Sept. 15, 1953 G. H. KILGORE 2,651,795

POWER-DRIVEN FOUNTAIN BRUSH

Filed Jan. 10, 1949 2 Sheets-Shee 1

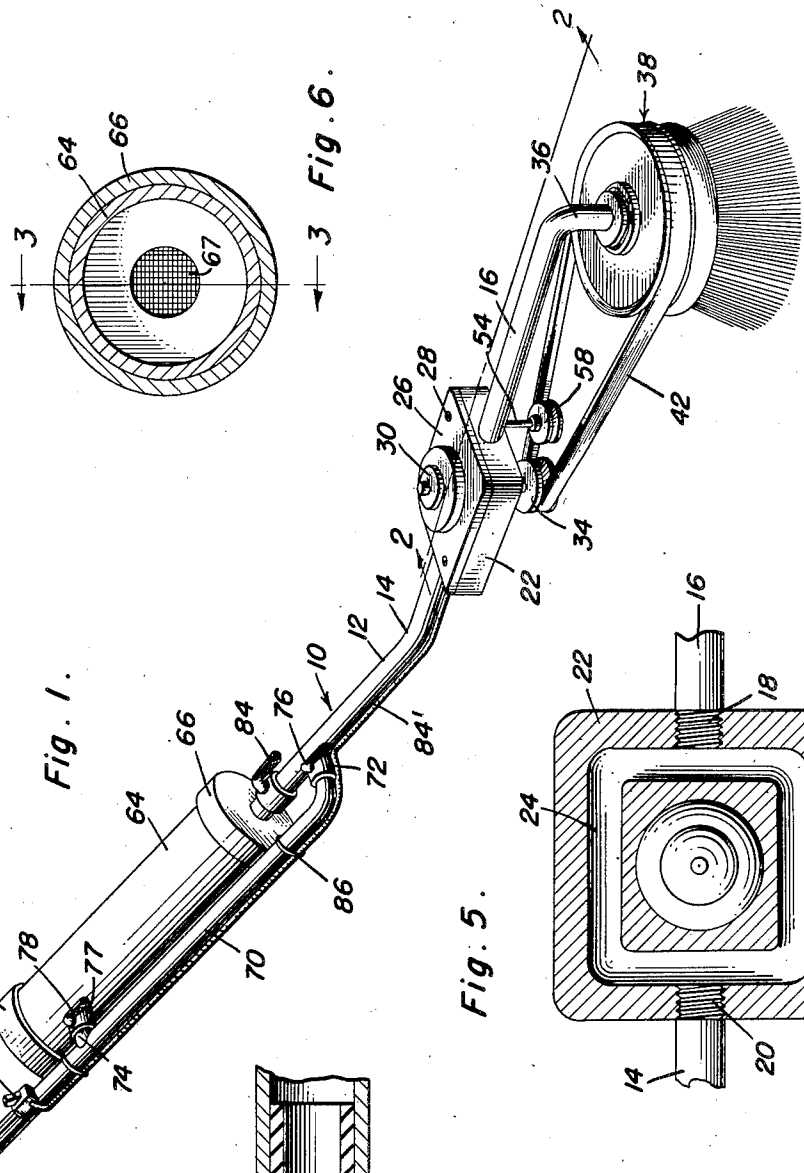


Fig. 1.

Fig. 6.

Fig. 5.

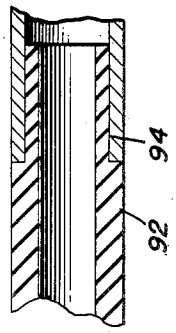


Fig. 8.

George H. Kilgore
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

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Fig. 2.

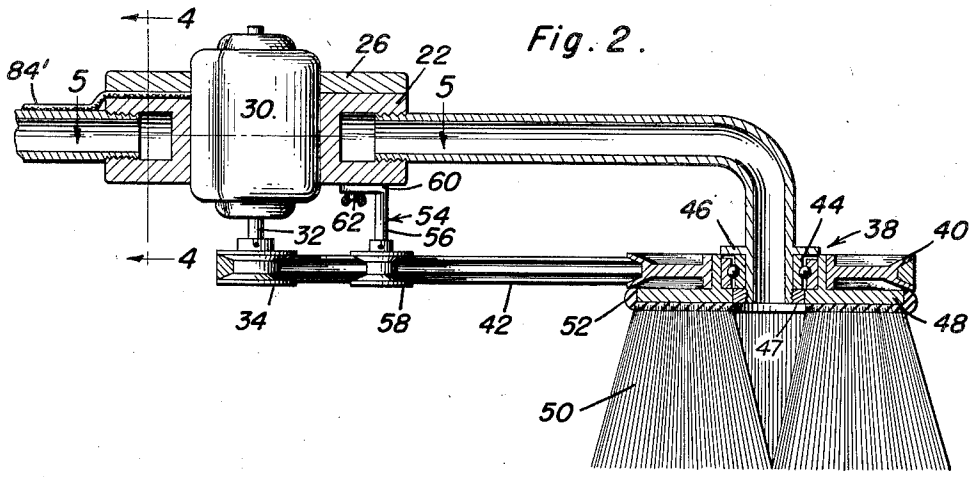


Fig. 3.

