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E. D. POLLOCK

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TOOTHBRUSH

Filed April 4, 1929

Fig. 1.

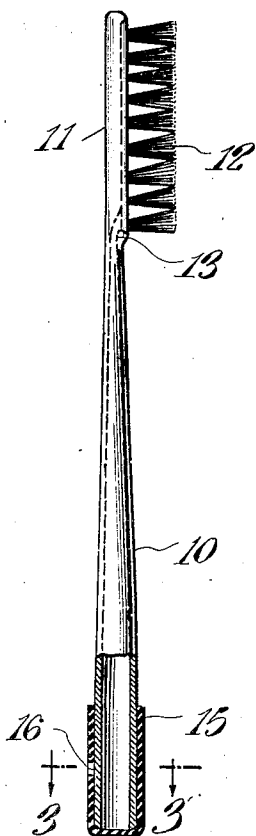


Fig. 2.

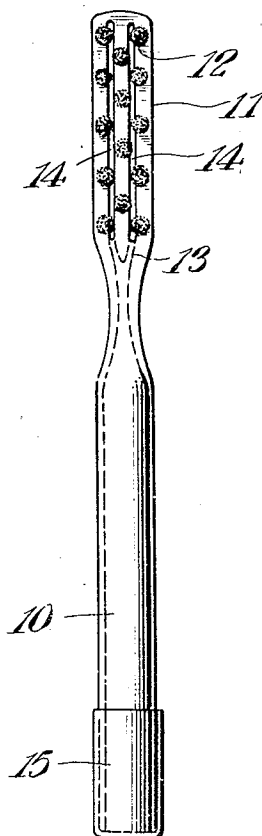


Fig. 4.

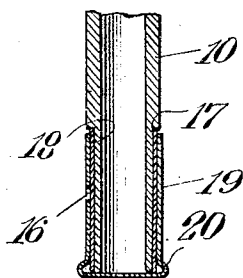
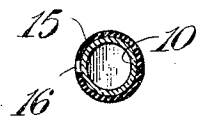


Fig. 3.



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TOOTHBRUSH

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My invention relates to improvements in toothbrushes and more particularly to the type known as fountain brushes in which a liquid wash is carried in the handle and delivered as desired to the bristle part of the brush and so to the teeth.

The object of my invention is to improve brushes of this character and produce a brush which is more cleanly, simpler and generally more desirable. Heretofore brushes of this character have been made of separable parts or joints and were objectionable because there was much leakage at these joints, and further it was more or less of a nuisance to adjust the parts.

In carrying out this idea, further, my invention is intended to produce a brush which can be easily and cheaply made, in which there are no joints and in which the liquid from the hollow handle is delivered as required to surface channels on the inner or under surface of the brush head, and so evenly distributed to the bristles.

Furthermore, my invention comprises a cap which is slidable on the end of the hollow handle and carries an air vent so that when the cap is closed the liquid will not flow out because of the lack of pressure behind it, but when the cap is removed the air vent is uncovered which permits the liquid to flow freely. The cap also has the advantage of acting like a pump so that under certain circumstances if there should be clogging between the handle and the brush bristles the cap may be used to force pressure behind the liquid and thus cause it to flow freely and so remove any impediment which may be in the way.

Reference is to be had to the accompanying drawings forming a part of this specification in which similar reference characters refer to similar parts throughout the several views.

Figure 1 is a side elevation partly in section of a brush showing my improvements;

Figure 2 is an elevation looking at the bottom part of the brush;

Figure 3 is a cross section on the line 3—3 of Figure 1; and

Figure 4 is a broken longitudinal section of the end part of the handle and cap showing a slightly modified construction.

The handle 10 is hollow and merges into a head 11 which is integral with the handle and both may be made in any approved design and of any preferred material.

The head 11 is provided with tufts or bristles 12 which may be applied in any usual or preferred way, and the hollow handle discharges through reduced parts 13 to the bases of the surface channels 14 which are arranged on the inner side of the head 11 and in a manner to distribute the liquid which flows from the handle to the bristles. Thus when the liquid is flowing, one needs simply to use the brush in the conventional way and the cleansing liquid will always be ready. Obviously the form of the brush, the arrangement of the bristles and the manner of inserting them has nothing to do with the invention. It is desirable, however, to have the surface channels as specified and there may be one, two or as many as required.

The handle 10 is open at its outer end and is closed usually by a cap 15 which fits snugly over the handle and which has a vent 16 through which air may pass but when the handle is not in use the vent comes opposite the wall of the brush and so there is no pressure at the outer end of the handle and the contained liquid does not flow. If, however, the cap is partially removed air is admitted through the vent to the handle end and with the air pressure behind it the liquid flows freely to the distributing channels or surface of the brush.

It will be seen that in case of some slight impediment in the reduced part 13 of the bore which leads to the brush head, the cap 15 can be pushed back and forth and will act like a pump and force air pressure against the contained liquid in the handle and thus force out any impediment.

In Figure 4 I have shown a slightly different and preferred structure in which the outer end part of the handle is reduced as at 17 and provided with a smooth ferrule 18, preferably of metal, and the cap 19 can also, if desired be of metal or some material which slides freely on the metal and thus a very nice connection is effected between the meeting parts 18 and 19. The cap 15 has the vent 16

already referred to and can be provided with a terminal bead 20 which facilitates gripping it. Thus it will be seen that I have produced a simple brush through which the cleansing fluid may flow freely and which, on the other hand, has the cap which is tight so that no liquid escapes when the brush is not in use.

What I claim is:

1. A toothbrush having a hollow handle merging integrally into a head portion carrying bristles with the bore of the handle merging into a surface channel on the brush head, and a sliding cap at the outer end of the handle.
2. A toothbrush having a hollow handle merging into a brush head with the bore of the handle discharging to the inner surface of the brush head, a sliding cap on the outer end of the handle, and an air vent in the handle opened and closed by the movement of the cap.
3. A toothbrush comprising a hollow handle merging into a head which is integral with the handle with the bore of the handle discharging into channels in the inner or bristle surface of the head, and a sliding cap with an air vent therethrough movable on the outer end of the handle.
4. A toothbrush comprising a hollow handle adapted to contain a liquid and a brush head, a restricted bore leading from the hollow in the handle to a surface of the brush head, an elongated cap on the outer end of the handle and slidable longitudinally thereof, and an air vent associated with the handle and cap and spaced from the end of the handle when not in use whereby movement of the cap onto the handle will first close the vent and thereafter cause pressure on a liquid in the handle.

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