E. B. WILLIAMS.

LIQUID FEEDING BRUSH.

APPLICATION FILED NOV. 22, 1919.

1,329,944. Patented Feb. 3, 1920.

Fig. 1.

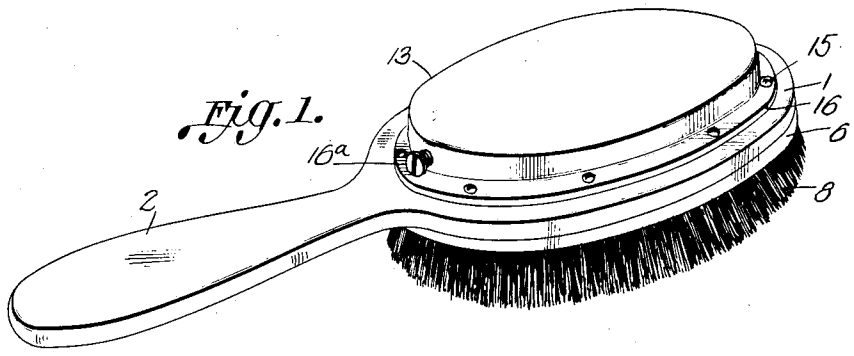


Fig. 2.

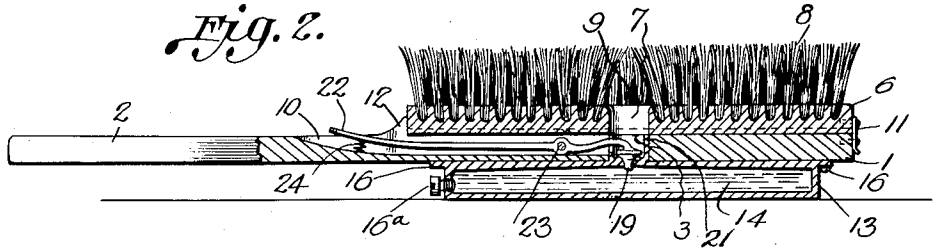


Fig. 4.

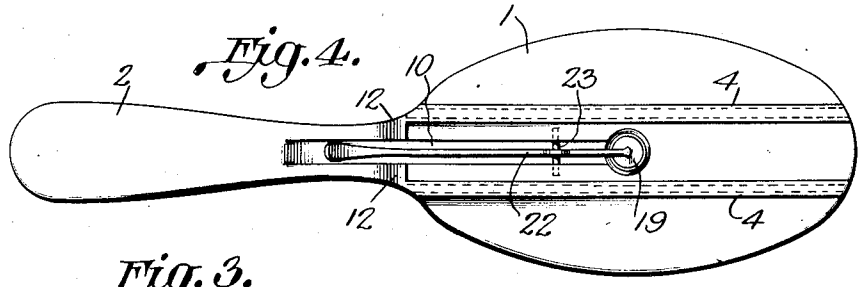


Fig. 3.

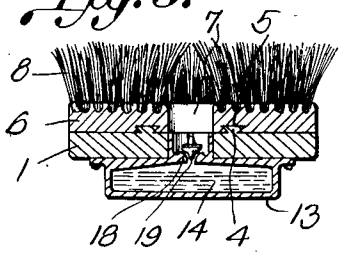


Fig. 5.

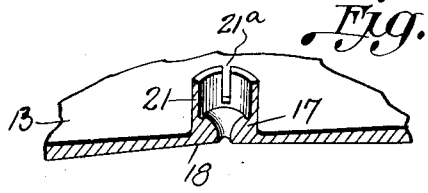
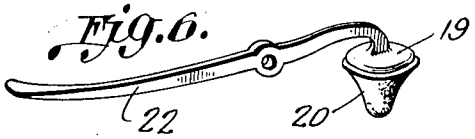


Fig. 6.



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UNITED STATES PATENT OFFICE.

ERNEST B. WILLIAMS, OF WASHINGTON, DISTRICT OF COLUMBIA.

LIQUID-FEEDING BRUSH.

1,329,944. Specification of Letters Patent. Patented Feb. 3, 1920.

Application filed November 22, 1919. Serial No. 339,875.

To all whom it may concern:

Be it known that I, ERNEST B. WILLIAMS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Liquid-Feeding Brushes, of which the following is a specification.

This invention relates to brushes, and pertains especially to the class of fountain brushes, or brushes having a liquid reservoir for supplying fluid of various character to the brush tufts or bristles.

The object of the invention is to provide a hand-operated brush with a novel and peculiar feed valve and means for operating the valve so as to control the valve and govern the supply of fluid as desired during a brushing operation without interrupting such operation.

A further object of the invention is to provide a liquid feeding brush adapted for toilet use, and also for shoes, cleaning and polishing purposes, and to furnish such novel and peculiar construction and arrangement of devices for supplying liquid to the brush tufts as will afford expeditious liquid feeding, greatly economize the liquid, and the cost of manufacturing such brushes.

A still further object of the invention is to provide a novel and peculiar combination and arrangement of the various parts of a liquid feeding brush so as to permit the parts to be assembled and disassembled preparatory to making various applications of the brush, and to furnish such devices as will afford means for feeding liquids of various character into the brush tufts without clogging or impairing the feeding operation or the utility of the brush.

Various other objects, advantages and improved results are attainable in the manufacture and practical application of brushes as hereinafter described.

In the accompanying drawings forming part of this application:—

Figure 1 is a perspective view illustrating the brush.

Fig. 2 is an inverted longitudinal central sectional view showing the valve as in closed position.

