This invention relates to a self-contained disposable toothbrush, and has for an object to provide a toothbrush or other brush that provides a complete brush combination. When a toothbrush, it also includes toothpaste or other dentifrice and also an oral rinse or mouthwash, but it may also be made as a brush for other analogous purposes, such as a shaving brush, shaving cream in the compartment dispensing to the brush, and after shave lotion in the other compartment. It could be also used in any other combination where a brushing material is dispensed to the brush head, and a second material is used subsequent to the use of the brushing material.

An additional feature of this invention is that the entire combination may be made of suitable plastic material so inexpensively that it can be used only once and then be disposed of or thrown away.

This new invention should be ideal for, and is meant primarily for, the busy person. For instance, one who is unable to get home after a day's work before he must again rush to another appointment, but wishes he could freshen up and brush his or her teeth. By slipping one or two of these into the pocket or purse, the busy person will have a good brush instantly and conveniently available, without the trouble and thought of saving the brush after using and without the bother and inconvenience of carrying separate paste and a bottle of oral rinse along.

This new toothbrush will also be a very good and welcomed item when made available through vending machines in public restrooms, in depots, etc. It will be an excellent aid in hospitals, due to the fact that it is disposable. It is also a practical item when used as a gift to patients by the airline (these gifts are commonly known as "passenger service items"). This is also true in some hotels and motels.

In brief, the combination fountain brush of this invention includes a brush head and elongated tube handle made of molded plastic and/or vinyl-like plastic material so inexpensive as to be economical enough to dispose of after using only once. The brush head has a threaded aperture in one end for threadedly receiving and holding a threaded male end of an elongate tube handle. A conduit, having a seal puncturing end extending into the threaded aperture, of somewhat smaller diameter than that of the threaded aperture, leads to the base of the bristles on the brush head. The threaded male end of the tube handle is threadedly parted into the threaded aperture of the brush head, and left there, stopping short of puncturing position. A transverse sealing membrane closes the aperture in the male end from a first brushing material or toothpaste compartment therewith containing enough toothpaste for one use, a second elongate compartment, separated from the first compartment by a dividing wall, terminates in a readily breakable tapered tip at its other end, and contains suitable material for use subsequent to the use of the brushing material. When the combination is a toothbrush, the second compartment contains just enough oral rinse or mouthwash for one use and the tip may be broken by biting it, then draining the material directly into the mouth for usual use. In addition, a pliable plastic membrane may be wrapped about the brush head and over the adjacent end of the first compartment, thus holding the handle from separating accidentally from the brush head, as well as keeping the bristles clean. To make the toothbrush or other brush ready for use, the brush head is tightened on the handle, causing the puncturing end of the conduit to cut the seal of the sealing membrane, and the brushing material or toothpaste is then dispensed to the bristles by merely squeezing the compartment in which it is carried. Then, when the brushing action is completed, the user reverses the handle, bites the tip and drains the mouthwash into his mouth, after which the entire device may be thrown away or otherwise disposed of. The tube handle resembles that frequently seen pliable plastic squeeze tube so common in the drugstore, often used for antiseptic cream.

This type of tube is rigid because of its tubular construction, and yet pliable due to the material used, and is generally heat sealed at one end, just as is the breakable tip end of this invention. The divider wall between the two elongate compartments in the handle is provided by squeezing and heat sealing an intermediate portion of the elongate handle. The head thereof is similar material, and the bristles may also be of the same material, or any other inexpensive plastic material.

The compartments are filled with appropriate material in the manner quite conventional in the art of filling plastic tube compartments.

With the above and related objects in view, this invention consists in the details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawing, in which:

FIG. 1 is a side elevational view of the combination fountain toothbrush of this invention, wrapped that it may be carried in the pocket and stay clean ready for use.

FIG. 2 is a top plan view thereof, the wrapper having been removed, and the handle having been threaded all the way into the brush head making it ready for use.

FIG. 3 is a partly exploded, partly sectional view, on line 3--3 of FIG. 2.

FIG. 4 and FIG. 5 are sections on lines 4--4 and 5--5 of FIG. 3.

There is shown at 10 the combination disposable fountain toothbrush, dentifrice dispenser and oral rinse container of this invention, with a plastic wrapper 12 enveloping the brush head 14 and bristles 16 and heat sealed at 18 to the elongate tube handle 20 just beyond its threaded male end 22. A sealing membrane 24 closes off the end of the compartment 26 within which is located the toothpaste 28. This toothpaste compartment 26 extends to the dividing wall 30 provided by heat sealing an intermediate, squeezed together portion of the tube handle 20, thus providing a second compartment 32 which terminates in a tapered, heat sealed, breakable end 34, and in which is carried the oral rinse, or other liquid 36.

