Feb. 18, 1958 M. O'HIGGINS 2,823,401

TOOTH BRUSH

Filed Jan. 15, 1954

FIG. 1.

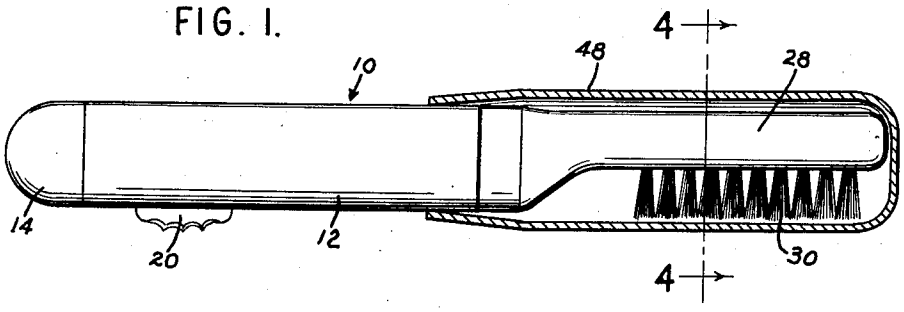


FIG. 2.

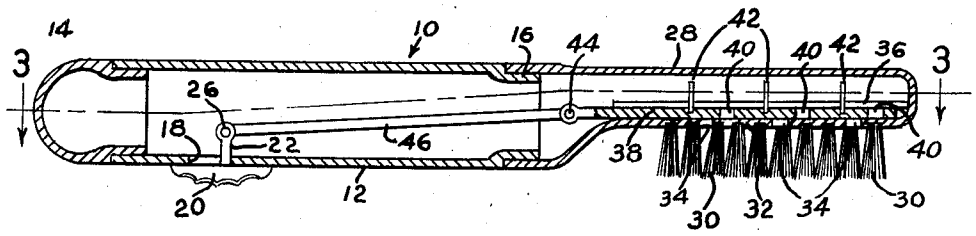


FIG. 3.

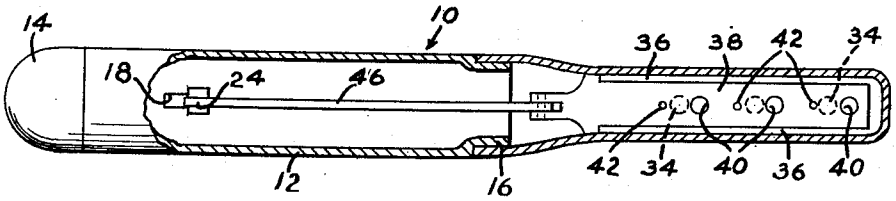
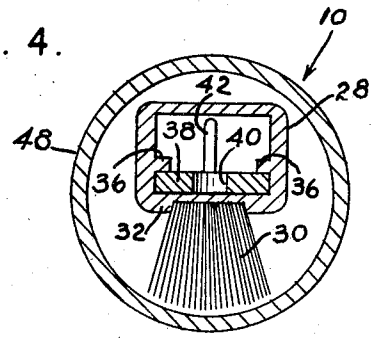


FIG. 4.



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TOOTH BRUSH

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1 Claim. (Cl. 15—131.1)

The present invention relates to a tooth brush and has for its primary object to facilitate the distribution of a dentifrice onto the bristles of the brush.

Another object is to store in the handle and head of the tooth brush a dentifrice which may be readily deposited on the bristles of the brush.

Still another object is to agitate the dentifrice and prevent the caking thereof within the head of the tooth brush.

The above and other objects may be attained by employing this invention which embodies among its features a hollow handle, a hollow-head, bristles carried by the head and projecting laterally outwardly therefrom, said head having dentifrice discharge openings extending through the side thereof adjacent the bristles, a valve mounted in the head to move longitudinally therein, and control the discharge of the dentifrice through the openings, and means carried by the handle and operatively connected to the valve for moving it.

Other features include pins carried by the valve and projecting outwardly therefrom within the head for agitating the dentifrice contained therein each time the valve is moved.

