

I. D. STEVENS.
 FOUNTAIN SHAVING BRUSH.
 APPLICATION FILED JUNE 27, 1906.

914,526.

Patented Mar. 9, 1909.
 2 SHEETS—SHEET 1.

Fig. 1.

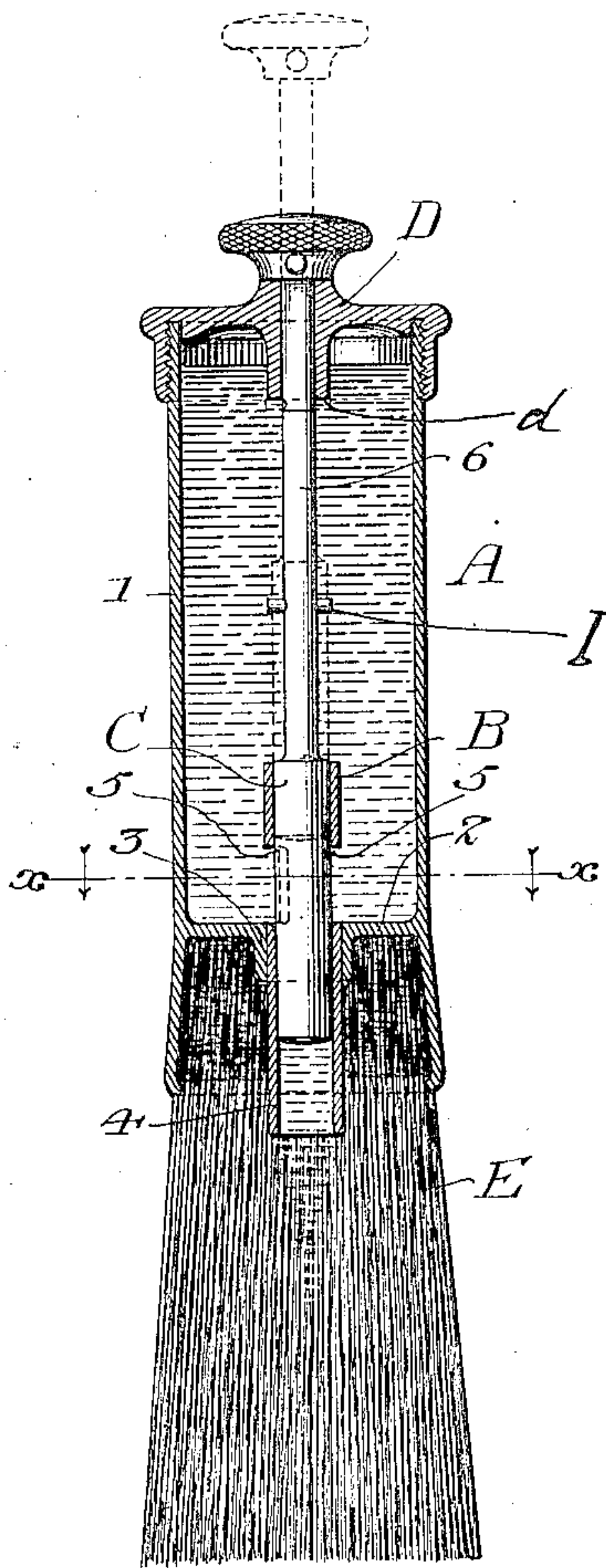
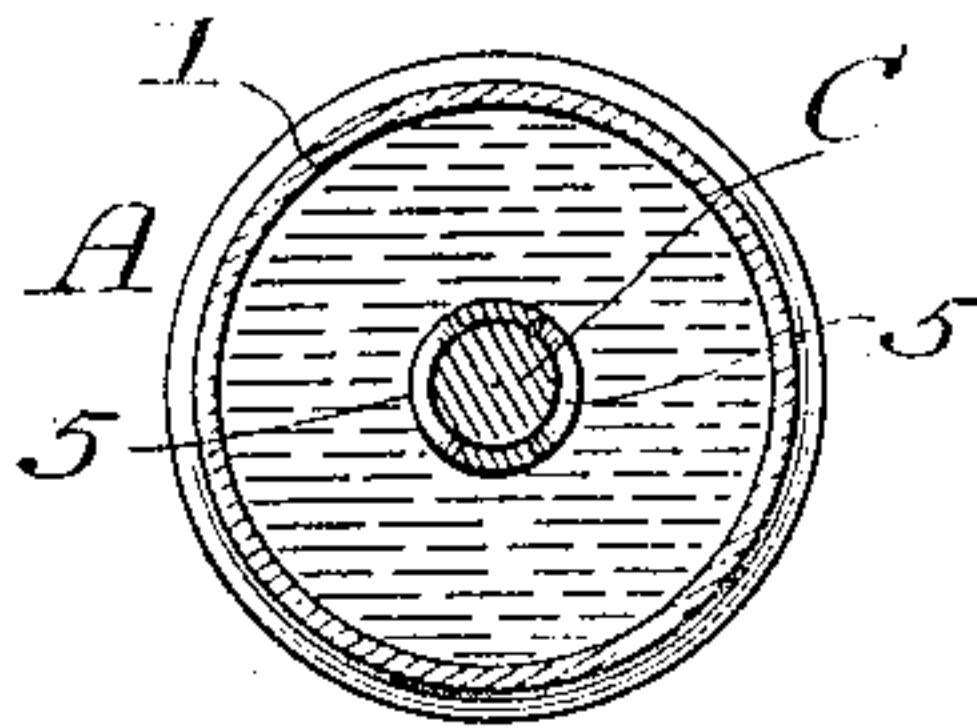


