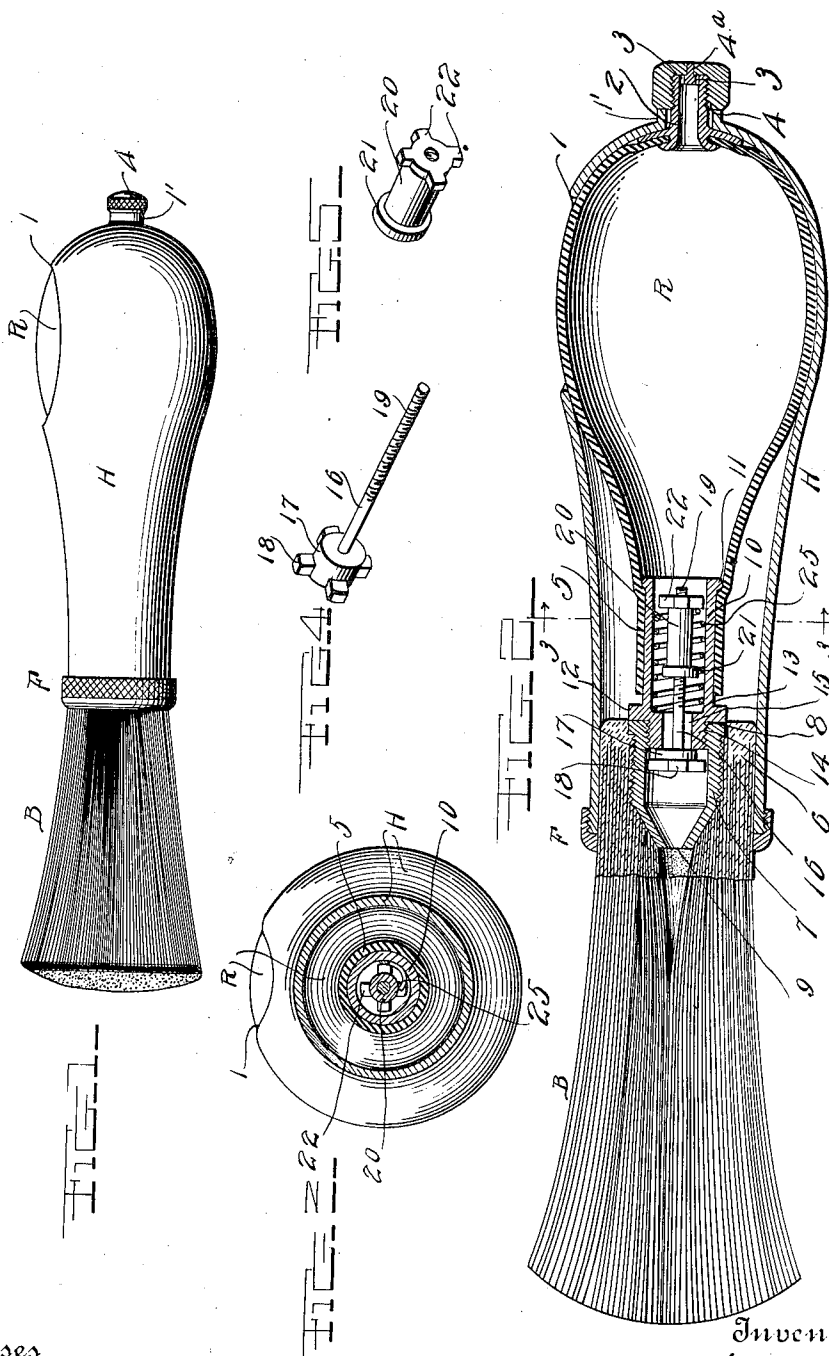


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 SOAP FEEDING SHAVING BRUSH.
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1,030,440.

Patented June 25, 1912.



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UNITED STATES PATENT OFFICE.

RICHARD BURTON WATERMAN, OF ATHOL, MASSACHUSETTS.

SOAP-FEEDING SHAVING-BRUSH.

1,030,440.

Specification of Letters Patent.

Patented June 25, 1912.

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To all whom it may concern:

Be it known that I, RICHARD BURTON WATERMAN, a citizen of the United States, residing at Athol, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Soap-Feeding Shaving-Brushes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to fountain brushes, and more especially for those intended for shaving; and the object of the same is to produce a shaving brush having a soap-reservoir in its handle, and between the handle and bristles an automatically operating check valve which will permit the expulsion of just one charge of shaving soap when the handle is squeezed. This object is accomplished by the construction herein-after more fully described and claimed and as shown in the drawings wherein—

Figure 1 is a side elevation of this improved brush; Fig. 2 is a central longitudinal section thereof, slightly enlarged; Fig. 3 is a cross section on the line 3—3 of Fig. 2; Figs. 4 and 5 are perspective details of parts of the check valve.

In the drawings the letter B designates the bristles of an ordinary shaving brush having a hollow handle H secured to the base of said bristles by a ferrule F, and the letter R designates a reservoir within the handle and in which in the present instance I propose to store liquid soap. The gist of the present invention lies in the construction of parts whereby the reservoir may be charged with soap, and whereby when the latter is fed to and through the bristles only a limited amount will be ejected by pressure upon the bulb or reservoir R.

