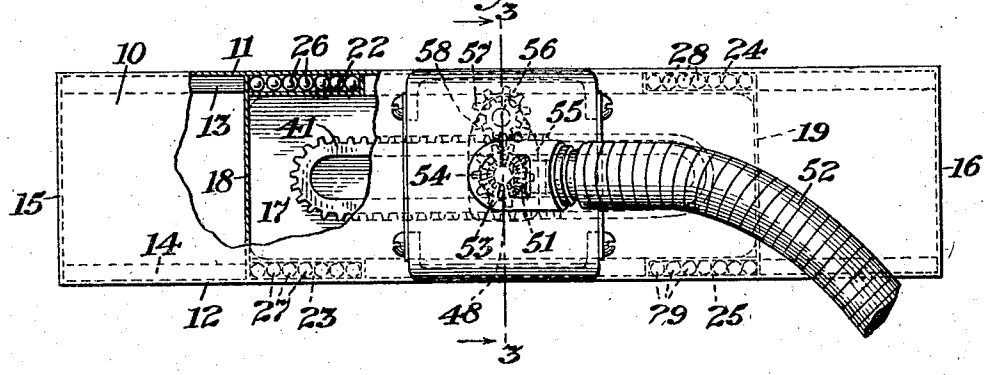


Fig. 2

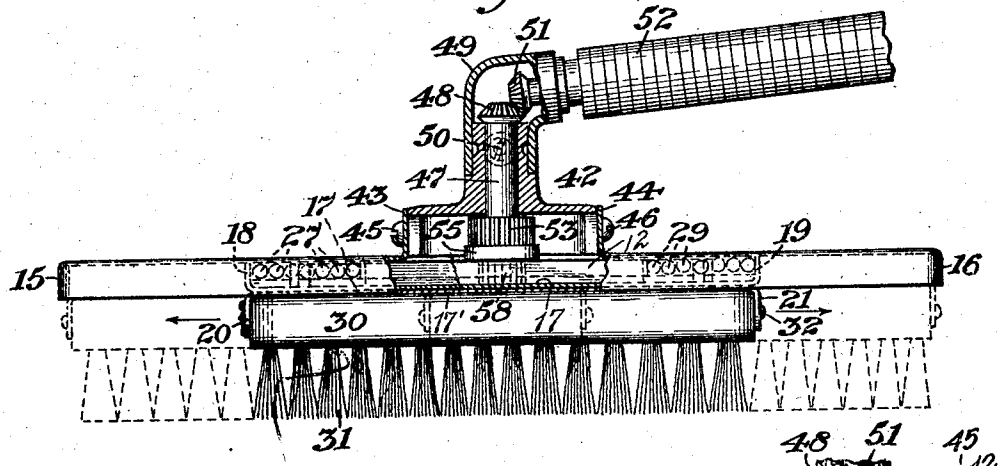


Fig. 3

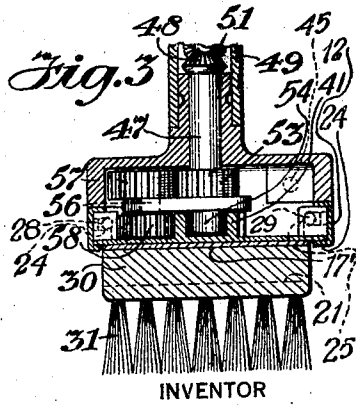


Fig. 4

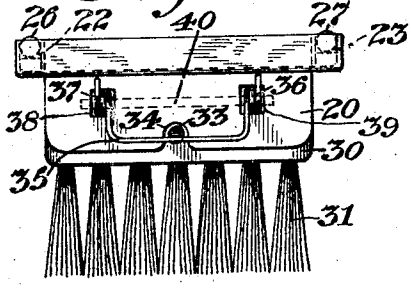
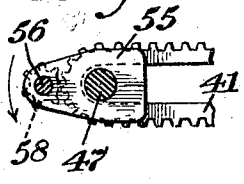


Fig. 5



INVENTOR

Manoug Tozian

BY

Lemuel Eaton

HIS ATTORNEYS

Patented July 13, 1926. 1,592,016

UNITED STATES PATENT OFFICE.

MANOUG TOZIAN, OF NEW YORK, N. Y.

SHOE-POLISHING APPARATUS.

Application filed April 12, 1924. Serial No. 706,012.

My present invention relates to an apparatus for polishing shoes, boots and the like, and the object thereof is the provision of a device for lessening the labor in such operations by so constructing the apparatus that it may be held in the hand and guided thereby to different positions to cause the boots or shoes in their entirety to be polished, the brush being operated mechanically through a suitable source of power rather than manually as is the general custom.

In carrying out the invention the apparatus preferably includes a suitable frame in which in guides carried thereby a brush or other similar shoe polishing device is mounted and connected by suitable mechanism for causing the brush to reciprocate in the frame through the application of power from any suitable source, as will be hereinafter more particularly described.

In the drawing:

Fig. 1 is a plan of the shoe polishing apparatus made in accordance with my present invention.

Fig. 2 is an elevation and partial section thereof.

Fig. 3 is a partial transverse section on line 3—3, Fig. 1.

Fig. 4 is an end view of the brush and brush holder, and

Fig. 5 is a sectional plan showing the rack and gears in position at the end of the travel of the brush and its holder.