Fig. 3 is a central cross section showing the valve as in open position.

Fig. 4 is a plan view of the inner face of the back of the brush.

Fig. 5 is an inverted sectional perspective view of the liquid container partly broken away.

Fig. 6 is an inverted perspective view of the valve and its operating lever.

The same reference characters denote the same parts throughout the several views of the drawings.

I am aware that fountain brushes, especially shoe blackening brushes, have been provided with feeding valves operated by hand levers, and I am also aware that blacking brushes have been provided with reservoirs having feed valves operated by various other means for controlling the valves, but all of such reservoirs, valves and operating means are of such character and construction as to be impractical for toilet or barber's use, as for shampooing, dampening and other liquid treatment of the hair and scalp during the application of a brush. It is, therefore, my purpose to overcome the objections and disadvantages of the usual fountain brushes, and to furnish a brush for general purposes, and especially for barber's use.

In carrying out my invention I employ a brush member or back 1, having a handle 2 and a central orifice 3. The inner face of the member 1 is provided with a pair of dove-tailed ribs or tongues 4 for grooves 5 of the brush head 6, having a central orifice 7 and tufts or bristles 8, certain of which are inclined toward each other with respect to said orifice so as to leave an opening 9 in the tufts under and adjacent to the said orifice, as will be hereinafter referred to. The under face of the handle 2 has a lengthwise groove or cavity 10 which is continued into the brush back or member 1 to the orifice 3, and this orifice registers with the orifice 7, when the brush head is slid into position on the back member. A suitable latch or keeper 11 is provided for preventing accidental displacement of the members 1 and 6, and the member 1 has stop lugs 12 which limit the inward movement of the head member 6 in sliding the same into position.

The most essential features of the invention are the liquid container or reservoir, the liquid feed valve, and the relative construction of the same. The preferably flat shell or casing 13 forming the liquid chamber or reservoir 14 is made with a straight top parallel with and preferably extending over the major portion of the outer face of

the back or brush member 1, where it is secured by rivets or screws 15 extending through a flange 16 of the casing which has a filling aperture closed by a suitable cap or plug 16ª. The inner face of the bottom wall of the casing is inclined to its center and has an annular lug 17 forming a valve seat 18, conically convexed for a valve 19. Said seat having a contracted mouth and a flaring discharge. The valve 19 is concaved from its base to the point thereof so as to conform with the said valve seat, and the valve is provided with a jacket or sleeve 20 as of cork or rubber for making a liquid-tight closure. An annular flange 21 projects from the valve seat and fits the orifice 3, of the brush member or back. The flange has a slot 21ª for a lever 22. The valve is operated by the hand lever 22 working in the handle groove 10, and pivoted at 23, and having one end secured to the bottom of the valve and the other end pressed outwardly by a spring as 24 for keeping the valve closed. Obviously, pressure applied to the free end of the lever will retract the valve into open position according to the pressure applied to the lever, whereby more or less liquid may be supplied to the tufts or bristles. The lever 22 is made to fit the slot 21ª so as to avoid leakage of liquid therethrough when the valve is open, and the flange 21 prevents leakage from the valve seat to the back of the brush.

The particular shape of the valve and its seat insures liquid-tight closing of the valve, and affords means for spreading the liquid in discharging the same from the reservoir, so that the liquid is dispensed in a circular form by reason of the flaring or enlarged base of the valve. The concaved shape of the valve prevents the liquid from flowing or dropping straight down in a body when the valve is opened, whereby a sudden flushing of the brush with too great amount of liquid is avoided. The shape of the valve and the casing valve seat also permits minute and varying liquid feeding which is highly essential in satisfactory application of various liquids while the brush is being used.

The shape of the liquid casing or reservoir is also essential, in that it forms a valve seat in the reservoir, and a seat for the brush in inverted position, so that when not in use the liquid is removed from the valve and the latter will of its own weight remain in closed position, and should the valve lever be accidentally operated while the brush is in this position no liquid will be discharged from the reservoir.

While I have shown and described this brush especially adapted for toilet and barber's use, it may, with suitable modifications, be used for applying liquid shoe polish, and in supplying liquid for cleaning, brushing and scrubbing purposes. Therefore, I do not wish to confine myself as to size, material and shape of the brush, nor to its application, but reserve the right to make such changes and variations in the manufacture and practical application of the invention as may come within the scope of the appended claims.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In a brush of the character described, a handle member provided with a head portion which has a central orifice therethrough, a pair of dove-tailed ribs on the inner face of said portion which has a groove extending rearwardly from the orifice, a container mounted on the outer face of said portion and provided with an annular flange surrounding an opening in the container and fitting the orifice, a valve pivoted in said groove and working within the flange to open and close the container opening, a spring mounted in the groove to maintain the valve in said opening, and a brush member having dove-tailed grooves to engage the dove-tailed ribs.

2. In a brush of the character described, a handle member provided with a head portion having a central orifice therethrough and a groove extending from the orifice into the handle, tongues formed on the inner face of said member, a brush member having grooves fitting the tongues for detachably connecting said members and having an orifice therethrough in alinement with the said central orifice, a container mounted on the outer face of said head member and provided with an annular flange projecting from a valve seat in the container and fitting said central orifice, and a valve pivoted in said groove and adapted to be operated between the said orifices for opening and closing an opening in the container.

In witness whereof I hereunto set my hand in the presence of two witnesses.

ERNEST B. WILLIAMS.

Witnesses:
C. T. BELT,
JOHN C. FINNIN.