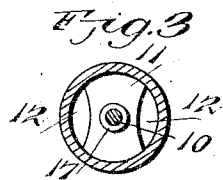
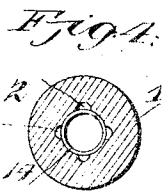
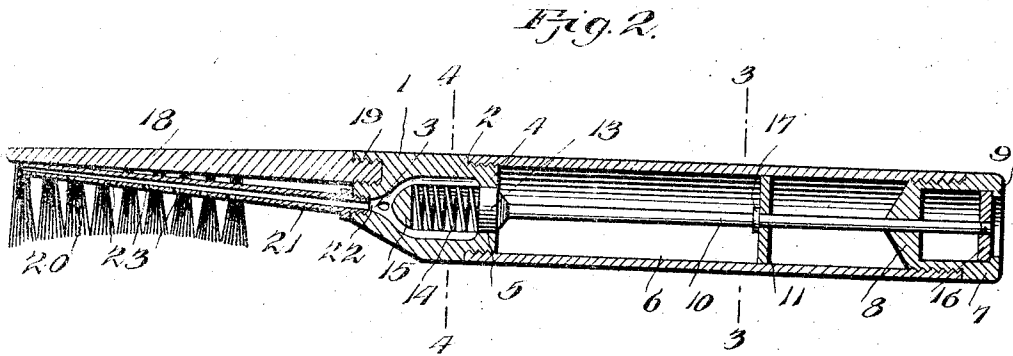
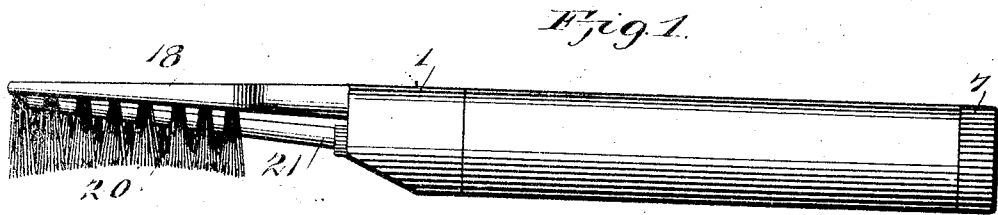


No. 841,946.

PATENTED JAN. 22, 1907.

F. DOWNING.
TOOTH BRUSH.

APPLICATION FILED OCT. 19, 1905.



Witnesses
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FRED DOWNING, OF DECATUR, ILLINOIS

TOOTH-BRUSH.

No. 841,946.

Specification of Letters Patent.

Patented Jan. 22, 1907.

Application filed October 19, 1905. Serial No. 283,488.

To all whom it may concern:

Be it known that I, FRED DOWNING, a citizen of the United States, residing at Decatur, in the county of Macon and State of Illinois, have invented new and useful Improvements in Tooth-Brushes, of which the following is a specification.

The invention relates to an improvement in tooth-brushes, particularly of that class designed to carry a suitable supply of dentifrice.

The main object of the present invention is the production of a brush having a suitable dentifrice-containing compartment from which the material may be fed as desired, directly to the bristles of the brush, all of which parts are of the particular specific construction hereinafter pointed out.

The invention in its preferred form of details will be described in the following specification, reference being had particularly to the accompanying drawings, wherein—

Figure 1 is a view in elevation of my improved tooth-brush. Fig. 2 is a longitudinal section of the same. Fig. 3 is a transverse section on the line 3 3 of Fig. 2. Fig. 4 is a transverse section on the line 4 4 of Fig. 2. Fig. 5 is a perspective detail of the valve and valve-rod.

Referring particularly to the drawings, wherein like numerals of reference designate like parts throughout the several views, my improved tooth-brush comprises a body portion 1, interiorly formed with a channel 2. By preference the channel 2 is divided as to present four channels arranged in diametrically opposite pairs and converging at the forward end into a single channel 3. The rear wall 4 of the body portion is formed with a central valve-opening 5 for a purpose hereinafter described. The rear end of the body portion is reduced and threaded to receive the forward threaded end of the dentifrice-cylinder 6, which is of a size to contain a suitable quantity of solution. The rear end of the cylinder 6 is threaded to receive a closing-cap 7, comprising a hollow body closed at its forward end to provide a conical head 8 and open at the opposite end and peripherally formed at said end with a flange 9.