Fig. 2.



Witnesses:

Chas. M. Whithead
J. C. Lumber

Inventor:

Irving D. Stevens
by *Chas. E. Page*
(Attorney)

I. D. STEVENS.
 FOUNTAIN SHAVING BRUSH.
 APPLICATION FILED JUNE 27, 1906.

914,526.

Patented Mar. 9, 1909.

2 SHEETS—SHEET 2.

Fig. 3.

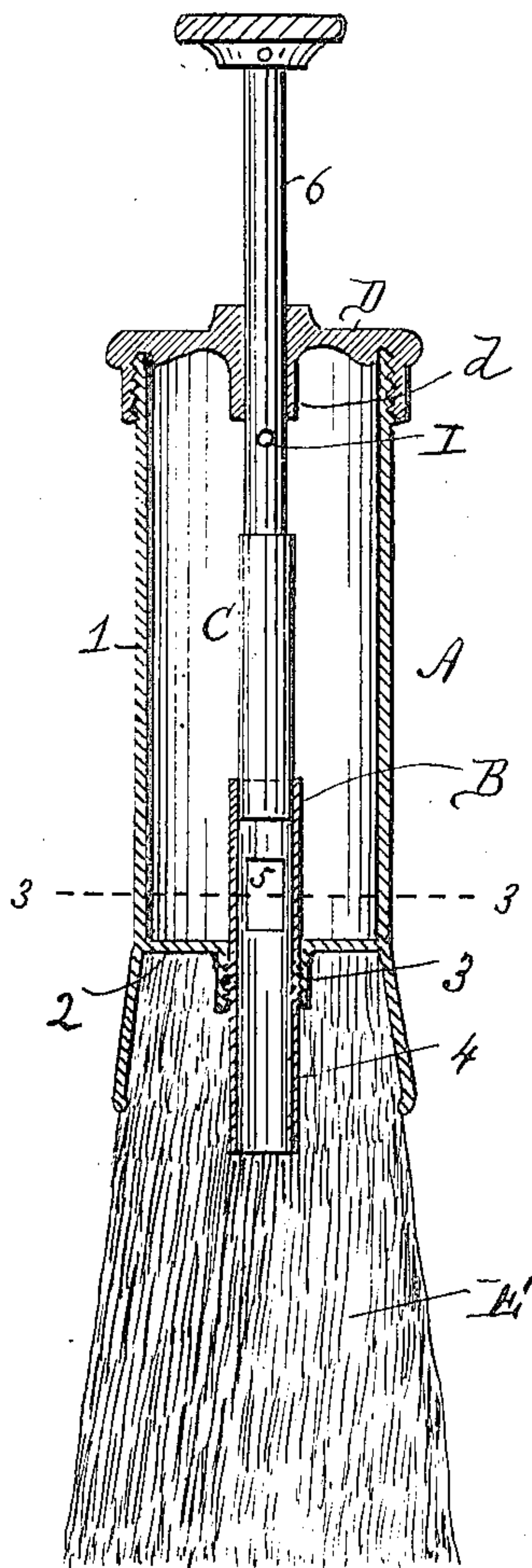
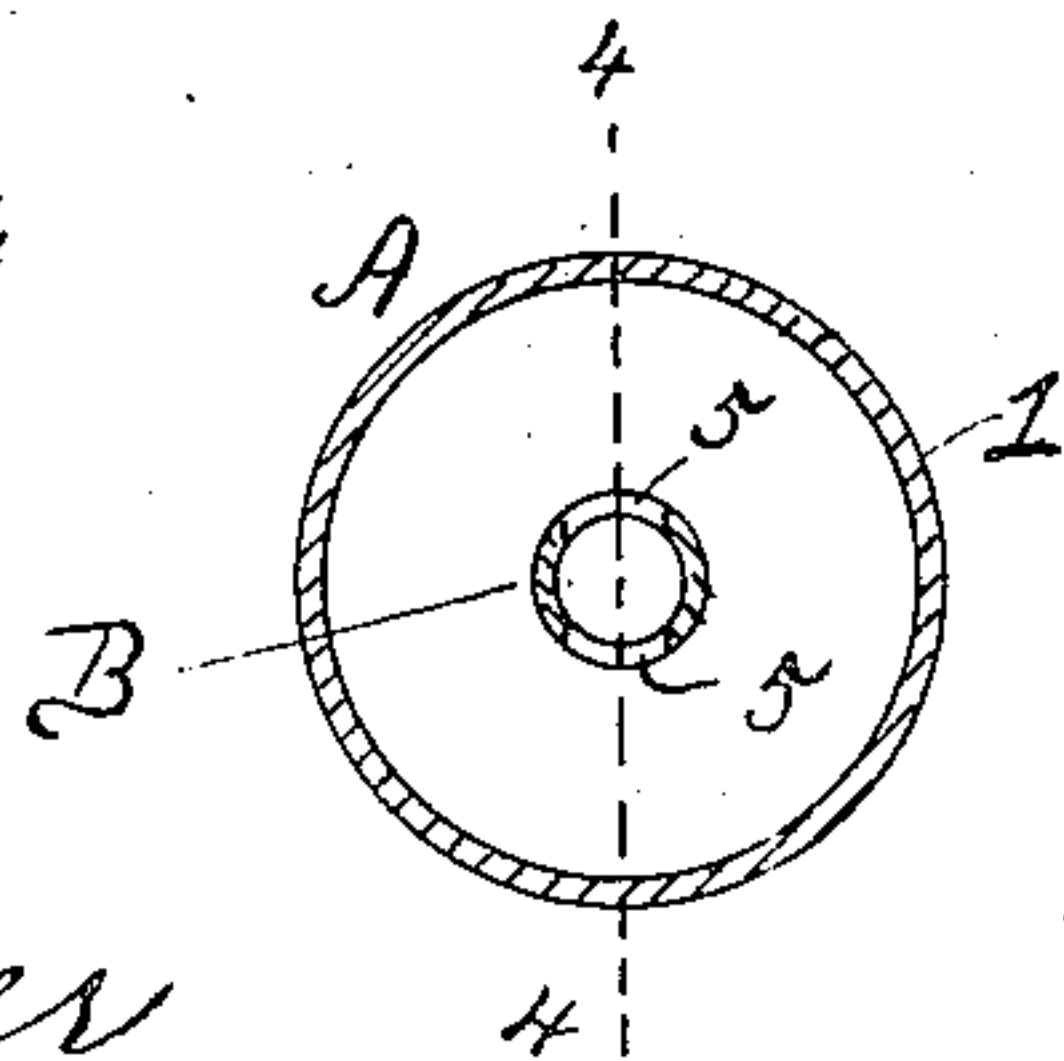


Fig. 4



Witnesses,
 D. S. Freiberg
 Catherine Craver.

Inventor,
 Irving D. Stevens,
 by
 Chas. G. Page
 Atty.

UNITED STATES PATENT OFFICE.

IRVING D. STEVENS, OF CHICAGO, ILLINOIS.