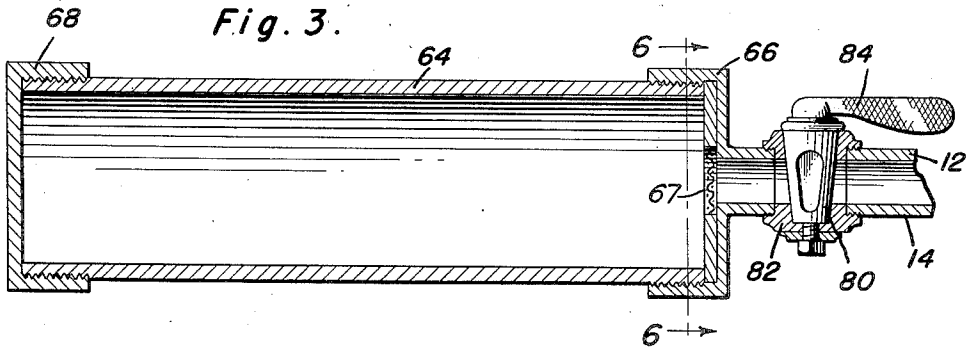
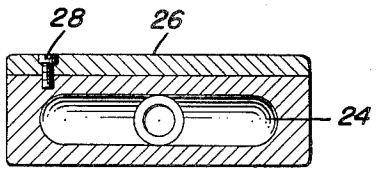


Fig. 4.



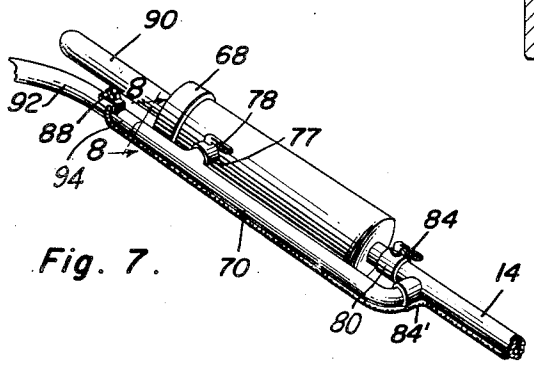


Fig. 7.

George H. Kilgore
INVENTOR.

BY Thomas A. O'Brien and Harvey B. Jacobson
Attorneys

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UNITED STATES PATENT OFFICE

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POWER-DRIVEN FOUNTAIN BRUSH

George H. Kilgore, New Castle, Pa.

Application January 10, 1949, Serial No. 70,018

1 Claim. (Cl. 15—29)

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This invention relates to a brush unit for scrubbing floors and other surfaces and has for its primary object to provide a portable apparatus which may be conveniently transported and by means of which liquid may be applied on surfaces to be treated.

It is another important object of this invention to provide a scrubbing, polishing or waxing brush which is rotatably carried by a tubular handle.

Another very important object of the invention is to provide, in a fountain brush comprising an electric motor driven rotary brush head, novel means for utilizing the cleansing fluid for cooling the motor.

Yet another important object of this invention is to form a surface cleaning or washing device which is inexpensively manufactured, assembled and operated, and which is conveniently and easily manipulated and employed by an operator for evenly and uniformly applying a cleaning and rinsing fluid to a surface to be cleaned.

These and ancillary and numerous other important objects, advantages and structural features of merit are attained by this invention, a preferred embodiment of which is set forth in the following description and illustrated in the accompanying drawings, wherein:

Figure 1 is a view in prespective of a device constructed in accordance with the principles of the instant invention;

Figure 2 is an enlarged sectional view, taken on line 2—2 of Figure 1 looking in the direction of the arrows;

Figure 3 is an enlarged sectional view taken on line 3—3 of Figure 6;

Figure 4 is a detail sectional view taken on line 4—4 of Figure 2 and looking in the direction of the arrows;

Figure 5 is a detail sectional view taken on line 5—5 of Figure 2, looking in the direction of the arrows;

Figure 6 is a transverse sectional view taken on line 6—6 of Figure 3;

Figure 7 is a fragmentary perspective view of a modified form of handle structure; and

Figure 8 is a sectional view taken on line 8—8 of Figure 7.

