

Sept. 12, 1933.

A. ALBERA

1,926,223

POWER DRIVEN ROTARY BRUSH

Filed Jan. 7, 1930

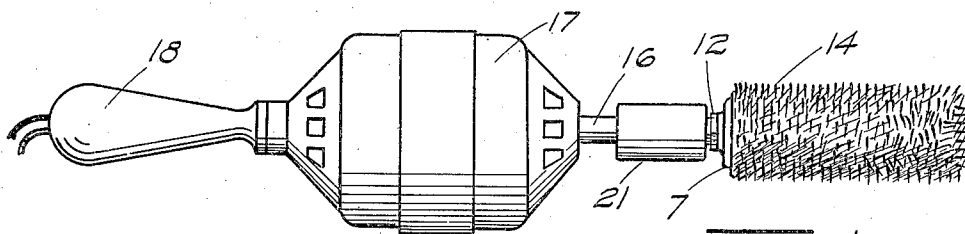


Fig. 1.

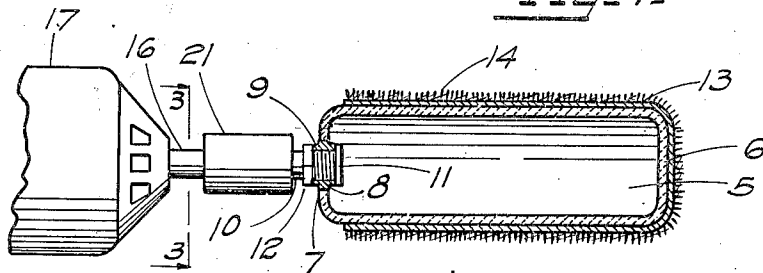


Fig. 2.

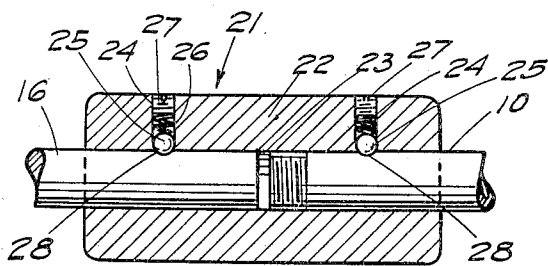


Fig. 4.

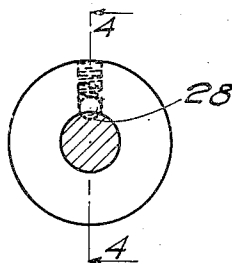


Fig. 3.

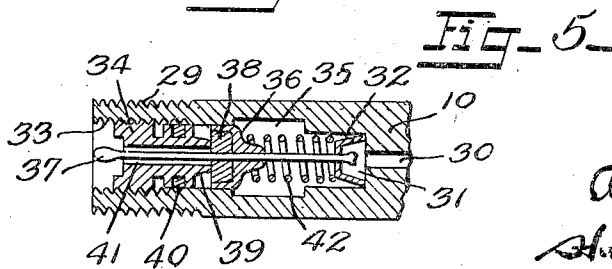


Fig. 5.

INVENTOR.

Angelo Albera

BY

Henry C. Schroeder

ATTORNEY

UNITED STATES PATENT OFFICE

1,926,223

POWER DRIVEN ROTARY BRUSH

Angelo Albera, Concord, Calif.; Robert J. Albera
administrator of said Angelo Albera, deceased

Application January 7, 1930. Serial No. 419,047

1 Claim. (Cl. 15—230)

The invention forming the subject matter of this application relates to brushes and more particularly to a power driven rotary brush applicable for brushing and polishing shoes.

5 An object of the invention is to provide a rotary brush having a flexible brush head or body portion and a brushing element removably carried by said brush head and wherein said brush is adapted to be removably coupled to a driving
10 motor for rotation thereof.

A further object of the invention is to provide a rotary brush having a hollow brush head or body portion constructed of flexible material and adapted to be inflated with air and having a stem
15 whereby said brush head may be directly coupled to a drive shaft of an electric motor for rotation thereof.

Another object of this invention is to provide a rotary brush of the character set forth which is
20 highly useful and simple in construction. Convenience of arrangement, lightness and comparative inexpense of manufacture are further objects which have been borne in mind in the production and development of the invention.

25 With the foregoing and other objects in view, which will be made manifest in the following detailed description and specifically pointed out in the appended claim, reference is had to the accompanying drawing for an illustrative embodiment of the invention, wherein:

30 Fig. 1 is a side elevation of the rotary brush forming my invention shown attached to an electric motor.

35 Fig. 2 is a sectional view of the brush taken longitudinally through the center of the brush.

Fig. 3 is a sectional detail view taken on the line 3—3 of Fig. 2 showing the device for coupling the brush to the electric motor.

