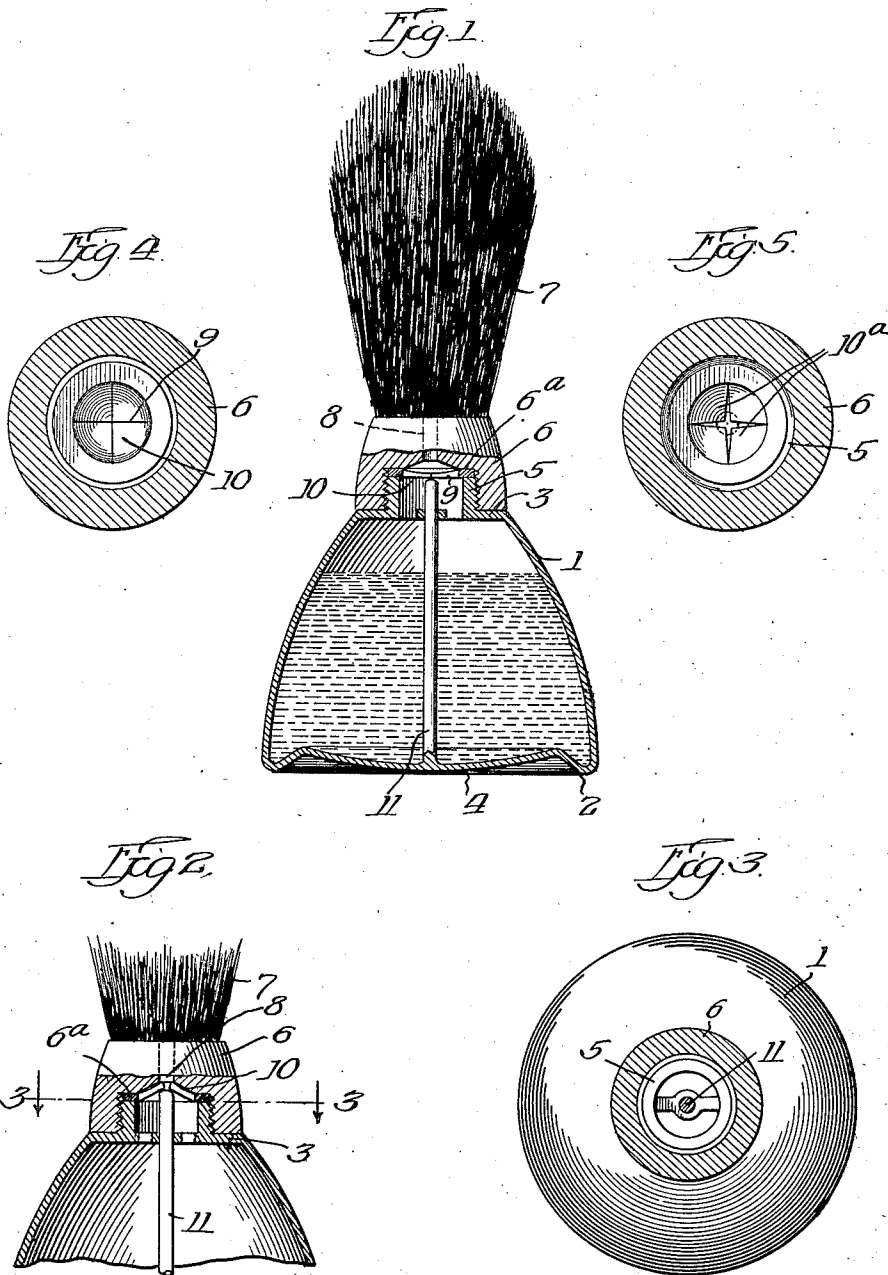


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1,505,442

T. J. STEPHENS  
FLUID DISPENSING CONTAINER

Filed Jan. 30, 1922



Witness:  
*Geo. Marion*

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# UNITED STATES PATENT OFFICE.

THOMAS J. STEPHENS, OF CLEVELAND, OHIO.

FLUID-DISPENSING CONTAINER.

Application filed January 30, 1922. Serial No. 532,645.

*To all whom it may concern:*

Be it known that I, THOMAS J. STEPHENS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Fluid-Dispensing Containers, of which the following is a specification.

This invention relates to a lather brush, and particularly to the lather brush disclosed in my application Serial No. 493,221, filed August 18, 1921.

The object of the invention is to provide means whereby movement of the flexible displacing wall of the reservoir will be positively imparted to the valve to develop an opening movement in the latter.

