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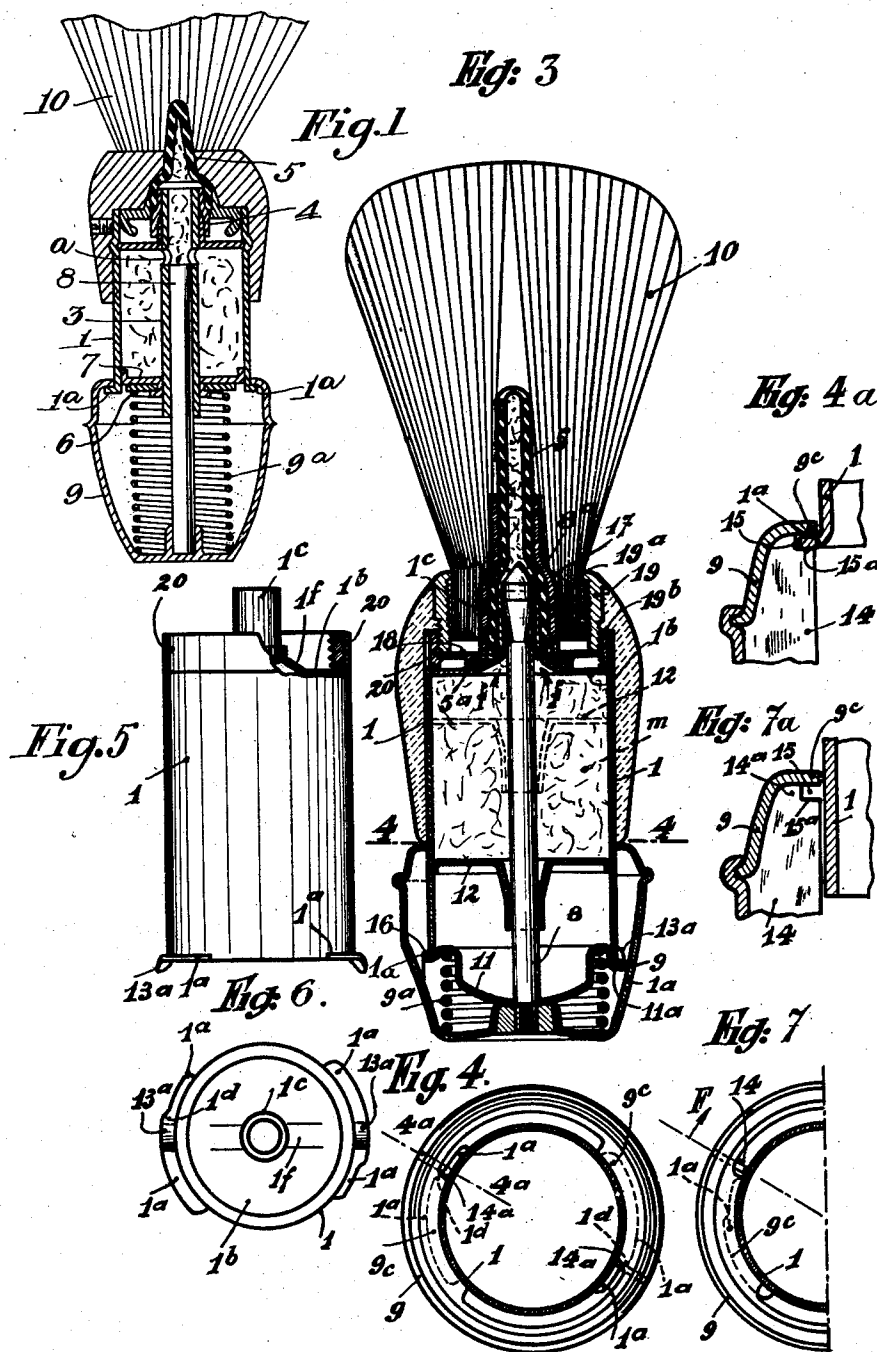
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SHAVING BRUSH HAVING A RESERVOIR FOR THE SOAP

