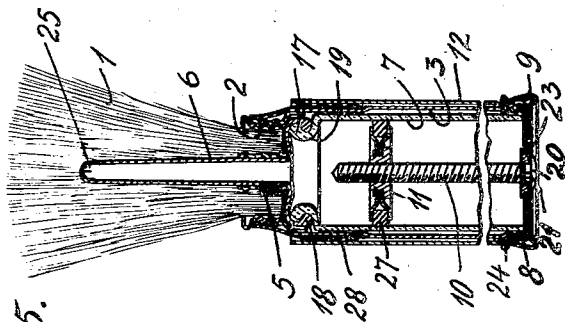
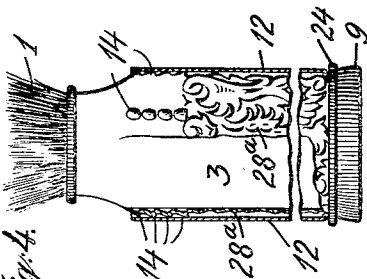
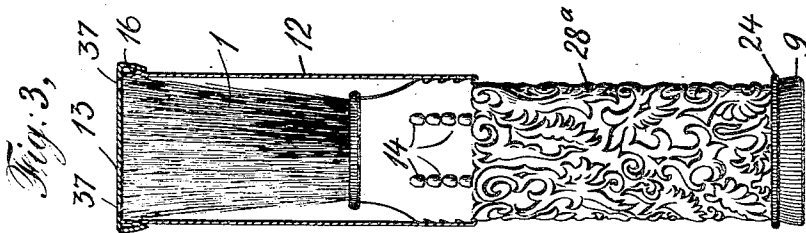
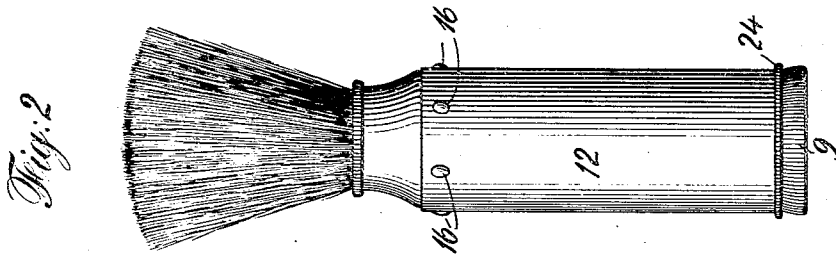
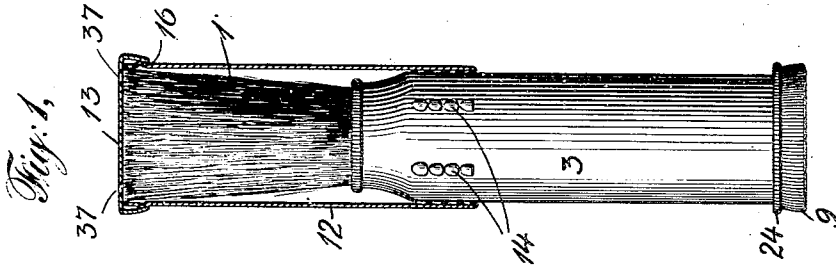


J. B. FESLER.
 FOUNTAIN BRUSH.
 APPLICATION FILED APR. 14, 1910.

1,067,596.

Patented July 15, 1913.

2 SHEETS—SHEET 1.



Witnesses:
 Max R. A. Dering
 Paul H. Frank

Inventor
 Joel B. Fesler
 By his Attorneys
 Marshall Smith

J. B. FESLER.
 FOUNTAIN BRUSH.
 APPLICATION FILED APR. 14, 1910.

1,067,596.

Patented July 15, 1913.

2 SHEETS—SHEET 2.

Fig. 6.

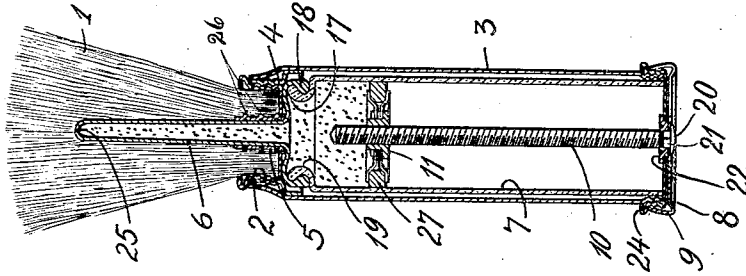


Fig. 7.