Accordingly, the invention consists in introducing between the flexible wall of the lather brush disclosed in my application aforesaid and the valve thereof, a thrust rod which is adapted to partake of the movements of the flexible wall and displace moveable parts of the valve sufficiently to develop the opening or openings required for passage of the lather-producing fluid to the bristles.

In the accompanying drawings,—

Figure 1 shows a lather brush constructed in accordance with the present invention, with the parts thereof with which the present invention is immediately concerned shown in axial section.

Figure 2 is a detail view showing parts of Figure 1 in the positions assumed when the valve is open.

Figure 3 is a section on the line 3—3 of Figure 2; and

Figures 4 and 5 are transverse sections in a plane immediately above the valve showing, respectively, the valve closed and open.

1 represents the handle of a lather brush which may be of spheroidal, conoidal, pyramidal, or other tapered form to provide a broad sustaining base 2 and a reduced upper end 3.

The handle 1 is hollow and provides a reservoir for lather-forming fluid. It has its bottom 4 developed into a resilient diaphragm adapted to be displaced, under pressure, as for instance by pressing it with the thumb, while the reduced portion of the handle is confined between the fin-

gers, to expel its contents. The reduced upper end 3 of the handle is constructed with a neck 5 upon which is threaded a cap 6 which constitutes the mounting for bristles 7. Cap 6 has a duct 8 through which lather-forming fluid may reach the bristles 7, and said cap is readily removable for filling the container with such fluid. Located between the shoulder 6<sup>a</sup> of the cap 6 and the upper end of the neck 5 is a gasket 9 which serves the dual purpose of packing the joint between the cap and neck, and providing a valve 10 for controlling the passage of fluid to the duct 8. This valve is preferably developed by subdividing the central portion of the gasket, as, for instance, by splitting it on a plurality of radii, meeting at its center, and producing flexible tongues or segments 10<sup>a</sup> of the gasket, which, by flexing, will separate and produce openings for the escape of the fluid. As thus far described the device follows the construction of my previously filed application above identified.

The present invention renders the valve more positively and surely responsive to the action of the diaphragm 4, and therefore permits the use of a more substantial gasket which affords a tighter valve closure when not in use. And to this end, a thrust rod 11 is interposed between the diaphragm 4 and the valve 10 in such manner that inward displacement of the diaphragm develops displacement of the members 10<sup>a</sup> of the valve, as suggested in Figures 2 and 5, while release of the diaphragm 4 is accompanied by withdrawal of the thrust rod 11 to the position shown in Figure 1, which permits the valve to close under its own inherent resiliency, as suggested in Figure 4. Rod 11 is preferably mounted upon the bottom or diaphragm 4, as, for instance, by forming it integral therewith, or otherwise connecting it thereto.

In use, the brush is held inverted and pressure upon the bottom or diaphragm 4 positively opens the valve the same time that it develops expelling pressure within the container, and thus the delivery of a charge of fluid is insured. When the brush is restored to upright position and pressure is released so that the bottom can return to normal position by its own resiliency, the rod 11 is withdrawn; not, however,

until sufficient air has entered the container to supply the vacancy left by the emitted charge.

I claim:

5 1. A dispensing container for liquids, comprising a reservoir with a movable displacement wall, a delivery orifice, and a valve controlling said orifice; a thrust rod transmitting movement from said wall to  
10 said valve; and said valve comprising a disk subdivided into portions separable by the thrust of the rod.

2. A dispensing container for liquids, comprising a reservoir with a movable displacement wall, a delivery orifice, and a valve controlling said orifice; a thrust rod transmitting movement from said wall to said valve; said valve being slit radially to provide separable tongues meeting at the  
20 center; and said rod bearing against the meeting ends of the tongues.

3. A dispensing container having a discharge duct, a flexible wall for expelling contents therefrom into said duct, a flexible  
25 valve controlling the passage of contents to said duct, said valve being constructed with a port adapted to be opened by flexing

the material of the valve, and a thrust rod in position to flex the material of the valve and also in position to be moved by the  
30 flexible wall of the container.

4. A container having a flexible wall through which to develop expelling pressure within it and having an escape orifice for its contents, a split disk of resilient material  
35 secured over said orifice, and a rigid thrust rod mounted to be moved by said flexible wall terminating in position to open the split in the disk when the movable wall is depressed.

5. In a dispensing container, a reservoir having a resilient depressible wall and an escape orifice for its contents, a disk of flexible material located over said orifice and split to provide a vent for fluid passing  
45 through the orifice, a cap secured upon the end of the reservoir over said disk and clamping the same in place thereon, and a thrust rod controlled by the depressible wall and terminating adjacent the inner face of  
50 said disk.

Signed at Cleveland, Ohio, this 23rd day of January, 1922.

THOMAS J. STEPHENS.