Filed Feb. 19, 1932

2 Sheets-Sheet 1



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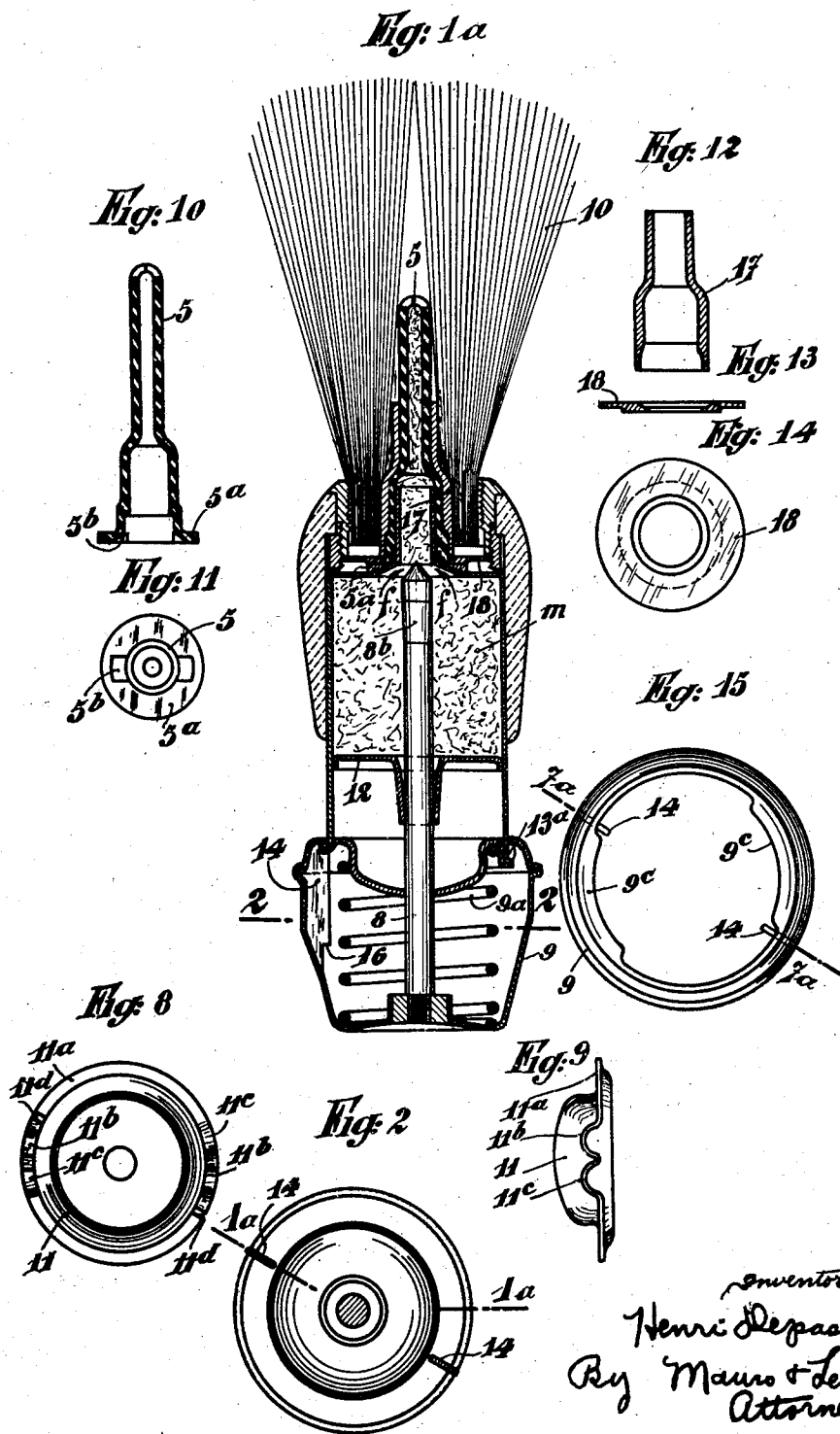
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UNITED STATES PATENT OFFICE

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SHAVING BRUSH HAVING A RESERVOIR FOR THE SOAP

Application filed February 19, 1932, Serial No. 594,063, and in France February 24, 1931.