Referring more particularly to the drawing, the apparatus made in accordance with this invention preferably comprises a frame which may be made of metal or any other suitable material so as to have a top 10, sides 11 and 12, each of which is provided with an inturned flange as shown at 13 and 14 respectively and end members 15 and 16. As illustrated, this frame is preferably rectangular in plan.

I also employ a brush holder 17. This may also conveniently be made of sheet metal made in two parts suitably connected or otherwise. The ends of the inner part of the brush holder as shown in the drawing are turned in one direction upwardly as illustrated at 18 and 19, while the corresponding ends of the other or outer member 17′ of the brush holder are turned in the opposite direction, that is downwardly as indicated at 20 and 21. The upper member of the brush holder is adapted to fit within the frame, the sides and adjacent top and flange portions acting as guides in which the said brush holder may reciprocate. In order to minimize the friction the brush holder may be provided at the corners thereof with bearing pockets 22, 23, 24, and 25 to receive bearing balls 26, 27, 28 and 29 which as illustrated contact both with the faces of the bearing pockets and also with the inner faces of the sides and the adjacent portions of the top of the frame.

The lower portion of the brush holder is adapted to receive and retain the body member 30 of a brush in which the usual bristles 31 are suitably connected. For example one end of the brush body is fitted with pins 32 adapted to be received in apertures provided therefor in the end 21 of the brush holder. At the opposite end of the brush there is provided a latch pin 33 adapted to be received in a notch 34 in the lower edge of the end 20 of the brush holder and to engage a bar 35 carried and connected to springs 36 and 37 extending through slots 38 and 39 in this end 20 of the brush holder and secured in position therein by means of a pin 40 or otherwise, it being understood that this end of the brush body is suitably tapered or slotted or both slotted and tapered to permit the latch to snap under the bar to retain the body of the brush in the brush holder and to permit the same to be easily removed therefrom, so that interchangeable brushes may be readily employed in the apparatus.

With the brush holder in position in the frame there is an appreciable space between the body of the brush holder and the top of the frame. The brush holder is fitted with an elliptical rib lying within this space and in the outer face of this rib there is a series of gear teeth forming an elliptical rack 41, while the inner face of the rib forms a guide, as hereinafter described. The frame is provided with a head member 42 adapted to fit between flanges 43 and 44 extending upwardly from the outer surface of the frame and to be secured therein by means of screws 45 and 46 or otherwise, it being understood that this structure is more or less illustrative. The head 42 includes a bearing in which a shaft 47 is journaled. At the upper or outer end of this shaft there is a bevel gear 48 and the outer end of the shaft and its gear are housed in a cap 49 normally secured to the bearing by a set screw 50 or otherwise. The bevel gear 48

meshes with a bevel gear 51 connected to a flexible shaft contained in a flexible sheath 52, it being understood that the opposite end of the flexible shaft is connected to a motor or other translating device so as to turn the bevel gear 51 which meshing with the bevel gear 48 drives the shaft 47. Mounted on the shaft 47 is a spur gear 53 and a roller 54, the gear being fixed on the shaft and the roller being loosely mounted thereon. Intermediate of the gear 53 and the roller 54 an arm 55 is also loosely mounted on the shaft 47. Journaled in the outer end of the arm 55 is a shaft 56. Secured to this shaft 56 on one side of the arm is a gear 57 adapted to mesh with the gear 53 and also secured to the shaft 56 on the opposite side of the arm 55 there is a gear 58 adapted to mesh with the elliptical rack 41.

It will now be understood that in the operation of the apparatus the shaft 47 is driven from any suitable translating device, that the gear 53 turning with the shaft 47 turns the shaft 56 through the gear 57 and the shaft 56 driving the gear 58 causes the brush holder to move first in one direction and then in the other within the frame of the apparatus, the roller 54 acting as a guide to center the parts as the gears carried by the shaft 56 operate the brush holder by engagement with the gear 53 and the teeth of the elliptical rack, the arm 55 swinging through an angle of 180° as the gear 58 passes from one side of the rack to the other around the ends thereof.

I claim as my invention:

1. In an apparatus for polishing boots, shoes and the like, a frame, a brush holder, a brush mounted on said brush holder, a shaft mounted to turn in the said frame, a continuous elongated rack mounted on the said brush holder, and actuating devices connecting the said shaft and elongated rack for reciprocating the brush holder and brush by turning the said shaft.

2. In an apparatus for polishing boots, shoes and the like, a frame, a brush holder and brush mounted to reciprocate in the said frame, a shaft journaled in the frame, means for driving the shaft, an elliptical rack mounted on the said brush holder, and gears connecting the said shaft and elliptical rack for reciprocating the brush holder and brush in the frame.

3. In an apparatus for polishing boots, shoes and the like, a frame, a brush holder and brush mounted to reciprocate in the said frame, a shaft journaled in the frame, means for driving the shaft, an elliptical rack, a roller mounted on the shaft and adapted to operate within the elliptical rack, a gear on the said shaft, an arm mounted on the shaft between the said gear thereon and the said roller, an auxiliary shaft mounted in the said arm, a gear secured on the auxiliary shaft at one side of the said arm and adapted to mesh with the gear on the aforesaid shaft, and a second gear mounted on the auxiliary shaft on the opposite side of the said arm and adapted to engage with the teeth of the said elliptical rack.

Signed by me this 2nd day of April, 1924.

MANOUG TOZIAN.