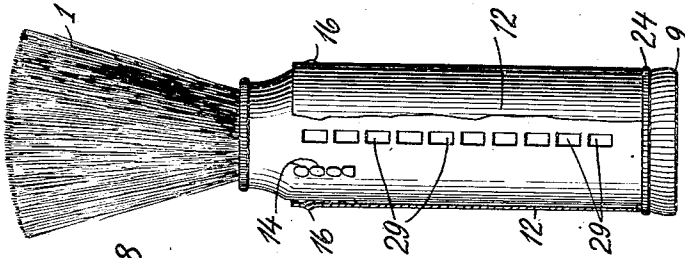


Fig. 10.

Fig. 11.

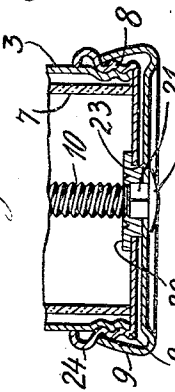


Fig. 8.

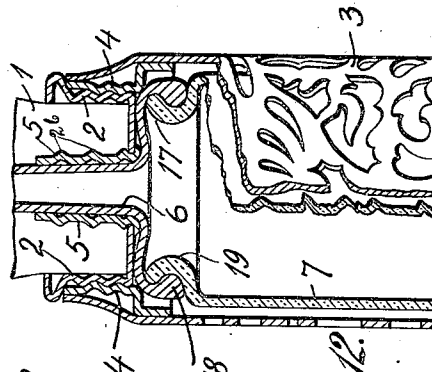
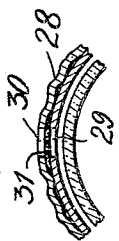
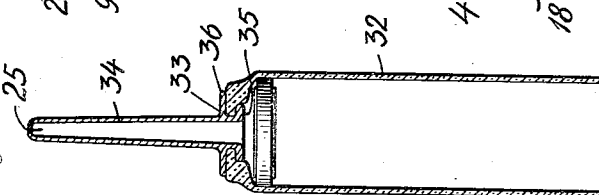


Fig. 12.

Fig. 9.



Witnesses
 Max P. A. Doring
 Paul H. Frank

Inventor
 Joel B. Fesler
 By his Attorneys
 Marble & Matty

UNITED STATES PATENT OFFICE.

JOEL B. FESLER, OF NEW YORK, N. Y.

FOUNTAIN-BRUSH.

1,067,596.

Specification of Letters Patent.

Patented July 15, 1913.

Application filed April 14, 1910. Serial No. 555,474.

To all whom it may concern:

Be it known that I, JOEL B. FESLER, a citizen of the United States of America, and a resident of New York, county of New York, and State of New York, have invented certain new and useful Improvements in Fountain-Brushes, of which the following is a specification.

My invention relates to improvements in fountain brushes, that is, to say, brushes comprising a reservoir for soap, mucilage, ink, paint or the like.

The particular brushes herein illustrated and described, are particularly intended for use as shaving brushes, though suitable for other uses as well. Said brushes comprise a hollow handle carrying at one end the bristle-tuft or brush proper, which handle may or may not be provided with a telescopic cover and removable end cap. Within the said tubular handle the brush is provided with a removable reservoir adapted to contain the material, such as a soap paste, which is to be fed to the brush, and to the upper end of said reservoir is connected a feed tube, preferably flexible, which extends up into the interior of the bristle tuft. The lower end of the reservoir in the constructions shown in this case, is open; and within the reservoir is a piston and a feed screw for feeding said piston toward the upper end of the reservoir for the purpose of forcing the contents of the reservoir through the feed tube into the bristle tuft. The lower end of said feed screw is secured to an end piece rotatably mounted upon the lower end of the handle, so that by rotating this end piece the feed screw is rotated to advance the piston in the reservoir, or to withdraw it, according to the direction of rotation.

My invention consists in the novel connection of the said feed tube to the reservoir, in the novel construction of the handle, and in various other features hereinafter described and particularly pointed out in the claims.