My invention concerns a shaving brush the handle of which is adapted to contain a certain quantity of pasty soap or shaving cream. One of the objects of my invention is to provide a shaving brush of that type whose handle contains a discharge device through which it is possible, by merely pushing or depressing the extremity of the handle, to feed into the tuft of hairs of the shaving brush, a predetermined small quantity of soap or cream.

That arrangement prevents any clogging of the tuft of hairs that might result from feeding too much of soap into the tuft of hairs. Furthermore, the feeding device may be operated while holding the shaving brush in one hand, so that the discharge of the soap or shaving cream may take place while lathering the parts to be shaved.

Preferred embodiments of my invention will be hereinafter described with reference to the accompanying drawings, given merely by way of example, and in which:

Fig. 1 is a sectional view of a first embodiment of the shaving brush according to my invention;

Fig. 1a is a sectional view, on the line 1a—1a of Fig. 2, of another embodiment of the shaving brush according to my invention, in the developed position;

Fig. 2 is a horizontal sectional view on the line 2—2 of Fig. 1a;

Fig. 3 is a view analogous to Fig. 1a, showing the shaving brush according to my invention in the closed position;

Fig. 4 is a sectional view on the line 4—4 of Fig. 3;

Fig. 4a is a detail view at an enlarged scale showing in vertical section on the line 4a—4a of Fig. 4 the cylindrical tube or body and the slidable end of the handle locked together;

Fig. 5 is a detail elevational view of the cylindrical body of the brush, which contains the soap or shaving cream;

Fig. 6 is a plan view corresponding to Fig. 5;

Fig. 7 is a view analogous to Fig. 4 showing the sliding extremity of the handle in the released position;

Fig. 7a is a detail view in vertical section

at an enlarged scale on the line 7a—7a of Fig. 7;

Figs. 8 and 9 are detail views showing the movable bottom of the reservoir for the shaving cream in plan view and in side view respectively;

Fig. 10 is a sectional view of the India-rubber nipple;

Fig. 11 is a bottom view of said nipple;

Fig. 12 is a detail view showing in section the metallic ring which is slipped over the lower part of the nipple;

Fig. 13 is a vertical sectional view of the plate secured to the lower part of the tube shown in Fig. 12;

Fig. 14 is a plan view corresponding to Fig. 13;

Fig. 15 is a plan view showing a detail of the sliding extremity of the handle.

As shown in Fig. 1 of the drawings, the handle of the shaving brush comprises a main cylinder 1 in which a piston 6 provided with a packing ring 7 is adapted to slide.

A tube 3, secured to the bottom of said main cylinder, forms the cylinder of the discharge device, and is provided with holes *a*. A cylindrical rod 8, which forms the piston of the discharge device, and is made integral with cap 9, is adapted to slide in said tube 3. A spring 9^a is disposed between the bottom of the cap and piston 6. A sleeve 4 secured to the lower end of tube 3 supports an India-rubber nipple 5 acting as a kind of check valve. To this effect the end of said nipple is slit, so that, when a certain pressure is exerted inside it the edges of the slit are forced apart and any liquid or pasty material contained in said nipple is discharged through said slit, while any counterpressure strongly applies the edges of the slit against each other, thus tightly closing the nipple. When cylinder 1 is full of shaving cream, the spring, acting upon piston 6, urges it in an outward direction and thus tends to force shaving cream into tube 3 through holes *a*. Said tube is thus filled up to the check valve or nipple. When cap 9 is depressed by the palm of the hand, the body of the brush being held with the fingers of the same hand, the

small piston 8 is forced into tube 3 which drives out a predetermined quantity of soap or shaving cream through the slit of nipple 5 which is thus opened and allows said soap or shaving cream to penetrate into the tuft of hair 10 of the brush. When cap 9 is no longer depressed, piston 8 is brought back to its initial position, and the whole of the device is in the same position as at the beginning, so that the above described operation can be repeated until cylinder 1 is empty.

