

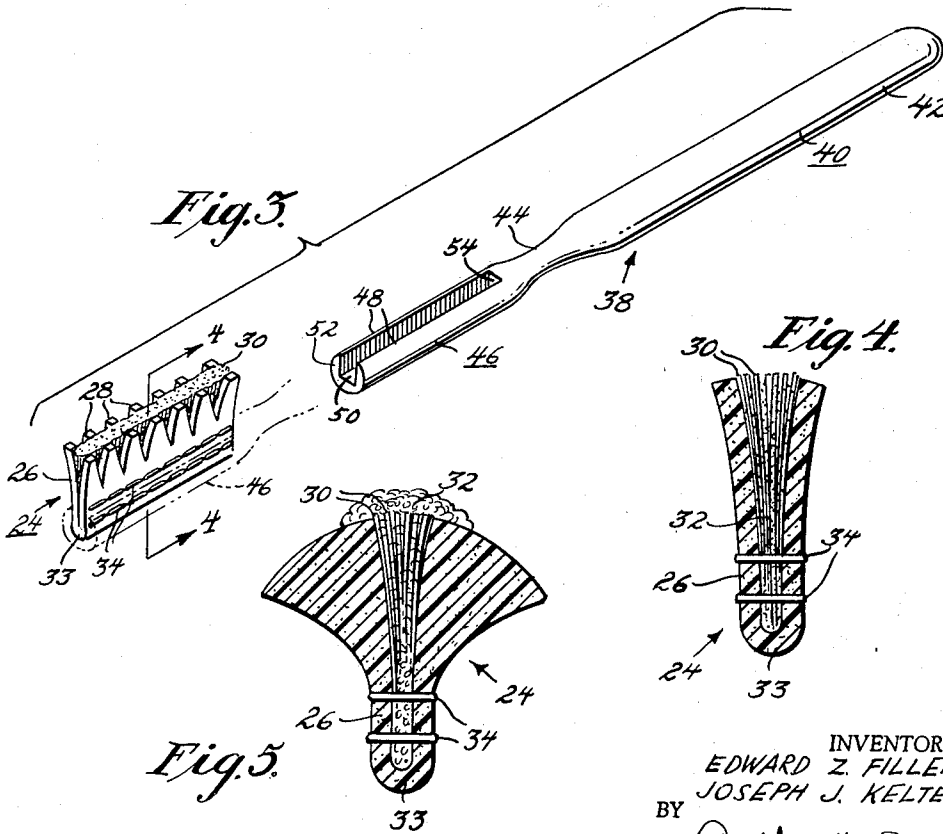
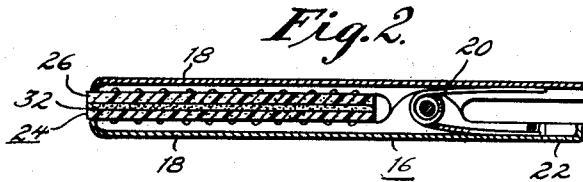
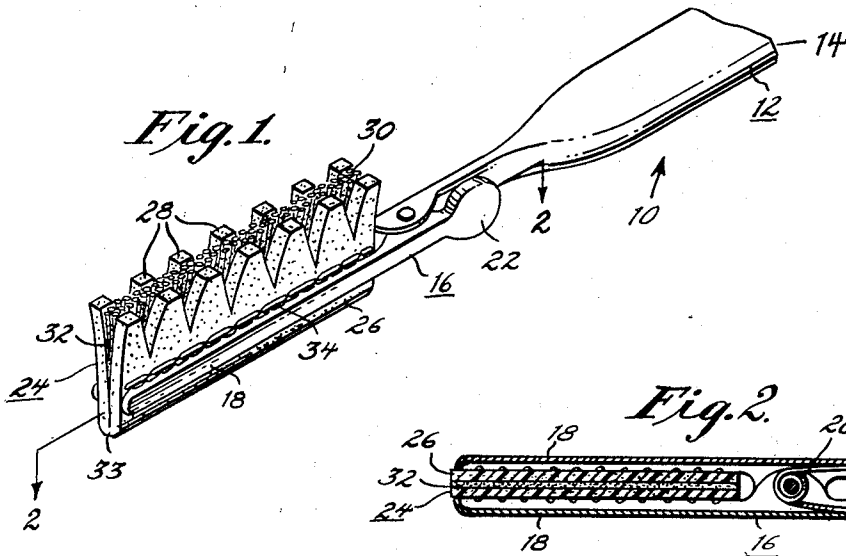
July 26, 1960

