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F. O. STORRS

2,775,401

FOUNTAIN BRUSH

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Fig. 1

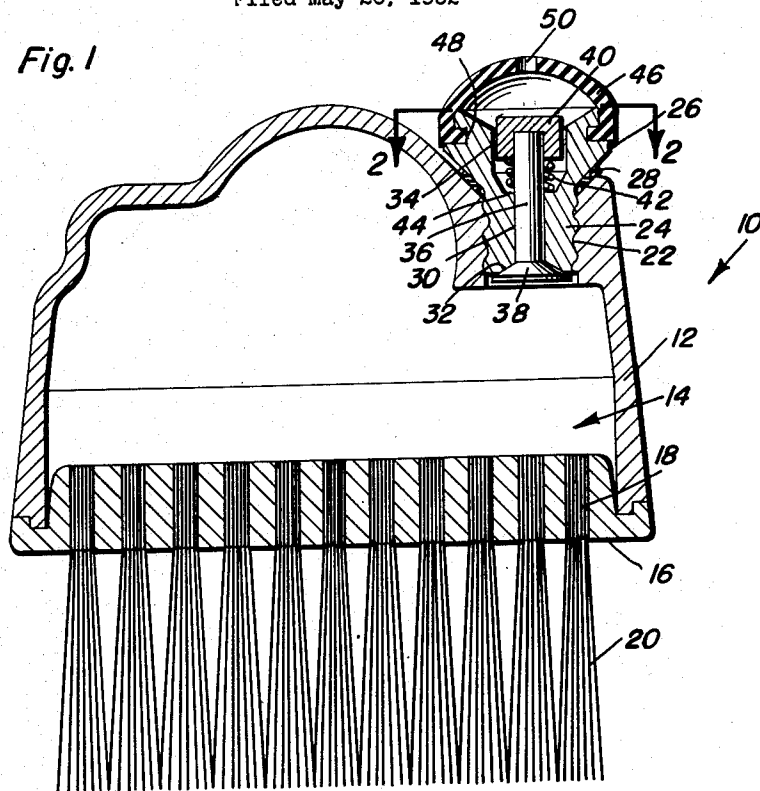


Fig. 2

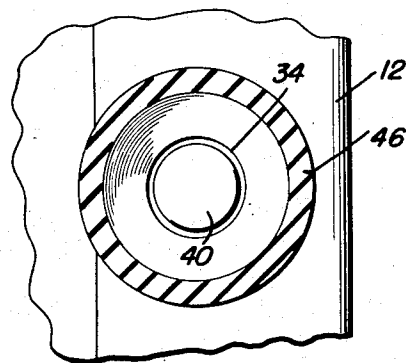
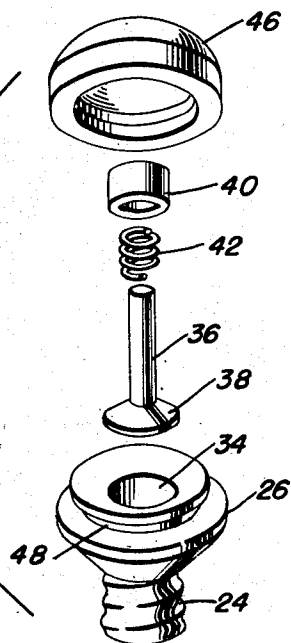


Fig. 3



Fred O. Storrs

INVENTOR.

BY *Alance A. O'Brien*
and Harvey B. Jackson
Attorneys

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FOUNTAIN BRUSH

Fred O. Storrs, Huntington Park, Calif.

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1 Claim. (Cl. 230—169)

This invention relates to new and useful improvements and structural refinements in fountain brushes, and the principal object of the present invention is to provide a fountain brush with a unique valve means for effecting in an accurately controlled manner the flow of liquid into the bristles of the brush.

The above object is achieved by providing the brush body with a more or less air-tight liquid chamber having tufts of bristles in connection therewith, and an important feature of the present invention resides in the provision of a vent valve for introducing atmospheric air into the chamber to displace the liquid therein, the valve being so arranged that the liquid displacement may be expeditiously and accurately controlled.