10 represents a valve-stem longitudinally movable in the cylinder 6 being centrally guided in a partition 11, supported interiorly of the cylinder and cut away on opposite edges and to provide channels 12 through

which the liquid may pass. The forward end of the valve-stem 10 is provided with a valve 13, arranged when suitably positioned to close the valve-opening 5 in the rear wall of the body 1. The coiled spring 14 terminally bearing against the forward face of the valve and against a fixed stop 15 within the channel 2 of the body operates to normally seat the valve 13 within and closing the valve-opening 5. At the rear end the valve-rod is provided with a cylindrical button 16, slidably mounted in the closing-cap 7, being limited in its movement by the head 8 and flange 9 of said cap, as clearly shown in Fig. 2. A stop 17 is provided on the valve-rod 10, designed to contact with the partition 11 and limit the movement of the valve-rod in the closing operation.

18 represents a brush-back comprising a suitably-sized strip reduced and threaded at its rear end to engage a threaded opening 19, formed in the forward wall of the body 1. The brush-back is provided with suitable bristles 20, which may be arranged in any suitable form or outline desired.

A feed-tube 21, open at its forward end, is in communication with the channels 2 in the body 1 by having threaded connection with an opening 22, formed in the forward wall of the body 1, which opening is in direct communication with the single channel 3, leading from the channels 2.

In operation pressure upon the button 16 in the forward direction moves the valve 13 against the tension of the spring 14 and permitting the contents of the cylinder 6 to pass through the channels 2 and through the tube 21, being discharged from said tube through suitable openings 23 into contact with the bristles of the brush.

It will be noted that the button is protected against accidental operation by being normally seated within the closing-cap without projecting portion, that the cylinder 6 may be readily filled with suitable dentifrice by removing the closing-cap and push-button 16, the valve-rod prevented from movement by contact with the stop 17 with the partition 11, that through the threaded connections described the parts are connected to prevent leakage and at the same time to permit ready disengagement for renewal or cleansing, and that by the provision of a plurality of channels 2 I guard against liability of an inoperative device through choking in

one channel. The brush-back and supply-tube may be readily disconnected from the body I when desired for cleansing or renewal.

The structure described comprises a simple fountain tooth-brush readily adapted for convenient operation and thoroughly efficient in use.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A tooth-brush comprising a body portion, a dentrifice-chamber removably connected therewith, a bristle-back connected to the body portion, and a supply-tube removably connected to and in connection with the body portion, said tube projecting among the bristles and being formed with openings to permit the material within said tube to reach the bristles.
2. A tooth-brush comprising a hollow body portion, a dentrifice-chamber removably connected with said body portion and in communication therewith, a valve normally closing said communication, means for operating said valve, a bristle-back connected with the body portion, and a tube removably connected with the body portion and in open communication therewith, said tube projecting among the bristles of the back and

formed with openings to permit the material passing through the tube to reach the bristles.

3. A tooth-brush comprising a body portion formed with a plurality of longitudinally-arranged channels, a dentrifice-chamber removably connected with the body portion, a cap closing the end of the dentrifice-chamber, a valve normally closing the communication between said chamber and body portion, a valve-stem connected with the valve and projecting within the cap, a push-button operative within the cap and connected with said stem, a bristle-back removably connected with the body portion, and a supply-tube removably connected with the body portion and in open communication with all the channels therein, said tube being arranged beneath the bristle-back and projecting among the bristles carried thereby, the supply-tube being formed with a series of outlets.

In testimony whereof I affix my signature in presence of two witnesses.

FRED DOWNING.

Witnesses:

ARTHUR D. WILSON
WM. E. NELSON.