

Feb. 14, 1939.

J. D. POOLE ET AL

2,146,847

FOUNTAIN BRUSH

Filed July 6, 1937

Fig. 1

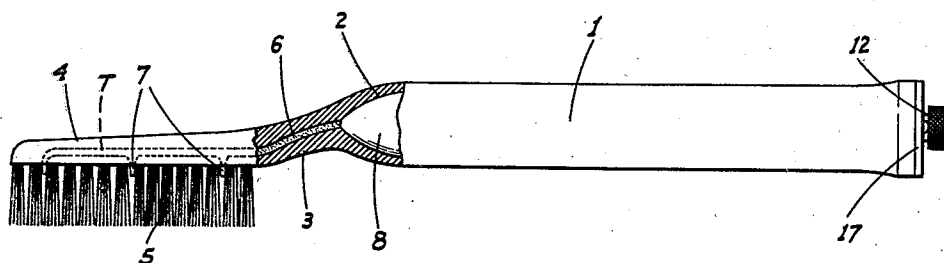


Fig. 2

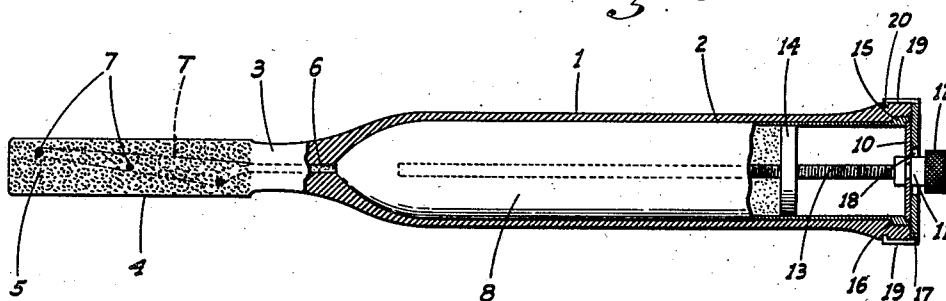


Fig. 3

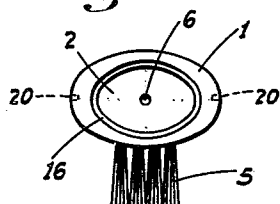


Fig. 4

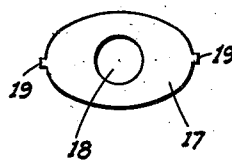
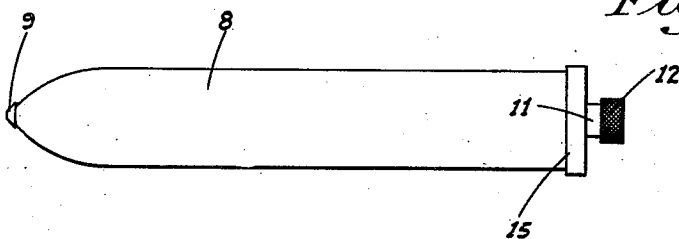


Fig. 5



INVENTORS
J. D. Poole
Roy Barnes

BY *Renf. W. Allen*
ATTORNEY

UNITED STATES PATENT OFFICE

2,146,847

FOUNTAIN BRUSH

James D. Poole, Marysville, and Roy Barnes,
Roseville, Calif., assignors of one-third to Roy
J. Van Tiger, Live Oak, Calif.

Application July 6, 1937, Serial No. 152,026

1 Claim. (Cl. 221—79)

This invention relates generally to improvements in tooth brushes and the like and in particular is directed to and it is our principal object to provide, a tooth brush arranged to hold a supply of tooth paste; the brush being so constructed that such supply of tooth paste may be manually discharged into the bristles for use and in such quantities as desired.

An additional object of our invention is the provision of a separate paste retaining tube designed for use in cooperation with our improved tooth brush. This separate tube maintains the paste in fresh and sanitary condition from the time of manufacture until the time of use, and it is intended that the tubes shall be discarded when empty and not reused.

It is also our object to provide a tooth brush of the character described in which the paste discharging or dispensing jets are arranged to produce an effective distribution of the paste into the bristles of the brush.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects we accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claim.