In the drawings:

Figure 1 is a side view in elevation of a tooth brush embodying this invention and showing the cap thereof in section.

Figure 2 is a longitudinal sectional view through the tooth brush with the cap removed.

Figure 3 is a longitudinal sectional view taken substantially on line 3—3 of Figure 2, and

Figure 4 is an enlarged transverse sectional view taken substantially on the line 4—4 of Figure 1.

Referring to the drawing in detail a tooth brush designated generally **10** comprises a tubular handle **12** into one end of which is fitted a removable plug **14**. The end of the handle **12** remote from the plug **14** is provided with a collar **16** having an external diameter somewhat less than the diameter of the handle **12**. Formed in the handle **12** adjacent the end thereof remote from the collar **16** is an enlarged longitudinal slot **18** and mounted on the handle to slide longitudinally thereon in covering relation to the slot **18** is a button **20**. An arm **22** is carried by the button **20** for movement therewith and this arm projects into the interior of the handle through the slot **18**. The end of the arm remote from the button **20** is bifurcated as at **24** and carries a cross pin **26** the purpose of which will hereinafter appear.

Fitted onto the collar **16** and extending longitudinally from the handle **12** is a hollow brush head **28** carrying adjacent one side outwardly extending bristles **30** and extending through the wall **32** of the brush head **28** adjacent the bristles **30** is a row of longitudinally spaced dentifrice discharge openings **34**. Carried by the head **28** and projecting inwardly thereof in spaced parallel relation to the wall **32** are longitudinally extending guide flanges **36**.

Mounted for longitudinal sliding movement within the head **28** between the wall **32** and flanges **36** is a valve plate **38** having a row of longitudinally spaced openings **40** extending therethrough which upon movement of the valve plate **38** longitudinally between the wall **32** and guide flanges **36** are adapted to register with the dentifrice discharge openings **34**. Carried by the valve plate and extending outwardly therefrom within the head **28** are agitator pins **42** which serve to agitate and prevent the caking of dentifrice contained within the head **28**.

Pivotally connected as at **44** to the valve plate **38** adjacent the handle **12** is a link **46** which in turn is connected to the pivot pin **26** so that when the button **20** is moved longitudinally on the handle **12** the valve plate **38** will be moved in unison therewith. A suitable cap **48** is adapted to frictionally engage the handle **12** and enclose the brush head **28** and bristles **30** when the brush is not in use.

Dentifrice is introduced into the handle **12** by removing the closure plug **14** and will flow downwardly into the head **28**. With the plug **14** in closing relation to the handle, the dentifrice may be discharged through the openings **34** by moving the button **20** to cause the openings **40** in the valve plate **38** to register with the openings **34**. Such movement of the valve plate **38** will move the pins **42** and thereby agitate the dentifrice contained in the head **28** to keep it in condition for discharge through openings **34** and onto the bristles **30**.

I wish to have it understood that various changes may be made in the form, details, arrangement and proportions of the various parts without departing from the scope of my invention.

What is claimed is:

A tooth brush comprising a hollow handle adapted to receive powdered dentifrice, a slot in said hollow handle, a detachable hollow head carried by said hollow handle adapted to receive powdered dentifrice, a plurality of bristles in said detachable head, a plurality of apertures in said hollow head adjacent some of said bristles, a valve plate having a plurality of apertures slidably mounted within said hollow head and adjacent the apertures in said hollow head, a plurality of agitator pins extending laterally from said valve plate, an arm in the slot in said hollow handle having a button end, a link in said hollow handle connecting said valve plate with said arm, the button end of said arm being remote from said brush and adapted to actuate said arm, link and valve plate to bring into register in discharge position the apertures in said valve plate with the apertures in the hollow head, and to close the apertures in said hollow head in its reverse position, the agitator pins during movement of the valve plate agitating powdered dentifrice to facilitate the discharge through the apertures in the valve plate and the apertures in the hollow head when said apertures in said valve plate and said hollow head are aligned.

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