E. Z. FILLER ET AL

2,946,072

MASSAGE AND BRUSH TYPE SINGLE-USE TOOTHBRUSH

Filed Nov. 26, 1957



INVENTORS,
EDWARD Z. FILLER
JOSEPH J. KELTER
BY
Arthur H. Seidel
ATTORNEY

1

2,946,072

MASSAGE AND BRUSH TYPE SINGLE-USE
TOOTHBRUSH

Edward Z. Filler, 16 Westwood Circle, Roslyn Heights,
N.Y., and Joseph J. Kelter, 269 86th St., Brooklyn,
N.Y.

Filed Nov. 26, 1957, Ser. No. 699,095

5 Claims. (Cl. 15-110)

The present invention is directed to a massage and brush type single-use toothbrush.

Massage of the gums is most desirable if healthy gum tissues are to be retained. In fact, there has been developed a division of dentistry known as periodontia which deals with diseases of the periodontal tissues. Researchers in this field have established that massage of the gums is necessary both to avoid many common ailments, and as a therapeutic treatment for many gum conditions.

However, the conventional toothbrush is not suitable for the massage of gums, and in fact the use of a conventional toothbrush by unskilled persons for the massage of their gums may lead to injurious consequences.

This invention has as an object the provision of a novel toothbrush.

This invention has as another object the provision of a toothbrush which may be used for both the brushing of the user's teeth and the massaging of his gums.

This invention has as yet another object the provision of a toothbrush having a single-use toothbrush head which contains its own supply of dentifrice.

This invention has as a different object the provision of a single-use toothbrush having disposable toothbrush heads, which heads occupy a comparatively small volume when stored prior to use.

This invention has as yet another object the provision of a toothbrush whose toothbrush head is sterile prior to use.

Other objects will appear hereinafter.

For the purpose of illustrating the invention there is shown in the drawings forms which are presently preferred; it being understood, however, that this invention is not limited to the precise arrangements and instrumentalities shown.

Referring to the drawings wherein like reference characters refer to like parts:

Figure 1 is a fragmentary perspective view of the toothbrush of the present invention.

Figure 2 is a section on line 2-2 of Figure 1.

Figure 3 is an exploded perspective view of another embodiment of the toothbrush of the present invention.

Figure 4 is a sectional view taken on line 4-4 of Figure 3.

Figure 5 is a sectional view showing the toothbrush head of the present invention in its enlarged condition after being wet.

Referring to the drawings and initially to Figures 1 and 2 the toothbrush of the present invention is designated as 10 and comprises the handle 12 which includes the customary shank 14, which due to its conventional construction is but partly shown in Figure 1. The handle 12 includes toothbrush head retention means 16 which in the embodiment of Figures 1 and 2 comprises a clip having jaws 18 urged together by the spring 20. Toothbrush head retention means 16 includes a thumb engaging member 22 upon which pressure may be exerted by the user of the toothbrush to overcome the action of the spring 20 and spread the jaws 18 apart. In the

2

absence of pressure by the user on thumb engaging member 22 sufficient to overcome spring 20 the jaws 18 are normally urged together.

The toothbrush head 24 of the present invention may be employed in both the toothbrush embodiment of Figures 1 and 2 and the toothbrush embodiment of Figures 3 and 4. Such toothbrush head 24 comprises a folded outside member 26 integrally formed from a material which expands greatly when wetted with water. A suitable material for forming folded outside member 26 comprises expandable cellulose, such as the so-called Sponcal expandable cellulose. This material when wetted expands laterally to more than double its original size and yields a cellular, porous cushion-like material which is ideally suited for the massaging of the user's gums. The folded outside member 26 should be formed of such material that the same expands to more than double its original dimension in at least one direction on being wetted with water. Preferably, the material of which folded outside member 26 is made should be spongy in nature and resilient and cushion-like in its physical characteristics when wetted with water.

The free uppermost edges of folded outside member 26 may be scalloped to form the projections 28. The scalloping of folded outside member 26 provides for the facile expansion of folded outside member 26 when wetted, as will be more fully explained below.