Referring now more particularly to the drawings, the instant invention, generally indicated by the reference character 10, includes a tubular handle 12 formed in two sections 14 and 16, respectively. The two sections are provided with externally threaded extremities 18 and 20 which are threaded into a block 22. The connecting

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block 22 is formed with a rectangular passageway 24 communicating the two sections of the handle. A cover plate 26 is bolted as at 28 onto the block. A conventional electric motor 30, is vertically mounted in the center of the connecting block and the armature shaft 32 thereof has mounted thereon a pulley 34.

The section 16 of the handle terminates in a downwardly extending extremity 36 upon which is rotatably mounted a brush unit 38. The brush unit is rotatably mounted on the depending extremity of the handle section 16 and includes a pulley 40 which is drivingly connected with the motor pulley 34 by means of a belt 42. A bearing assembly 44 is provided for spacing the pulley from the handle section, the latter being provided with an annular flange 46 and a nut 47 for retaining the bearing assembly in place. The brush unit includes a brush head 48 beneath the pulley and from which depend the brush tufts 50, the latter having their inner ends secured to a rubber attaching member 52, which is mounted on the brush head. Of course, if desired, a conventional belt tightener unit 54 may be provided, and preferably includes a shaft 56 having a pulley 58 keyed on the lower extremity thereof. The shaft is secured to the block 22 by means of a lateral flange 60 which is provided with a slot through which passes an attaching bolt 62, so that the shaft may be angularly adjusted in a horizontal plane for moving the pulley 58 into and out of engagement with the belt 42.

An elongated cylindrical detergent reservoir or retainer for liquid wax or the like is provided and is preferably secured to the upper extending end of the handle section 14. The reservoir 64 is formed at its opposing ends with screw caps 66 and 68, said cap 66 including a screened outlet 67. The screw cap 66 is formed integrally with the upper extremity of the handle section 14. A fluid conducting-conduit 70 is secured to a connection 72 which is integrally formed with the handle section 14. A lateral extension 74 extends from the conduit 70 and is secured to a connection 77 which is integrally formed with the reservoir 64. Conventional valve structures actuated by handles 76 and 78 are formed in the connections 72 and 77. A valve core 80 is rotatably mounted in a housing 82 secured to the upper end of the handle section 14, the valve being actuated by a handle 84.

An electrical lead line or conductor 84' is secured to the motor 30 and is attached to the conduit 70 by means of rings 86. The plate 26

covers the portion of the conductor 84' which traverses the block 22. A conventional snap switch 88 is provided for selectively actuating the motor 30.

In operation, the switch 88 would be thrown, energizing the motor and thereby rotating the brush. The valve in the connection 77 would be opened by the handle 78 and the fluid would be allowed to enter the chamber 24 and pass through the handle and connecting block and through the brush tufts onto the surface to be treated. The surface would then be washed or scrubbed by means of the washing fluid and revolving brush.

For rinsing the surface, the valve leading to the reservoir would be closed and the valve 80 would be closed, the valve in the lower end of the conduit 70 being opened by means of the handle 76, so that clear rinse fluid would be admitted through the conduit or fluid conducting means 70 into the handle and then through onto the brush.

A modified form of handle structure is illustrated in Figure 7, wherein it is to be noted that the screw cap 68 is formed with a centrally disposed projecting handle 90. Further, in the embodiment illustrated, the valve assembly at the lower end of the conduit 70 is dispensed with and the valves 80 and 78 are employed for selectively admitting the fluid through the reservoir. Further, the conduit 70 is formed of a rigid material, while a flexible connecting tube 92 is secured, as at 94, to the extending end thereof. However, the conduit, as illustrated in Figure 1, is preferably formed of a resilient material throughout, inasmuch as the chamber 64 is grasped and is employed as the manipulating handle. However, in the embodiment illustrated in Figure 7, the extension 90 is employed as the manipulating member and is grasped by an operator for guiding the brush along the surface to be treated.

Thus, it can be seen that this invention comprises new and useful improvements in brushes for use in treating surfaces, either horizontally or vertically disposed. Of course, while the preferred embodiments have been disclosed, it is to

be understood that minor changes in the construction and arrangement of the cooperating elements may be resorted to within the scope of the appended claim.

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

A power driven fountain brush comprising an elongated, tubular sectional handle including an angularly turned open end portion, a brush rotatably mounted on said end portion, a substantially flat block interposed between and secured to the handle sections and having a central opening therethrough, said block further having an endless chamber therein surrounding the opening in spaced relation thereto and communicating with the handle sections, said opening and chamber being out of communication with each other, an electric motor mounted in the opening and adapted to be cooled by fluid passing through the chamber, means operatively connecting said motor to the brush, and means for connecting the other end of the tubular handle to a source of fluid.

GEORGE H. KILGORE.

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