Aug. 1, 1939. B. M. LEVIN ET AL 2,167,761

TOOTH BRUSH

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Fig. 1

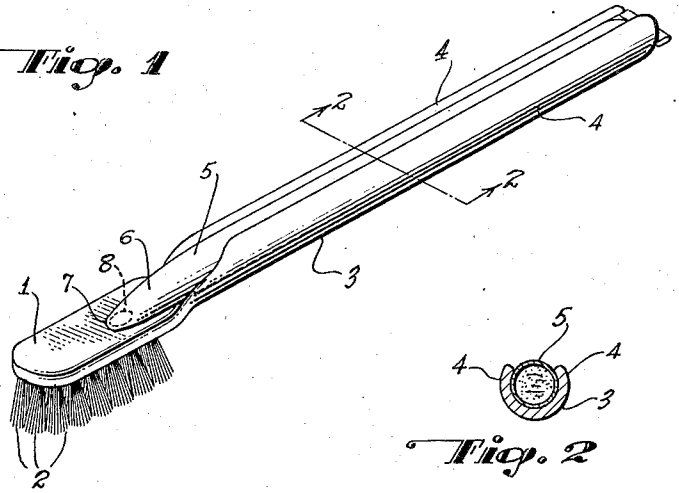

Fig. 2

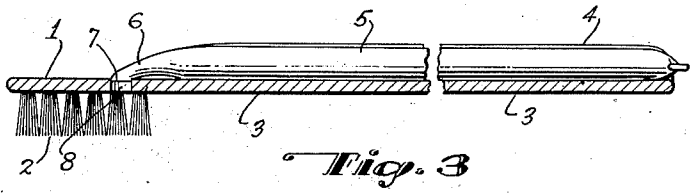

Fig. 3

Fig. 4

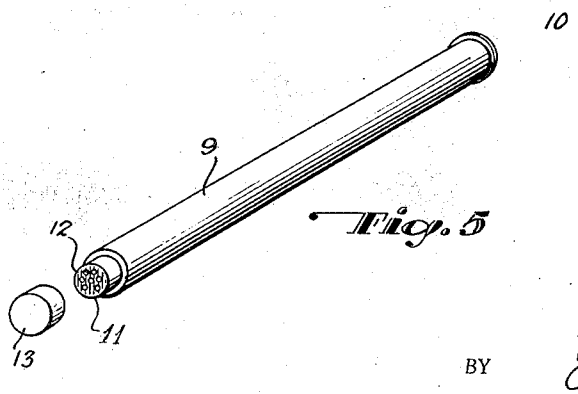

Fig. 5

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TOOTH BRUSH

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1 Claim. (Cl. 15—135)

This invention is a tooth brush and is directed more particularly to a tooth brush wherein the dentifrice, either in the form of paste or powder, is adapted to be contained within a tube detachably mounted upon the handle of the tooth brush.

In the preferred form of the invention, the tooth brush handle is made straight and of arcuate cross section to provide inwardly concave walls along its lateral edges, forming between them an elongated receptacle open at both ends and at its top. Into this elongated receptacle a similarly shaped collapsible tube of tooth paste is adapted to be longitudinally introduced and finally rotated, so as to bring an outlet orifice at the forward end of the tube into juxtaposition with an opening in the stock of the brush. When the tube is in cooperative relation with the brush, and housed within the handle in the manner stated, the orifice of the tube will register with the opening in the brush stock, so that pressure, applied to the tube through the open top of the receptacle, will cause the paste to be exuded between the bristles of the brush and into a position to be conveniently applied to the teeth.

The invention also provides for the use of powder to be contained in a tube which need not necessarily be collapsible, but which is adapted to be housed in the receptacle of the handle and to be removed when it is desired to dust powder from the tube on to the bristles of the brush.

In practice, the brush handle and stock may conveniently be molded from maetrial with some elasticity, such as a suitable plastic, so that the walls of the receptacle will be placed under slight tension when the tube is inserted in order to set up enough friction with the wall of the tube to hold the latter firmly in position.

Features of the invention, other than those adverted to, will be apparent from the hereinafter detailed description and claim, when read in conjunction with the accompanying drawing.

The accompanying drawing illustrates different practical embodiments of the invention, but the constructions therein shown are to be understood as illustrative, only, and not as defining the limits of the invention.

Figure 1 is a perspective view showing a tooth brush embodying the present invention and adapted for the employment of tooth paste.

Figure 2 is a section on the line 2—2 of Figure 1.