It will readily be understood that the embodiment above described can be modified without departing from the principle of the invention. In particular, spring 9^a might be so arranged as to rest, not on piston 6, but on a stationary part 1^a of handle 1. Such an arrangement is disclosed in Figs. 1a to 15, concerning another embodiment of my invention. The spring will then serve only to bring cap 9, which forms the movable bottom of the handle 1 of the shaving brush, back to its initial position, and the filling of the extremity of tube 3, and of nipple 5, will take place, after each stroke of push piece 9, through the action of the vacuum created by the backward motion of rod 8.

In said second embodiment, the shaving brush comprises a cylindrical tube or body 1, closed, on the one hand at its upper part, by an end piece 1^b integral with cylindrical body 1, and provided with a tube or nozzle 1^c upon which India-rubber nipple 5, acting as a check valve, can be fitted, said body 1 being closed on the other hand, at its lower part, by a movable piece 11 shown in detail in Figs. 8 and 9, and the circular edge 11^a of which is applied against the edge 1^a (Fig. 6) of cylindrical body 1. Said piece 11 acts as a rest for spring 9^a provided in the cap or push piece 9 for moving the latter outwardly as soon as it is no longer pressed upon. The rod or plunger 8 which moves inside cylindrical body 1 is secured to the bottom of the cap or push piece 9. A guiding and packing ring 12 is adapted to slide along said rod 8, but it may be temporarily wedged on said rod, at the end thereof, upon a conical portion 8^b, when the shaving brush is being replenished, as will be hereinafter described.

The connection between cylindrical body 1 and cap or push piece 9 is obtained through a bayonet joint. To this effect, the edge 1^a (Fig. 6) of cylindrical body 1 does not run along the whole periphery of the latter, but forms two sorts of lugs 1^a. The same is true of the edge of cap 9, which forms two lugs 9^c (Figs. 7a and 15), the interval between which corresponds to the length of lugs 1^a. Under these conditions, tube 1 may be engaged into cap 9, by pushing back movable piece 11 against the action of spring 9^a. Then, by rotating cap 9 through a certain angle with respect to tube 1, or inversely by rotating tube 1 with respect to cap 9, lugs 1^a

and 9^c are brought opposite each other, which connects the tube with the cap, while allowing the latter to slide along the tube.

During that sliding motion, movable piece 11 is guided along vertical partitions 14, 70 which engage diametral notches 11^d, provided to this effect (Fig. 8) in the edge 11^a of movable piece 11.

In that position, which is shown in Figs. 7 and 7a, the semi-cylindrical ribs 13^a, diametrically located along edge 1^a of body 1 engage corresponding semi-cylindrical grooves or housings 11^c provided in the edge 11^a of piece 11 so that body 1 is held in position with respect to cap 9.

By further rotating cap 9 in the direction of arrow F (Fig. 7) with respect to body 1, I ensure the locking of tube 1 with cap 9 in the longitudinal direction, due to the fact that the extremities 1^b of lugs 1^a engage notches 15 provided in the vertical partitions 14 carried by cap 9, and are therefore maintained between the upper face 9^c of cap 9 and the horizontal edge 15^a of notch 15 provided in vertical member 14 (Fig. 4a). It is that position that is shown in Fig. 1a.

In order to limit the amplitude of the rotation of tube 1 with respect to cap 9 and to avoid that lugs 1^a may unwillingly be rotated as far as the interval provided between lugs 9^c (Fig. 15) of the cap, which would result in unlocking the body or reservoir 1 of the brush from the cap, I have provided on lugs 1^a a small projection 1^d which is adapted to butt against the edge 14^a of member 14 (Figs. 4 and 4a).