In the drawing similar characters of reference indicate corresponding parts in the several views:

Figure 1 is a side elevation, partly in section, of our tooth brush.

Figure 2 is a bottom plan view, mainly in section, of the tooth brush and included paste tube.

Figure 3 is an end view of the outer end of the handle of the brush, the securing plate and paste tube being removed therefrom.

Figure 4 is a face view of the securing plate.

Figure 5 is a longitudinal elevation of the paste tube before placement in the tooth brush.

Referring now more particularly to the characters of reference on the drawing, the tooth brush comprises a body 1 forming a handle which is oblong in section, said handle having a longitudinally extending chamber 2 formed therein and symmetrical in cross section to the handle exterior. This chamber is open at one end to the outer end of the handle 1 as shown in Fig. 1 while it tapers to a rounding point at the other end as shown in Fig. 2. At its inner end, the handle is formed with a neck 3 and head 4 as usual, the head being provided with bristles 5.

An internal passage 6 leads from the inner and

tapered end of the chamber 2 through neck 3 and into the head 4 through which it extends longitudinally and diagonally as shown. The portion of the passage in the head and indicated at T, is relatively large at its inner or intake end and is decreased in size toward the forward end. By so tapering the passage, the paste is supplied under equal pressure to dispensing jets 7 which are mounted on the head and in alignment and communication with the passage. These jets are relatively short and may be made of resilient material such as rubber. By reason of their particular position on the head, the jets effectively distribute the paste to the bristles.

The paste tube comprises a body 8, of any suitable material, arranged to closely engage in handle chamber 2 throughout its extent. The pointed end of the tube is formed with a removable closure tip 9 adapted to be removed prior to insertion of the tube into the handle. The other end of the tube is formed with a fixed closure plate 10 through which the hub 11 of a small knob 12 is axially disposed, the hub being axially immovable but mounted for rotation. A small, threaded rod 13 is fixed to the inner end of the hub and extends centrally and longitudinally within the tube. A piston 14 is disposed within the tube and tapped to receive the threaded rod, such piston being initially disposed adjacent plate 10 and between the plate and paste P with which the tube is filled.

The end of the tube 8 adjacent the plate 10 is provided with an annular flange 15 which, when the tube is disposed within the handle, closely engages in an annular seat 16, formed about the outer end of the chamber 2. The plate 10 and flange 15 are flush with the outer end of the handle when the tube is disposed therein and the other end of the tube is in communication with passage 3—the closure tip 9 having been removed prior to insertion of the tube into the handle. A removable securing plate 17, having a central opening 18 and projecting spring hook fingers 19 on opposed ends of the plate, is disposed with the knob 12 projecting through the opening and with the spring hook fingers removably engaging in sockets 20 formed in the handle. In this manner the tube is held removably in place and without interfering with the operation of knob 12 and the connected paste dispensing mechanism.

Upon rotation of knob 12 in the proper direction, piston 14 travels along rod 13 forcing a portion of paste P into passage 6 and out of jets 7 into the bristles. Due to the particular location

of the jets, paste will be discharged into the brush adjacent both sides and in the middle. When one tube of paste has been used, the plate 17 is removed from the handle, the empty tube 5 removed and discarded and a full one replaced in the manner heretofore described.

Although the present embodiment of the invention relates to a tooth brush, our invention may be incorporated with shaving brushes or 10 the like and with slight modification.

From the foregoing description it will be readily seen that we have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by 15 the appended claim.

20 Having thus described our invention, what we

claim as new and useful and desire to secure by Letters Patent is:

In a fountain brush, a handle, said handle being formed with a longitudinal chamber therein open to the outer end of the handle, a neck 5 projecting from the other end of the handle and having a passage therein in communication with the chamber, a paste tube removably disposed in said chamber and in close engagement with the walls thereof, the tube having a discharge 10 opening disposed in register with the passage in the neck, means mounted on the handle to maintain the tube in place, and means to discharge paste from the tube; said first named means comprising a closure plate for the open end of 15 the handle and spring hook fingers projecting from said plate lengthwise of the handle, said handle being formed with sockets to receive the fingers.

JAMES D. POOLE. 20
ROY BARNES.