Some of the advantages of the invention reside in its simplicity of construction, in its efficient and dependable operation and in its adaptability to economical manufacture.

With the above more important objects and features in view, and such other objects and features as may become apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a transverse sectional view of the invention;

Figure 2 is a sectional detail, taken substantially on the plane of the line 2—2 of Figure 1; and,

Figure 3 is a group perspective view of the vent valve assembly.

Like characters of reference are employed to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the invention is embodied in a fountain brush designated generally by the reference character 10 and comprising a hollow brush body 12 having a liquid chamber 14 therein and including a bottom 16 provided with a plurality of apertures 18 wherein are secured tufts of bristles 20 so that the chamber 14 is substantially air-tight.

The top wall of the brush body is provided with a filler opening 22 through which fluid may be poured into the chamber 14 and this opening is preferably screw threaded to receive a removable plug 24.

The outer end portion of this plug is in the nature of an enlarged head 26 provided at the underside thereof with a gasket 28 to engage the upper surface of the body 12, and the body portion of the plug 24 is formed with an axial bore 30 having a valve seat 32 at its lower end and a recess 34 at the upper end thereof, that is, within the head 26, as will be clearly apparent.

A stem 36 is slidable in the bore 30 and is provided at its lower end with a valve member 38, the latter being engageable with the seat 32 when the stem is slid upwardly. The upper end of the stem 36 has secured thereto a head 40 and a spring 42 is interposed between the head and a shoulder 44 existing at the bottom of the recess 34. In this manner, the valve member 38 is

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normally urged to its closed position, but it should be understood that when the head 40 is depressed, the bore 30 is sufficiently large with respect to the diameter of the stem 36 as to provide a passage for air to enter the chamber 14 from the atmosphere.

The head 40 of the stem 36 is disposed, at least partially, in the recess 34 and the recess as well as the head 40 therein, are covered by a flexible, resilient cap 46 which has its marginal edge portion seated in an annular groove 48 provided in the head portion 26 of the plug 24.

The cap 46 is of a convexo-concave configuration and is provided at the top thereof with a vent aperture or opening 50, as is clearly shown in Figure 1.

When the valve member 38 is in its closed position, atmospheric pressure will be excluded from the interior of the chamber 14 and, consequently, without displacement by air, the liquid in the chamber will not gravitate through the apertures 18 into the tufts of bristles 20.

However, by depressing the cap 46 with a finger so that it engages the head 40 on the stem 36, the stem may be slid downwardly to open the valve member 38. It is to be particularly noted that when a finger is positioned on the cap 46, it will close the aperture 50 at the outside while the head 40 will close the same aperture from the inside, so that, in effect, the interior of the cap 46 as well as the recess 34 will be excluded from the atmosphere. However, the amount of air which was initially present within the cap and recess and which has become somewhat compressed by the depression of the cap, will flow into the chamber 14 when the valve member 38 is unseated, thereby facilitating displacement of liquid from the chamber into the bristles, which displacement will correspond directly to the volume of air which was initially entrapped within the cap 46 and recess 34. In this manner, only a small quantity of liquid will flow into the bristles at one time, that is, with a single depression of the cap, so that the dispensing operation may be effectively and accurately controlled.

It is believed that the advantages and use of the invention will be clearly understood from the foregoing disclosure and accordingly, further description at this point is deemed unnecessary.

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.

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

A valve for a fountain brush comprising a body provided with a bore, said body having a seat at one end of the bore and a recess at the other end of said bore, a stem slidable in said bore, a valve member at one end of said stem coacting with said seat, a spring pressed head provided at the other end of the stem and disposed in said recess, a dome shaped resilient cover secured to said body and extending over said recess, said cover overlying said recess in said body and forming an air chamber, said cover having a vent aperture therein for venting said air chamber, said cover being depressible and deformable to engage and depress said head, said vent aperture being in alignment with said head so that said vent aperture will be closed upon depressing said cover and said head, said cover when depressed with said vent aperture closed forcing the air in said chamber through said bore, said head extending upwardly from said recess and providing a closure for said aperture when said cover is depressed.

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