FOUNTAIN SHAVING-BRUSH.

No. 914,526.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed June 27, 1906. Serial No. 323,552.

To all whom it may concern:

Be it known that I, IRVING D. STEVENS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fountain Shaving-Brushes, of which the following is a specification.

My invention relates to fountain shaving brushes having a hollow handle forming a reservoir for containing a supply of liquid soap, and provided with means for ejecting liquid soap from the reservoir into the bristle portion of the brush.

Objects of my invention are to provide means for rapidly ejecting a suitable quantity of liquid soap from the hollow handle into the bristle portion of the brush; to adapt the ejecting means to also serve as a valve for closing a port arranged for discharging liquid soap into the bristle portion of the brush; to adapt each action of the ejecting device to eject a uniform quantity of liquid soap from the reservoir into the bristle portion of the brush; to provide a combined valve and ejector for opening and closing a port between the reservoir and the bristle portion of the brush, and operating to eject a predetermined or substantially predetermined quantity of liquid soap into the bristle portion of the brush as an incident to each action of the combined valve and ejector; to rapidly and forcibly eject a suitable quantity of liquid soap into the bristle portion of the brush; to provide a device which can be easily and readily operated; and to provide a simple, practical and desirable construction.

In the accompanying drawing: Figure 1 is a central longitudinal section through a fountain shaving brush embodying my invention, the piston being shown in elevation in full lines, and its position when it is drawn back so as to open the port or ports of the feed tube being indicated in dotted lines, the reservoir formed by the hollow handle being substantially full of liquid soap. Fig. 2 is a transverse section on line $x-x$ in Fig. 1. Fig. 3 is a central longitudinal section on a plane at right angles to the plane of Fig. 1, the plane of Fig. 3 being indicated by dotted line 4-4 in Fig. 4, and the reservoir being empty. In this figure the combined valve

and piston is shown in full lines and is drawn back so as to open communication between the tube or barrel for the piston, and the interior of the reservoir. Fig. 4 is a section on dotted line 3-3 in Fig. 3.

The brush handle A is constructed with a hollow cylindric portion 1 forming the main portion of the handle and adapted to form a reservoir for the liquid soap. This hollow handle portion 1 is provided at one end with a partition or end wall 2, having a central opening and a downwardly projecting annular flange 3 along the margin of such opening and forming a nipple into which is securely fitted the feed tube B. The lower portion 4 of this feed tube B projects below the nipple 3 and extends into the brush E to a suitable extent substantially as illustrated. The feed tube B also extends from the end wall 2 to a suitable extent within the reservoir, and this portion of the feed tube which thus extends within the reservoir is provided with slots forming lateral openings 5, 5, which are best shown in Fig. 2. These lateral openings 5 constitute inlet ports which are exposed within the reservoir and arranged to receive liquid soap directly from the chamber formed by the hollow handle portion 1.

As a means for opening and closing the inlet port or ports and for forcing soap downwardly through the tube portion 4, and also for closing tube portion 4 when desired, I provide a piston C arranged within the feed tube and having a stem 6 which is arranged to work through an opening in an end cap D, said end cap being screwed upon what may be termed the butt end of the hollow handle. In Fig. 1, the piston is in position to close the inlet ports 5, and as therein shown, it extends downwardly into the tube portion 4 so as to render the closure more perfect. When it is desired to admit liquid soap into the feed tube, the operator will draw the piston back as indicated in dotted lines, whereby it will clear the ports 5 and thereby open the same. As soon as a suitable quantity of liquid soap has entered the feed tube by way of the inlet port or ports, the operator will push the piston forward to the position shown in full lines in Fig. 1, thereby closing the inlet ports and forcing the liquid soap into the brush E.

By this arrangement, the piston also operates as an ejector, and by giving it a quick motion, the liquid soap will be forcibly ejected into the brush and suitably diffused therein, and hence, the action is reliable and rapid.

When desired the cap D can be unscrewed so as to open the handle and permit it to be charged with liquid soap.

