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G. LUPO

1,936,724

FOUNTAIN BRUSH

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Fig. 1.

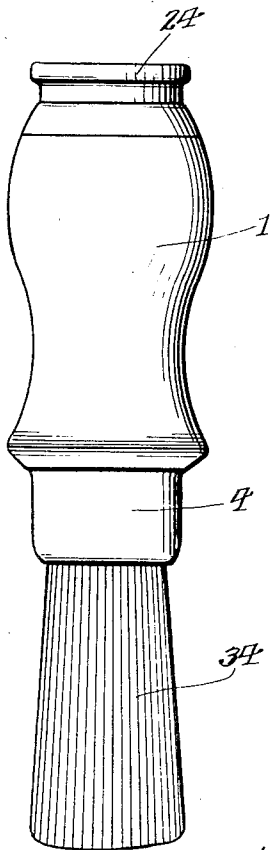


Fig. 2.

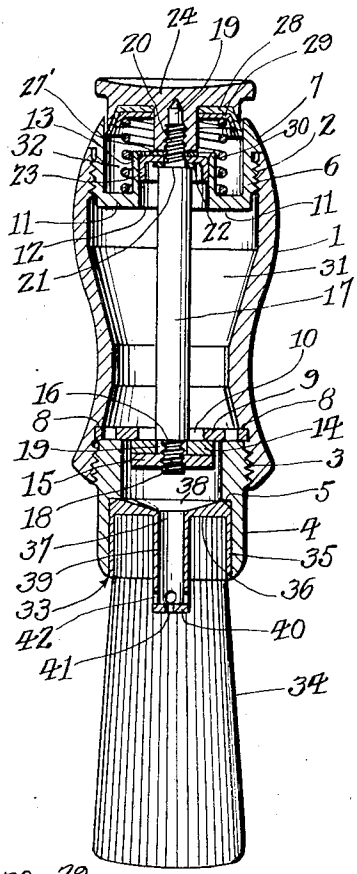
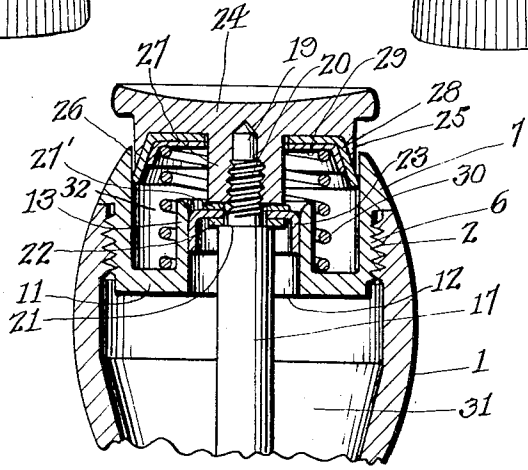


Fig. 3.



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FOUNTAIN BRUSH

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4 Claims. (Cl. 15—137)

This invention relates to a fountain brush designed primarily to contain liquid soap for the use of persons shaving, but it is understood that a fountain brush, in accordance with this invention may be employed for any purpose for which it is found applicable, and the object of the invention is to provide, in a manner as hereinafter set forth, a brush of such class which is comparatively simple in its construction, strong, durable, compact, thoroughly efficient in its use, readily assembled, and comparatively inexpensive to manufacture.

A further object of the invention is to provide, in a manner as hereinafter set forth a fountain brush including a combined material director and discharger providing the head of a brush element and so constructed and arranged for discharging the material in lengthwise and medial directions with respect to a body of bristles forming a part of the brush element.

A further object of the invention is to provide, in a manner as hereinafter set forth, a fountain brush including a normally closed reservoir and means to enable the application of air under a state of compression upon the material in the reservoir to facilitate the discharge of the material when the reservoir is open.

To the above ends essentially, and to others which may hereinafter appear, the invention consists of such parts and such combination of parts which fall within the scope of the invention as claimed.