Furthermore, in that position, ribs 13^a are engaged into the grooves 11^b of movable piece 11, which ensures the good positioning of the parts.

The passage of rib 13^a from groove 11^b (locking position) to groove 11^c (position for which the cap or push piece 9 is adapted to slide freely with respect to body 1) is made possible by the elastic mounting of piece 11 at the end of tube 1. In the case of tube 1 containing no soap or shaving cream, tube 1 may be locked with respect to cap 9 in the position in which it is fully engaged therein (Fig. 3). The edge 1^a of body 1 is then brought, through relative angular displacement of the body and of the cap, under offsets 16 provided at the lower part of members 14 (position of Fig. 3).

My invention also includes the particular arrangement of the India-rubber nipple and the setting of the tufts of hairs of the shaving brush in a ring, which features will be hereinafter described.

Nipple 5, which extends into the tuft of hairs 10 of the brush and can be bent at the same time as the hairs when the shaving brush is being used for lathering, is protected by a ring 17 which surrounds the lower part of said nipple and which is provided,

at its lower part, with a flat ring 18 applied upon the upper face of the base or flange 5^a of the nipple. Said flange is provided, as shown in Figs. 10 and 11, with two radial notches 5^b provided in its thickness and which are adapted to fit upon ribs 1^f provided on the upper end 1^b of cylindrical body 1. Said ribs 1^f form two oblique channels through which a dose of soap or shaving cream *m* is allowed to pass, in the direction shown by Fig. 1a, from the cylindrical body into the nipple.

Finally, the hairs forming the tuft of the shaving brush are held at their lower part by a ring or sleeve 19, the upper edge 19^a of which projects inwardly and which is screwed at 19^b in a member 20 which is for instance soldered to cylindrical tube or body 1 upon the upper face 1^b thereof.

The operation of the shaving brush which has just been described with reference to Figs. 1a to 15 is as follows:

In order to fill cylindrical tube or reservoir 1 with pasty soap or shaving cream, cap 9 and cylindrical tube or reservoir 1 are separated from each other by means of the bayonet joint, which disengages said cap and its rod 8.

A certain quantity of pasty soap or shaving cream is then introduced into cylindrical body 1 and after pushing ring 12 as far as the end 8^b of the rod, where it is slightly wedged, the cap is again fitted into position by inserting rod 8, which is guided by ring 12, into cylindrical body 1. Said ring first presses down the soap or shaving cream until the latter forms a homogeneous mass without any air present therein, and then it slides back along rod 8 as said rod is being engaged into the cylindrical body. Ring 12 then acts as a packing ring. Tube 1 and cap 9 are then connected to each other through the bayonet joint and the cap is moved with respect to the tube or body until rib 13^a engages groove 11^c. The shaving brush is then ready to be used and it suffices to hold the body 1 of the shaving brush between the thumb and the forefinger and to depress cap or push piece 9 with the palm of the hand or with the thumb for discharging into the tuft of hairs 10 of the shaving brush the quantity of soap or shaving cream contained in nozzle 1^c and nipple, or check valve 5.

When push piece 9 is released, it is brought back to its original position by the action of spring 9^a and the backward movement of rod 8 allows a fresh quantity of soap or shaving cream to be forced into nozzle 1^c and nipple 5, in the direction of arrow *f*.

According to the quantity of soap or shaving cream which it is desired to use for lathering, push piece or cap 9 may be depressed one, two or three times.

It is then possible to lock cap 9 with respect to cylindrical body 1 as it has been above ex-

plained by causing rib 13^a of edge 1^a of body 1 to pass into groove 11^b of movable piece 11 and to lather one's face exactly as with an ordinary shaving brush. During the operation, packing ring 12 ensures the tightness of body or reservoir 1.