At one end of brush head 14 there is provided a threaded, female aperture 38 complementary to the male threaded end 22 of the tube handle 20, the threaded aperture 38 terminating in an outwardly flared shoulder 40 complementary to a beveled shoulder 42 on the male end 22 of handle 20. A conduit 44 extends from the base of the bristles 16 through the brush head 14, and terminates in a sharpened, puncturing end 46, this end 46 having a diameter less than that of the threaded aperture 38, and also not larger than the internal diameter of male end 22, so that, when male end 22 is tightened into female threaded aperture 38, sealing membrane 24 is cut away. In operation, the person using the toothbrush may carry it in a pocket or hand bag until needed, the same remaining sanitary due to the presence of the enveloping wrapper 12. When being used, the handle 20 is
rotated relative to the brush head 14 to cause the threaded male end 22 to enter further into the aperture 38, cutting through the sealing membrane 24 and extending until the complementary shoulders 40 and 42 abut, thus holding and locking the elongate tube handle 20 firmly to the brush head 14, enabling the toothbrush to be used in the mouth in the usual manner.

The same rotation of the handle 20 into the brush head 14 also breaks the envelope wrapper 12 loose at its heat sealing connection 18, thus making it possible to readily remove the envelope wrapper 12 from the bristles 16, whereupon the toothpaste 28 may be dispensed onto the bristles 16, by squeezing the compartment 26.

Then, after the teeth have been brushed, the handle 20 is reversed, and the tip 34 is readily broken by biting it with one’s teeth, and the oral rinse 36 is discharged into the mouth by squeezing the compartment 32. Thereafter, the entire device may be thrown away or otherwise disposed of.

In the drawings, like numbers refer to like parts, and for the purposes of exposition, marshalled below are the numbered parts of the improved combination disposable fountain toothbrush, dentifrice dispenser and oral rinse container:

10 combination disposable fountain toothbrush, toothpaste dispenser and oral rinse container
12 plastic membrane envelope wrapper
14 brush head
16 bristles
20 elongate tube handle
22 threaded male end of 20 and of compartment 26
24 sealing membrane on 22
26 toothpaste (first) compartment in 20
28 toothpaste
30 dividing heat sealed wall between 26 and 32
32 oral rinse (second) compartment
34 tapered heat sealed tip end of compartment 32
36 oral rinse in 32
38 threaded female aperture in 14
40 outwardly flared shoulder end of 38
42 complementary beveled shoulder on 22
44 conduit in 14
46 membrane puncturing end of 44

Although this invention has been described in considerable detail, such description is intended as being illustrative rather than limiting, since the invention may be variously embodied, and the scope of the invention is to be determined as claimed.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

1. A combination fountain brush, brushing material dispenser, and liquid container comprising a brush head, bristle means mounted thereon, a conduit extending from said bristle means toward but short of one end of said brush head, said conduit terminating in a puncturing means, said one end having a nesting aperture therein extending into said brush head about said puncturing means on the end of said conduit, and a two compartment elongated fountain tube handle having one sealed male end of one compartment complementary to said nesting aperture in said brush head end, means for holding said sealed male end in said nesting aperture in non-puncturing position as well as in punctured position, a breakable tip at the opposite end of said elongate handle connected to the second compartment therein, a brushing material in said first mentioned compartment, and a liquid complementary in use to said brushing material in said second compartment.

2. The fountain brush of claim 1, said brush head being a toothbrush, said brushing material being a dentifrice, and said complementary liquid being an oral rinse.

3. The fountain brush of claim 1, said nesting aperture and said sealed male end of said handle being complementary threaded thereby providing, said sealed male end having a transverse sealing membrane extending across its opening and arranged to be punctured when said threaded male end is threaded over said puncturing means on said conduit, said elongated handle being of a pliable plastic material sealed at an intermediate portion between its ends thereby providing the two compartments therein.

4. The fountain brush of claim 1, said elongated handle being of a pliable plastic material sealed at an intermediate portion between its ends thereby providing the two compartments therein.

5. The fountain brush of claim 1, said brush head being a toothbrush, said brushing material being a dentifrice, and said complementary liquid being an oral rinse, said nesting aperture and said sealed male end of said handle being complementary threaded thereby providing said holding means, said sealed male end having a transverse sealing membrane extending across its opening and arranged to be punctured when said threaded male end is threaded over said puncturing means on said conduit, said elongated handle being of a pliable plastic material sealed at an intermediate portion between its ends thereby providing the two compartments therein.

6. The fountain brush of claim 5, said handle having its male threaded end nested in said brush head aperture and in non-puncturing position, and a readily removable wrapper enclosure enclosing said brush head and bristles therein and secured to said handle extending beyond said threaded male end.

7. The brush of claim 6, said envelope being of readily tearable material, whereby when said male end is threaded into said aperture to membrane puncturing position, said envelope is thereby torn for easy removal.

8. The brush of claim 6 and complementary shoulders on said threaded male end of said handle and about said female threaded aperture of said brush head, said shoulders being abutted by threading said male end into said female aperture to firmly hold said handle to said brush head.

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