In the drawing:

Figure 1 is an elevation of the brush.

Figure 2 is a longitudinal section thereof.

Figure 3 is a fragmentary view in longitudinal section upon an enlarged scale.

Referring to the drawing, 1 denotes a tubular handle member provided on its inner face at its inner end with a body of threads 2 and on its inner face at its outer end with a body of threads 3. An annular sleeve is secured to the threads 3 and extends from the outer end of member 2. The sleeve 4 is provided with an internal shoulder 5 intermediate its ends. An annular cup-shaped peripherally shouldered cap 6 engages with the threads 2 and extends from the inner end of member 1. The shoulder on cap 6 is indicated at 7 and seats against the edge at the inner end of member 1, and the latter has its inner face in proximity to its outer end formed with a shoulder 8.

Seated against shoulder 8 and maintained stationary within member 1 is a disk 9 constituting a valve seat. The disk 9 has a centrally arranged

opening 10. The sleeve 4 abuts and maintains disk 9 stationary against shoulder 8.

The cap 6 includes a bottom, base or inner end 11 having a centrally arranged opening 12 and an outwardly directed collar 13 integral with the outer face of end 11. The collar 13 is extended towards the open end of cap 6.

Normally closing opening 10 is a valve 14 of any suitable material preferably compressible and which is interposed between a holding disk 15 and a shoulder 16 formed on and in proximity to one end of a rod or stem 17 which carries the valve 14. The rod 17 has a reduced threaded end terminal 18 extending through an opening 19 in valve 14 and threadedly engaging with disk 15. The valve 14 and disk 16 are of the same outer diameter, but such outer diameter is less than the inner diameter of sleeve 4. The valve 14 operates in the latter and its outer diameter is greater than that of the diameter of opening 10. The valve 14 when seated bears against the outer face of disk 9 bordering opening 10.

The rod 17 is of a length to extend through collar 13 and has its other end terminal 19 reduced and partly threaded as at 20. The reduced terminal 19 provides rod 17 with a shoulder 21. Seated on the latter is a washer 22. Mounted on washer 22 and surrounding terminal 19 is a flexible inverted cup-shaped valve or leather washer 23 which operates in and snugly rides against the inner face of collar 13. Connected to the terminal 19 is a push member or button 24 formed on the marginal portion of its inner face with an annular flange 25. The latter has its outer face in snug fitting sliding engagement with the inner face of cap 6. The member 24 is extended normally for a part of its length from cap 6. The inner face of flange 25 is bevelled, as at 26. Member 24 is formed on its inner face, axially thereof, with a socketed stem 27 having threaded engagement with terminal 19 whereby rod 17 and member 24 are secured together. Interposed between stem 27 and valve 23 is a washer 27'.

Arranged against the inner face of member 24, surrounding stem 27 and positioned against the inner face of flange 25 is an inverted cup-shaped flexible element or leather washer 28 of frusto-conoidal contour in cross section. The element 28 extends inwardly from flange 25. Seated against element 28 is a flanged washer 29 which encompasses stem 27. Surrounding collar 13 and interposed between the inner end 11 of cap 6 and washer 29 is a coiled spring 30 normally acting to maintain member 24 extended and valve

14 in closing position with respect to the opening 10.

The disk 9 and cap 6 in connection with a portion of the handle 1 provides a reservoir or storage chamber 31 normally closed to discharge by valve 14 closing opening 10. As both the valve or washer 23 and element or washer 28 are flexible, both will be open for air coming through from the top, but will compress the air being on the lower side thereof. This is the same principle as used for any hand operated air pump. The cap 6 in connection with member 24 provides an air chamber 32 normally closed to reservoir 31 by valve 23; the latter moves with the rod 17 when member 24 is depressed against the action of spring 30, whereby the member 24 will compress the air in chamber 32 until valve 23 opens up whereby the air from chamber 32, under a state of compression will be forced against the material contained in the reservoir and assist in the discharge of such material through the opening 10.