Coming now more particularly to the present invention, the hollow handle H is provided at one side with an opening 1 large enough to admit a finger when pressure is to be applied to the rubber bulb R which forms the reservoir adapted to contain liquid soap. This reservoir is located within and rather closely fits the interior of the handle H, and in its upper end is mounted an externally threaded nipple 2 which projects through a tubular boss 1' formed at this end of the handle and has perforations 3 in its outer end located off its axis, and a

central plug 4^a projecting outward. Screwed onto the latter is a cap 4 having a perforation through its axis, and when this cap is screwed down tight its perforation is out of alinement with those in the nipple and is closed by said plug, but when it is unscrewed all perforations are open and the reservoir may be filled therethrough in a manner which will be clear. The other end or neck of this bulb being closed, it will be obvious that if the cap is removed, the nipple inserted into liquid soap, and the bulb pressed upon as above described, when the pressure is released the suction set up by the opening out of the bulb will draw in liquid soap sufficient to fill the reservoir. Thereafter the cap is reapplied and the parts are ready for use.

It will be noted that the screw cap when screwed down onto the threaded end of the nipple contacts with the outer extremity of the boss 1' so that these parts are held closely together and the outer end of the reservoir R is held within the outer end of the hollow or bulb-shaped handle H. This feature of construction I consider of advantage because it prevents the displacement of the reservoir when compressed by the finger, either for ejecting the liquid therefrom through the measuring valve or for sucking in the charge of liquid through the nipple.

Between the neck 5 of the bulb and the base 6 of the brush is disposed my improved check valve which is by preference constructed as follows: The lower member 7 is inserted within the base 6 and internally threaded at its upper end as at 8, its lower end 9 being preferably contracted into an outlet along the axis of the bristles B. The upper member 10 is cylindrical and smooth inside and outside excepting for a surrounding bead 11 at its upper end over which the neck 5 of the bulb R is slipped and engaged; but the lower end of this member has an external flange 12 opposite which is an internal shoulder 13, and below said shoulder the entire member is reduced as at 14 and externally threaded to engage the threads 8 of the lower member. The two members are shown screwed together in Fig. 2, the end face of the flange 12 being in contact with the upper extremity of the lower member so that the entire casing of the check valve stands along the axis of this brush and its handle. The lower end of the reduced portion 14 of the upper member forms one valve

seat, and the shoulder 13 in this member forms another; and through the bore or opening 15 between these seats passes the stem 16 of the valve which has at its lower end a fixed head 17 and below that a spider 18 which moves loosely within the body of the lower member 7 and holds the valve accurately upon its seat. The upper end of the stem is threaded as at 19 and engaged by a nut 20 which is by preference formed integral with an upper valve 21, an uppermost spider 22 serving as a jam nut to hold the nut and its valve after they have been adjusted upon the threaded stem. Finally an expansive coiled spring 25 is provided, its lower end resting upon the shoulder 13 and its upper end resting beneath the spider 22, and its expansive force tending to keep the lower valve 17 closed upon its seat. As clearly shown the lower flanged section of the tubular member 7 is embedded in the confined upper ends of the bristles B and, further, by the employment of the contracted end of the said member, the bristles are spread and securely held within the handle.

With this construction of parts, the operation of my improved device is as follows: The reservoir having been filled in the manner above described, when the user desires to eject some of the soap for the purpose of lathering his face, pressure is applied through the opening 1 in the hollow handle to the bulb forming the reservoir R. The liquid soap therein flowing past the spider 22 and valve 21 and through the bore 15, unseats the valve 17 from its seat against the expansive tendency of the spring, and is ejected through the outlet 9 into and along the bristles B; the force of the pressure however, causing the upper valve 21 to close upon its seat so that only a limited amount is ejected. It is quite obvious that this amount may be regulated by adjusting the nut 20 upon the threaded stem 19 so as to set it farther from or nearer to the valve 17 (tightening up the spider 22 after adjustment) and thereafter a greater or lesser amount will flow from the interior of the

reservoir into the space between the valves to constitute the charge. The release of pressure upon the exposed portion of the reservoir R permits the latter to expand again, and as it does so the spring 25 again expands and the check valve resumes the position shown in Fig. 2 so that its lower head 17 closes against the seat at the lower end of the upper member of its casing and nothing can pass in or out of the reservoir until the latter is again compressed.

I have described my invention as applicable to a soap feeding fountain brush, but it is clear that its uses are not limited to that alone because with or without modification of details it might be adapted for many other purposes. This, however, is the preferred embodiment of my idea and its preferred use; but I do not wish to be confined to the exact details of construction, nor to the sizes, shapes and proportions of materials of parts.

What is claimed as new is:

A fountain brush comprising a bulb shaped handle having a finger opening formed therein, bristles carried by the lower end of the handle, a tubular member composed of two sections, a measuring valve located in the upper detachable section, a section forming the lower portion of said member and having a contracted discharge end and an upper annular flanged end, all of which is embedded in the bristles confined within the handle, a flexible bulb located within the latter with its lower end removably secured to the upper section of the tubular member, and means for detachably closing the filling end of the flexible bulb immediately above the valve located in the tubular member.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

RICHARD BURTON WATERMAN.

Witnesses:

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