Figure 3 is a longitudinal section through the brush, but showing the tube in elevation.

Figure 4 is a section similar to Figure 3, but showing a tooth powder container in place in lieu of a collapsible tube for paste.

Figure 5 shows the tooth powder container removed from the brush and with a closure cap removed from the container.

The brush of the present invention embodies a stock 1 carrying appropriate bristles 2 and from the stock extends a straight handle 3, in alinement with the stock. The handle projects laterally from the stock and is of arcuate cross section, as best shown in Figure 2, so as to provide relatively thin upstandng upwardly and inwardly curved walls 4, forming between them an elongated receptacle open at its top and at both ends. In practice the stock and handle may be readily molded in a plastic, so that the walls 4 are more or less resilient in a radial direction, while the cross axial curvature thereof renders the handle longitudinally rigid.

In the receptacle formed in the handle is adapted to be received a container 5, shown in Figures 1–3 as a collapsible tube provided at its forward end with a tapering shank 6 terminating in an outlet mouth 7 to be received into or to register with an opening 8 through the brush stock between the bristles. The tube may be introduced into the receptacle of the handle from the rear end thereof by pushing the tube longitudinally into the receptacle while the outlet end 6 thereof is in the inverted position shown in dotted lines in Figure 3 and thereupon the tube may be rotated to bring the outlet opening 7 into registration with the opening 8 of the stock. By reversing these opertions, the tube may be removed. This tube may initially be provided with a cork disk or plug in its discharge end, so as to seal the tube and to keep the contents thereof sanitary until initial use, but when the tube is first used, the cork is ejected and thereafter the contents of the tube may be readily dispensed.

The tube, when in the position of Figures 1–3, is adapted to be pressed to exude its contents between the bristles of the brush by exerting pressure upon the tube through the open top of the receptacle while the latter is firmly held in the resilient grip of the walls 4. After the desired amount of paste has been forced out of the tube in this way, manual pressure may be relieved to discontinue such ejection. Thereafter the brush may be used in the usual manner to brush the teeth and the handle, with its relatively thin walls embracing the relatively long and slender tube, will not inconvenience the use of the brush in any way.

The ends of the walls 4 adjacent the stock are cut away or beveled along sloping lines, so that the stock end of the handle is not unduly bulky

and the tapered shank of the tube fits so closely to the back of the stock that its presence is not noticeable when brushing the teeth.

In the constructions of Figures 4 and 5, we have shown the manner in which powder may be used with a brush of this kind. In these figures the brush and handle are made as hereinbefore described, although the opening 8 in the stock may be omitted if desired and instead of employing a tube of tooth paste, we utilize a container for powdered dentifrice. This container is in the form of an elongated tube 9, which may be collapsible or not as desired, but is shaped to be received in the receptacle of the handle and gripped by the walls 4 to hold it against falling out. It has at its rear end a flange 10 adapted to be gripped by the fingers to facilitate its insertion into and removal from the receptacle of the brush handle, and at its forward end it is provided with a reduced extension 11, perforated as shown at 12, and adapted to be normally covered by a cap 13.

When it is desired to use the powder in the constructions of Figures 4 and 5, the container 9 is withdrawn, the cap 13 removed and the powder sprinkled on the bristles. Thereafter the cap is returned and the container again placed in the handle until the next use.

The brush of this invention is highly practical and commercial. It is relatively inexpensive and constitutes a great convenience because the dentifrice is at all times in available position with respect to the brush and at the same time the parts are so shaped and associated that the brush is not materially larger than the conventional tooth brush. The tube of tooth paste is replenished from time to time by providing appropriate refills adapted to fit the brush and designed for cooperation therewith.

The foregoing detailed description sets forth the invention in its preferred practical form, but the invention is to be understood as fully commensurate with the appended claim.

Having thus fully described the invention, what we claim as new and desire to secure by Letters Patent is:

A tooth brush having a relatively thin substantially straight cylindrical tubular handle open at both ends and provided with a narrow longitudinal slot along its top for its full length to provide therein a receptacle, a flat brush stock integral with and projecting from the base of the cylindrical handle in straight line relation therewith and having bristles on its under side with a hole through the bristle portion of the stock, and a tube of tooth paste within the receptacle of the handle and projecting through and beyond both ends thereof and having at its forward end an integral, offset tapering shank extending to and terminating in the hole in the stock, said cylindrical handle being transversely resilient to frictionally grip and hold the tube in the cylindrical handle.

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