While I have disclosed what I deem to be practical and efficient embodiments of my invention, it should be well understood that I do not wish to be limited thereto as there might be changes made in the arrangement, disposition and form of the parts without departing from the principle of my invention as comprehended within the scope of the appended claims.

What I claim is:

1. A shaving brush of the type described comprising in combination, a tuft of hairs, a handle for said tuft of hairs, a cylindrical reservoir for shaving cream provided in said handle, a removable bottom for said reservoir, an outlet tubular nozzle provided in said reservoir, an India-rubber nipple fitted on said nozzle and extending into said tuft of hairs, the end of said nipple being provided with a slit for allowing the outflow of the shaving cream but preventing the ingress of air from the outside, a cap surrounding the end of said reservoir opposed to said nozzle and adapted to slide thereon, a cylindrical rod secured to the bottom of said cap extending coaxially throughout said reservoir, the length of said rod being such that its end is located at a certain distance from said nozzle when said cap is at its maximum distance from said reservoir and is engaged into said nozzle when said cap is pushed toward said reservoir, said rod comprising a flaring portion of frusto-conical shape provided close to said end thereof, a spring interposed between the bottom of said reservoir and the bottom of said cap, whereby a predetermined quantity of shaving cream is forced out from said nozzle into said tuft of hairs every time the cap is pressed toward the reservoir, and a packing ring slidably mounted on said rod in said reservoir and adapted to be wedged against said frusto-conical portion of the rod so as to guide said rod with respect to said reservoir and to compress the shaving cream into a compact mass when said rod is introduced into said reservoir after filling of the latter, said ring subsequently sliding along said rod when the latter is being sunk into said reservoir so as to ensure a tight joint.

2. A shaving brush of the type described comprising in combination, a tuft of hairs, a handle for said tuft of hairs, a cylindrical reservoir for shaving cream provided in said handle, an outlet tubular nozzle provided in said reservoir, an India-rubber nipple fitted on said nozzle and extending into said tuft of hairs, the end of said nipple being provided with a slit for allowing the outflow of the

shaving cream but preventing the ingress of air from the outside, a cap surrounding the end of said reservoir opposed to said nozzle and adapted to slide thereon, a movable bottom for said reservoir adapted to slide, but not to rotate, within said cap, a cylindrical rod secured to the bottom of said cap extending coaxially throughout said reservoir, the length of said rod being such that its end is located at a certain distance from said nozzle when said cap is at its maximum distance from said reservoir and is engaged into said nozzle when said cap is pushed toward said reservoir, a spring interposed between the bottom of said reservoir and the bottom of said cap, whereby a predetermined quantity of shaving cream is forced out from said reservoir into said tuft of hairs through said nozzle every time the cap is pressed toward the reservoir, and means for locking said reservoir with respect to said bottom.

3. A shaving brush of the type described comprising in combination, a tuft of hairs, a handle for said tuft of hairs, a cylindrical reservoir for shaving cream provided in said handle, an outlet tubular nozzle provided in said reservoir, an India-rubber nipple fitted on said nozzle and extending into said tuft of hairs, the end of said nipple being provided with a slit for allowing the outflow of the shaving cream but preventing the ingress of air from the outside, a cap surrounding the end of said reservoir opposed to said nozzle and adapted to slide thereon, a cylindrical rod secured to the bottom of said cap extending coaxially throughout said reservoir, the length of said rod being such that its end is located at a certain distance from said nozzle when said cap is at its maximum distance from said reservoir, a spring interposed between the bottom of said reservoir and the bottom of said cap, whereby a predetermined quantity of shaving cream is forced out from said reservoir into said tuft of hairs through said nozzle every time the cap is pressed toward the reservoir, means for longitudinally locking said reservoir with respect to said cap in the extended position of the brush, and means for longitudinally locking said reservoir with respect to said cap in the closed position of the brush.

In testimony whereof I have signed this specification.

HENRI DEPASSE.

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