40 Fig. 4 is a longitudinal sectional view of the coupling device taken on the line 4—4 of Fig. 3.

Fig. 5 is a longitudinal sectional view showing the interior construction of the "Schraeder" valve.

45 Referring to the accompanying drawing wherein similar reference characters designate similar parts thruout, the several views described above adequately illustrate my invention, and the following detailed description is commensurate with the above mentioned drawing in enabling
50 an artisan to construct and assemble the constituent parts of the same.

In carrying out my invention I make use of a tubular pneumatic element or body member designated by the reference numeral 5, having closed
55 ends 6 and 7. The body member 5 is constructed

of flexible material, preferably rubber or a composition thereof, and is of airtight construction. Formed centrally in the end 7 of the body member 5 is an aperture 8 having annular shoulders 9
60 formed around said aperture and protruding from the inner and outer faces of the end 7. Numeral 10 indicates a tire or Schraeder type valve stem, forming a shaft for the brush element, which is fixedly secured at one end thereof in the
65 aperture 8 by means of the valve flange 11 and nut 12. The tire or Schraeder valve 10 provides an inlet to the body member 5 whereby air may be pumped into said body for inflating the same.

The Schraeder valve is illustrated on an enlarged scale in Fig. 5, the body 10 of the valve
70 preferably having the threads 29 partly removed for use in my device. The body 10 has a bore 30 extending therethrough, and is counterbored as at 31 to provide a seat for the spring thrust cap 32. The counterbore is threaded at 33 to
75 receive the sealing plug 34, and is recessed at 35 to clear the valve seat shell 36, which is fixed to plunger 37 and movable therewith and has a resilient valve seat 38 secured in the cupped recess,
80 which is adapted to cooperate with the reduced cylindrical end 39 of member 34. Member 34 has a resilient sealing ring 40 disposed in an annular groove as shown, and has an axial aperture 41 clearing plunger 37, said plunger being
85 also slidable in an aperture in the spring thrust cap 32. A helical spring 42 forces the valve seat 38 against the end 39 of member 34 thereby preventing escape of air. The opposite end of the valve body is provided with the usual flange 11
90 which is inserted through the aperture 8, and nut 12 drawn up to clamp the brush body 6 to the valve body.

A brushing element is removably carried by the pneumatic body member 5 and consists of a sleeve 13 constructed of any suitable fabric material having a heavy nap as indicated at 14. The sleeve 13 is formed in such a manner as to be open at one end thereof and closed at the other, the nap of course extending from the outer
95 surface of said sleeve. In fitting the sleeve 13 over the body member 5 it is preferable that the operation be accomplished before the body member is inflated, so that when fully inflated it will resiliently press against the sleeve and thereby
100 firmly hold said sleeve in position thereon.

Means are provided for attaching the brush 5 to the drive shaft 16 of a suitable electric motor 17, which motor includes an axially mounted handle 18 secured to one end of the motor casing. Said means comprises a coupling 21 con-
110

sisting of a cylindrical member 22 having a central bore 23 extending therethru. It is preferable that the valve stub shaft 10 of the brush 5 and the motor shaft 16 be of equal diameter so that the bore 23 may be uniform thruout its length and providing a slip fit therewith.

Adjacent each end of the coupling 21 there is formed a threaded aperture 24 which extends radially from the bore 23 of said coupling. Disposed within the apertures 24 are steel balls 25 which are retained on seats formed at the inner ends of the apertures, the balls extending partly into the bore 23. Coil springs 26 are disposed in the apertures 24 and cooperate with the balls 25, plugs 27 being threadedly secured in the apertures 24 for retaining springs 27 under compression on the balls 25.

Adjacent to the outer ends, each of segmentospherical depressions 28 are formed in shafts 10 and 16 which are adapted to cooperate with the balls 25 when the shafts are inserted in the bore 24 as is clearly shown in Fig. 4. In this manner

the brush shaft 10 is detachably coupled to the motor shaft 16 and caused to rotate therewith.

I am aware that some changes may be made in the general arrangements and combinations of the several devices and parts, as well as in the details of the construction thereof without departing from the scope of the present invention as set forth in the foregoing specification, and as defined in the following claim.

I claim:

A cylindrical elastic envelope having a reinforced axial aperture at one end thereof, a tire valve secured in said aperture, said tire valve forming a shaft extending from the end of said envelope and providing means for inflation thereof, a cylindrical coupling provided with a bore, a ball resiliently urged into the bore, said shaft having formed in the periphery adjacent the outer end a segmentospherical recess for engagement with said ball.

ANGELO ALBERA.

25

100

30

105

35

110

40

115

45

120

50

125

55

130

60

135

65

140

70

145

75

150