A plurality of bristles 30 are disposed intermediate the folded outside member portions 26 of toothbrush head 24, such bristles being disposed with their longitudinal axis extending generally vertically. The uppermost ends of bristles 30 lie generally in the same plane as the uppermost portion of the scalloped projections 28. The bristles 30 carry the dentifrice 32 which may be disposed at the base of bristles 30, as on the floor formed by the bight 33 of the folded outside member 26. Dentifrice 32 may be disposed along the bristles 30 and may extend to their uppermost portion. The dentifrice 32 may be of the type which foams when wetted with water, or which is otherwise activated when wetted with water. A wide variety of conventional dentifrices are available in the form of powders and may be used in toothbrush head 24. An adequate supply of dentifrice 32 may be carried on or adjacent the bristles 30, and in connection with the amount of this supply compensation may be had for dentifrice absorbed or lost to the folded outside member when the same is expanded.

Stitching 34 disposed near the bottom of toothbrush head 24 may be relied upon to retain the folded outside member in its folded disposition with the bristles 30 secured intermediate the folded portions of such folded outside member.

As shown in Figures 1 and 2 the toothbrush head 24 is of somewhat greater length than the length of the jaws 18 so that exposure of the user's gums to the ends of the jaws 18 is not possible.

The toothbrush head 24 is withdrawn from its package, which is preferably in the form of a magazine. The toothbrush heads 24 may be individually packaged in sterile envelopes. Sterilization of the toothbrush heads 24 may be achieved by exposure to heated air.

When wetted the folded outside member 26 expands in the manner shown in Figure 5. A comparison between Figures 4 and 5 will reveal the degree of expansion. The uppermost ends of scalloped projections 28 are preferably blunted as shown particularly in Figures 1 and 3, so that when the scalloped projections 28 flare outwardly, generally fan-like, the blunted surfaces are available as a surface for the massaging of the user's gums. Simultaneously with the wetting of the toothbrush head 24 the dentifrice 32 is activated permitting the user to brush his teeth with the bristles 30. Stich-

ing 34 prevents the lower portion of the folded outside member 26 from flaring outwardly.

Referring now particularly to Figure 3, there is shown therein another embodiment of the toothbrush of the present invention designated generally as 38. In this embodiment, the toothbrush 38 is provided with a handle 40 having a shank 42 with a narrowed extent or neck 44 between the shank 42 and the head end 46 of handle 40. Head end 46 of handle 40 is characterized by the provision of longitudinal side flanges 48 which form a pair and enclose a longitudinal pocket or way 50 open at its extreme end 52 for the sliding reception and removal of the toothbrush head 24. The pocket or way 50 is provided with a stop shoulder 54 at its innermost end against which the toothbrush head 24 is engaged.

The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof and, accordingly, reference should be made to the appended claims, rather than to the foregoing specification as indicating the scope of the invention.

We claim:

1. A single-use toothbrush having a disposable single-use toothbrush head detachably carried on a handle, said head comprising a folded-over outside member formed from material which expands greatly when wetted, the base of said folded-over outside member being the bight of said folded-over outside member, a plurality of bristles disposed intermediate the plies of said folded-over outside member, said bristles being disposed with their longitudinal axis being generally vertical and extending upwardly from the base of said folded-over outside member, and stitching in the basal portion of said folded-over outside member for retaining said folded-over outside member in folded over disposition and said bristles in place.

2. A single-use toothbrush in accordance with claim 1 in which a dentifrice which is activated by contact with water is disposed on said bristles.

3. A toothbrush in accordance with claim 2 in which the free edges of the folded-over outside member are scalloped.

4. A toothbrush in accordance with claim 3 in which the material from which the folded-over outside member is formed expands in one dimension to more than double its original size when wetted with water, which material is both cellular and porous in its wetted condition.

5. A disposable single-use toothbrush head comprising a folded-over outside member formed from material which expands greatly when wetted, the base of said folded-over outside member being the bight of said folded-over outside member, a plurality of bristles disposed intermediate the plies of said folded-over outside member, said bristles being disposed with their longitudinal axis being generally vertical and extending upwardly from the base of said folded-over outside member, and stitching in the basal portion of said folded-over outside member for retaining said folded-over outside member in folded-over disposition and said bristles in place.

References Cited in the file of this patent

UNITED STATES PATENTS

846,900	Bloom	Mar. 12, 1907
991,876	Murray	May 9, 1911
1,349,680	Link	Aug. 17, 1920
1,470,710	Davis	Oct. 16, 1923
2,121,373	Turner	June 21, 1938
2,159,914	Tweddale	May 23, 1939

FOREIGN PATENTS

1,016,589	France	Aug. 27, 1952
-----------	--------	---------------