Some of the objects of my invention are to improve and simplify the construction of fountain brushes such as described, to provide constructions of the various metal parts permitting the same to be formed of thin sheet metal and by simple and inexpensive mechanical operations, and to provide a simple and convenient construction involving the use of a readily removable reservoir.

Other objects will be pointed out hereinafter.

I will now proceed to describe my invention with reference to the accompanying drawings, and will then point out the novel features in claims.

In the drawings: Figure 1 shows an elevation of one form of my improved brush provided with a telescopic cover, the said cover and its removable end cap being shown in longitudinal section; Fig. 2 is an elevation of the said brush with the telescopic cover drawn back to expose the bristle tuft, the parts as shown being in condition for use. Fig. 3 is a view similar to Fig. 1, showing a brush the handle of which is provided with an applied covering of relatively soft metal adapted to receive ornamentation as shown; Fig. 4 shows an elevation and partial section of the main portion of the handle of the brush shown in Fig. 3, illustrating how the relief ornamentation is applied to the brush; and Fig. 5 is an elevation and partial section of a handle illustrating the formation of the guide and stop-bosses of the handle upon a piece separate from but applied to the tube constituting the main portion of the handle. Fig. 6 is a longitudinal sectional elevation of a brush similar to that shown in Figs. 1, 2 and 5 but not provided with a telescopic cover. Fig. 7 is an elevation of a brush showing the provision of slots in the handle to enable the reservoir within said handle to be seen. Fig. 8 is a detail transverse section of a portion of the handle of a brush similar to that shown in Fig. 7, except that the applied tube of the handle is here indicated as provided with relief ornamentation, this view indicating transparent means closing the sight openings; Fig. 9 is a detail longitudinal section of a reservoir and feed tube, illustrating an alternative construction of the engaging portions of said parts of the brush. Fig. 10 shows a detail section of the lower end of the telescopic cover; Fig. 11 shows a detail section of the lower end of a handle the details of construction here shown being common to all of the brushes shown in the drawings; and Fig. 12 shows a detail section of the lower end of a brush and the upper portion of a handle, the details of connection of bristle holder, handle, reservoir and feed tube here shown being common to all of the brushes illustrated in the drawings.

The interior construction of the brushes shown in Figs. 1, 2, 3 and 4, is substantially shown in Figs. 5, 6, 11 and 12.

In the drawings 1 designates the bristle-tuft, 2 designates a screw-threaded ferrule constituting the bristle holder, 3 designates the main portion of the hollow handle and 4 designates a screw threaded ferrule fitted into the upper end of the handle 3, and into which the bristle holder 2 screws.

5 designates a center tube secured to, and in effect forming a part of, the bristle holder 2, through which tube the flexible feed tube 6 of the brush passes into the bristle tuft.

7 designates a removable reservoir (customarily formed of glass or other suitable transparent material) within the handle and connected to the feed tube 6 as hereinafter described, 8 designates an end cap for the handle, screw connected to the main portion 3 of the handle, and serving to hold reservoir 7 in place; and 9 designates a hand piece rotatably mounted upon this end cap 8 and to which is connected as hereinafter described, the feed screw 10 extending up into the interior of the reservoir 7 and having mounted upon it a piston 11 adapted to force the plastic contents of the reservoir into the feed tube 6.

12 designates a telescopic cover for the bristle-tuft, mounted to slide upon the main portion 3 of the handle, and provided at its upper end with a removable cap 13. To guide the cover 12 and permit it to slide over the main portion 3 of the handle without marring the surface thereof, said main portion 3 of the handle is provided with rows of outwardly projecting bosses 14 against which, as guides, the inner surface of the cover 12 bears. The lower edge of the cover 12 is turned inward as indicated particularly in Fig. 10, so as to form a hook-shaped bead 15 which will engage the lowermost bosses 14 and so limit the upward movement of the cover. These lowermost bosses 14 are flat on their lower sides. The other bosses are round. At its upper end, the cover 12 is provided with a row of bosses 16, which are engaged by the cap 13. As shown in Fig. 1 the rim of this cap is turned inward slightly near its lower edge, the construction being such that the rim of the cap can be sprung over the bosses 16 and then the lower end of this rim will spring inward sufficiently to hold the cap in place; though the cap may be readily removed, its rim springing outward, as the cap is pressed off the cover.