Arranged within the sleeve 4 and extended therefrom is a material director 33 and which also constitutes a holder for a body of bristles 34. The director 33 and bristles 34 provide the brush element which is extended from handle 1. The director 33 comprises an annular body portion 35 having integral with its inner end a disk 36 formed with an axial opening 37 and a tapered cavity 38 which directs the material to opening 37. The cavity is formed in the inner face of disk 36. Formed integral with the outer face of disk 36 is a tubular combined material directing and discharging member 39 having a closed outer end 40 formed with an axial opening 41. In proximity to the outer end 40 of member 39 the latter is formed with a series of radially disposed openings 42. The member 39 is of greater length than body portion 35, extends outwardly from the latter and has the inner face of its inner end flush with the wall of opening 37.

The bristles 34 extend into body portion 35 and abut the outer face of disk 36. The member 39 is disposed lengthwise off the body of bristles 34 at the longitudinal median of the latter, and not only directs discharge of the material in a lengthwise direction with respect to the body of bristles 34, but also in a direction at right angles to the longitudinal axis of the latter.

What I claim is:—

1. In a fountain brush, a hollow handle, a cup-shaped cap secured in one end and apertured to communicate with the interior of the handle to supply compressed air to the latter, a disk secured in said handle in spaced relation to said cap and provided with an opening, a sleeve abutting said disk, secured to and extending from the other end of said handle, a combined material directing and discharging means secured to the sleeve, a body of bristle secured in and extended from said means, a valve operating in the sleeve and normally closing the opening in the disk, said cap and disk in connection with the handle providing a reservoir, a valve within said cap, spaced

from and for normally closing the aperture in the latter, a rod carrying said valve, a spring controlled depressible structure for the rod, connected to the latter, slidably arranged in the cap and functioning when depressed for shifting said valves to open position with respect to the reservoir, said structure and cap providing an air chamber normally closed to said reservoir by the valve in the cap, and said structure in connection with the cap providing, when the structure is depressed, for compressing the air in said chamber until the valve in the cap is shifted to open position with respect to said aperture.

2. In a fountain brush, a hollow handle, a cap of cup-shaped contour closing one end of the handle and an aperture having in its bottom, an outwardly directed collar integral with said bottom and registering with said aperture, an inverted cup-shaped valve snugly and slidably engaging the inner face of the collar and normally closing said aperture to the interior of the handle, means in connection with the handle and cap providing a reservoir formed with a normally closed outlet, and a spring controlled depressible structure slidably mounted in and extending through said cap, connected to said valve, extending through said outlet and having a valve for normally closing the latter, said structure and cap providing an air chamber communicating through said aperture with said reservoir, said structure and cap coacting to compress the air in said chamber until the valve in the collar is shifted to open position with respect to said aperture.

3. In a fountain brush, a normally closed reservoir for the material, an air chamber normally closed to said reservoir, a valve controlled outlet for said air chamber, a valve controlled outlet for said reservoir, and spring controlled depressible means for opening the outlet for the reservoir in advance of the opening of the outlet for said chamber, said means forming a shiftable wall for the air chamber and coacting with the other walls of the air chamber for compressing the air in the latter until communication is established between the air chamber and reservoir.

4. In a fountain brush, a normally closed reservoir for the material, an air chamber normally closed to said reservoir, a valve controlled outlet for said air chamber, a valve controlled outlet for said reservoir, spring controlled depressible means for opening the outlet for the reservoir in advance of the opening of the outlet for said chamber, said means forming a shiftable wall for the air chamber and coacting with the other walls of the air chamber for compressing the air in the latter until communication is established between the air chamber and reservoir, and a combined material directing and discharging means connected with the handle and including a tubular member adapted to extend into a body of bristle for discharging the material lengthwise and radially with respect to said body.

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