The device thus constructed can be readily opened and cleaned and supplied with a fresh charge of liquid soap, it being seen that it will only be necessary to unscrew the end cap or collar D, and then remove said cap and the piston from the brush. The tube or piston barrel B is of suitable length to permit the lower or forward end of the piston to remain within the barrel when the piston is drawn back until the stop I on the piston engages an abutment *d* on the inner side of the cap or collar. When the piston is drawn back as in Fig. 3, its action will tend to draw liquid soap from the reservoir into the piston barrel B through the lateral inlet ports in said barrel. When the piston is forced forward, it will rapidly close the inlet port or ports 5 and cut off the same before the piston can force any undesirable quantity of liquid soap out through the ports 5, and moreover, when the piston is drawn back, some of the liquid soap will follow the piston and some of the liquid soap will find its way into the discharge port formed by the tube or nozzle 4, which is substantially an extension of the piston barrel and which also forms a socket or barrel portion into which the lower end portion of the piston can be forced when it is desired to close the discharge port or tube 4, as in Fig. 1. The piston, the barrel and the discharge tube or nozzle 4, are all arranged along a central longitudinal line within the brush, and as the discharge tube or nozzle 4 is centrally within the bristle portion of the brush, the liquid soap ejected from such discharge tube or nozzle will be diffused within the said bristle portion. The piston is a sliding, reciprocating piston and has what may be termed a suction action, and an ejecting action in alternation. The suction action of the piston tends to draw liquid soap within the piston barrel while the ejecting action of the piston closes the inlet port or ports of its barrel and ejects the contents of the barrel into the bristle portion of the brush. The cap D at the upper end of the hollow handle can be easily unscrewed, and thereupon the piston and the cap can be removed for either cleaning or filling the reservoir. The cap has a central bearing portion *d* through which the piston stem 6 is fitted to slide, and when the piston has been raised to the desired limit of its up stroke, such movement will be checked by the engagement of its stop I with the lower

end of the bearing portion *d*. By this arrangement the piston can have a determined length of up stroke.

It will be observed that a feature of importance lies in having the plunger closely fit the ejection tube whereby the use of a valve for the exit is rendered unnecessary. Dispensing with a valve not only cheapens and renders practical the construction but also enables me to employ as the exit a pair of longitudinal slots arranged at opposite sides of the tube, this arrangement of exit slots being desirable in that they insure a quick filling of the ejection tube 4 and render clogging of the exit impossible even where the soap is somewhat thickened or congealed.

Another feature of importance lies in extending the ejection tube 4 a considerable distance beyond the end of the plunger when the same is at the extremity of its ejecting stroke. This prevents the entire charge being ejected into the bristles on the ejecting stroke, about one-half the charge being retained in the tube whereby this remaining part of the charge will be fed out gradually by the working of the bristles during the act of rubbing up the lather on the face, whereby the lather may be worked up and distributed over the bearded portion of the face more evenly and expeditiously.

What I claim as my invention is:

A fountain shaving brush having a hollow handle forming a supply chamber for liquid soap and provided and normally closed at one end with a removable end cap for closing over the upper end of the supply chamber, and also for opening the upper end of the supply chamber to permit a supply of liquid soap to be introduced into the handle by way of its upper end, the cap being also provided with a central bore for a piston stem, and the opposite end portion of said handle being provided with a partition forming a bottom end for the supply chamber and having forward of such partition a socket in which the upper end portion of the bristle part of the brush is secured; a piston tube arranged axially within the supply chamber and extending down through the bottom end of the supply chamber into the bristle portion of the brush to an extent to penetrate such bristle portion of the brush beyond the outer end of the bristle socket, the portion of said piston tube or barrel within the supply chamber being provided with oppositely disposed longitudinal slots extending upwardly from the bottom end of the supply chamber and a piston fitted closely and adapted to reciprocate in said tube or barrel and forming the sole means whereby the longitudinal slots in said barrel are opened and closed and by which the charge which is admitted direct from the supply chamber into the piston barrel is

forced down into the bristle portion of the
brush, said plunger or piston being provided
with a stem working through the upper end
cap for the supply chamber and being pro-
5 vided with a stop to limit its downward
stroke at a point about midway the length of
the ejection tube, whereby when the piston
has completed its down stroke a portion of

the charge of liquid soap will temporarily
remain within the lower end portion of the 10
tube.

IRVING D. STEVENS.

Witnesses:

CHARLES G. PAGE,
OTTILIE C. FREIBERG.