The reservoir 7 is provided at its upper end with a shoulder 17 adapted to be engaged by a shoulder or thickened rim 18 on the base of the feed tube 6. Preferably, and customarily, the shoulder 17 is formed at the extremity of a neck 19 formed on the reservoir. The feed tube 6 is customarily of rub-

ber, and therefore may be readily drawn over the neck of the reservoir.

The feed screw is provided at its lower end with a rounded head 20 and with a squared portion 21 fitting within a similarly squared orifice in a plate 22. In assembling the parts, this plate 22 is pressed down tightly so that the hand piece 9 is gripped tightly between said plate 22 and the head 20, so as to be practically a part of the feed screw; and when said hand piece 9 is rotated the feed screw will rotate. The plate 22 has a hub 23 fitting within a central aperture in the end cap 8 of the handle, whereby the feed screw is centered with respect to the handle and is nevertheless free to rotate with respect to the end cap 8 and the main portion 7 of the handle. The end cap 8 is provided, however, with a projecting rim 24 whereby said end cap may be unscrewed when desired; and when so unscrewed and pulled away from the handle, it carries with it the feed screw 10, the piston 11, and, by reason of the suction produced by any slight withdrawal of the piston with respect to the reservoir, carries with it also the reservoir 7 and feed tube 6.

The feed tube 6 is provided at its upper end with a mouth, preferably consisting of a mere slit 25 in the end of the tube, which slit forms an automatic mouth which opens to permit the escape of the plastic material into the interior of the bristle tuft, when the piston is advanced slightly in the reservoir, and which closes automatically as soon as the plastic material ceases to flow, so closing the feed tube against the entrance of air or moisture, preventing the plastic material from drying out, on the one hand, and preventing the entry of moisture into the plastic material, on the other hand.

When the parts are in place, as illustrated in Figs. 4 and 6, the end cap 8 presses the reservoir against the base of the feed tube 6, and grips said feed tube between itself and the base of the bristle holder 2, so forming a water tight joint preventing the entry of moisture into the handle and so avoiding corrosion or fouling of the interior of the handle. As an additional means of preventing entry of moisture to the handle, the feed tube 6 has a slight taper as shown, and the tube 5 through which the feed tube passes has a corresponding taper so that the feed tube also forms a joint with the tube 5. There are thus two water tight joints to exclude moisture from the interior of the handle.

The tube 5 is customarily of a relatively soft material, such as aluminum, and is provided with external ribs 26, forming anchorages for the cement in which the bristles are set at their lower end. The threads of the bristle holder 2 are rolled threads and so present a ribbed surface on the interior of

said bristle holder, these ribs likewise forming anchorages for the cement. The bristle tuft is, therefore, held very firmly in the bristle holder, once the cement has set. I prefer to form the tube 5 of relatively soft metal, because there is some expansion of the cement in setting, also the base of the bristle tuft sometimes swells slightly, when first used, from the effects of moisture, and such swelling if any, will be taken up by compression of this soft tube 5, thereby obviating splitting of the bristle holder 2.

The length of the feed screw 10 is such that just before the piston 11 reaches the neck of the reservoir 7, said piston will leave the screw. I have found that by making this screw of proper length, the piston will leave the screw when it reaches the upper end of the screw, but will reengage the screw and will be drawn downward when the said screw is turned in the reverse direction. This construction obviates breakage of the reservoir from an attempt to force the piston too far into the reservoir on the one hand, and at the same time prevents complete disengagement of the piston from the feed screw, such as might make it difficult to withdraw the piston and reservoir when removing the end cap 8. The piston is provided with suitable packing material 27,—preferably an elastic and flexible packing material such as rubber.

In practice it is found difficult to press up bosses 14 from the tube forming the main portion 3 of the handle, to the desired height, without breaking the metal at these bosses, since the metal of the tubing 3 must be relatively stiff and rigid and therefore is not readily drawn to such an extent as is required to form bosses of the desired height. For that reason, and as shown particularly in Fig. 5, I prefer to form these bosses upon a thin tube 28 of softer metal, fitting over the upper portion of the tube 3. In practice, when this outer tube 28 is properly applied to the tube 3, and the parts have been silver-plated or nickel-plated, or otherwise finished, no joint between the tubes 3 and 28 is perceptible to the eye.

In many cases it is desirable to provide the handle of the brush with relief ornamentation. In such case the said applied tube covers the entire length of the handle 3, or as much thereof as is to contain the ornamentation, and said ornamentation is formed in the metal of the applied tube. This is particularly indicated in Fig. 4, in which figure said applied tube is designated by numeral 28^a. Such applied tube being, as stated, both thinner, and softer and more ductile, than the tube 3, the desired ornamentation is formed more readily thereon, and may be formed with greater relief without rupture of the metal, and furthermore the applied tube may be made of a noble or

precious metal, such as gold or silver, or their customary alloys, with relatively small addition to the cost of the brush.

The telescopic cover of the brushes illustrated in Figs. 1, 2 and 3, is not a necessary feature of my brush, and in Fig. 6 I illustrate a brush otherwise similar in construction to that shown in Fig. 1, but not provided with a cover. In this form, since there are no bosses 14 to be provided, it is not necessary to use the additional tube 28.

It is quite desirable that the user of the brush may be able to see the reservoir without removing same from the brush, so that he may know when said reservoir is nearly empty. To this end I may form one or more apertures 29 in the handle, as shown in Fig. 7; or, as indicated in Fig. 12, the handle may consist of perforated or foraminous metal—preferably perforated according to some ornamental design; or, as illustrated in Fig. 8, the handle tube 3 may have apertures 29 formed in it, as in Fig. 7, and over this tube 3 there may be an applied ornamented tube 28 having in it similar registering apertures 30, and between these tubes there may be a layer of thin transparent material 31, such as mica. This latter construction has the advantage of preventing entry of moisture, etc., to the interior of the handle, while at the same time the reservoir in the handle is perfectly visible and the condition of its contents is readily determined.

In Figs. 5 and 6 I have illustrated only one of the numerous constructions for connecting the reservoir and feed tube. In Fig. 9 I illustrate an alternative construction, wherein the reservoir, here designated by numeral 32, is provided with an inwardly projecting shoulder 33, and the feed tube, here designated by numeral 34, has two outwardly projecting flanges, 35 and 36, located on opposite sides of the shoulder 33, when the feed tube and reservoir are connected. The feed tube being of rubber or like elastic material, as previously stated, it is easy to apply such a feed tube as shown in Fig. 9 to the reservoir, or at will, to remove it from said reservoir.

As indicated particularly in Figs. 1 and 3, openings 37 are provided in the top cap 13. There being room, between the lower edge of the telescopic cover 12 and the handle of the brush, for the passage of air, these openings 37 permit circulation of air around the brush tuft, so facilitating drying of the brush.

The brush herein described embodies certain improvements on and modifications of the brush set forth in my U. S. Patent No. 904,190, dated November 17, 1908.

What I claim is:—

1. A fountain brush such as described, comprising in combination a hollow handle,

bristles carried thereby, a reservoir located within said handle and having a flanged mouth portion, a feed tube having an elastic base portion fitting over the mouth
5 of said reservoir and engaged with the rear side of such reservoir flange, and thereby secured to the reservoir, said base portion intervening between the end of said reservoir and a normally fixed portion of the
10 handle, and means for pressing the reservoir against said base portion of the feed tube, and so gripping said feed tube between the end of the reservoir and the handle, a piston within said reservoir, and
15 means projecting through an opening in the base of said reservoir, for moving said piston.

2. A brush comprising in combination a tubular handle comprising a main tube of
20 relatively rigid material and an outer relatively ductile tube mounted upon said inner tube, a bristle tuft carried by said handle

and a tubular cover for said bristle tuft arranged to slide telescopically upon said handle, the said outer tube of the handle
25 provided with bosses pressed out from it forming guides for the cover.

3. A fountain brush such as described, comprising in combination a hollow handle, a brush tuft carried thereby, a cover for said
30 brush tuft arranged to slide telescopically on said handle, and a cap for said telescopic cover, openings being provided around the base of said cover, between said cover and the handle, and near the upper end of the
35 space inclosed by said cover and cap, for the circulation of air.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOEL B. FESLER.

Witnesses:

H. M. MARBLE,
SYDNEY W. FRY.