

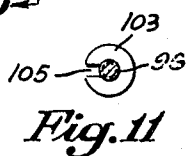
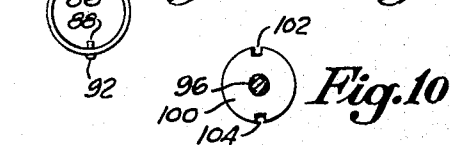
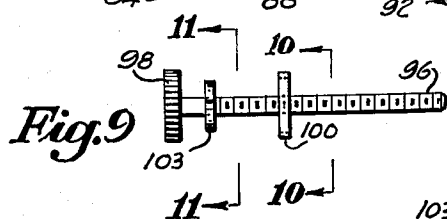
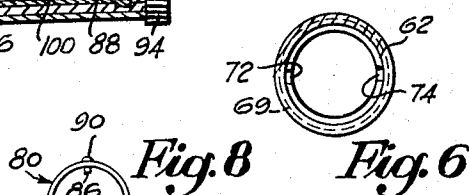
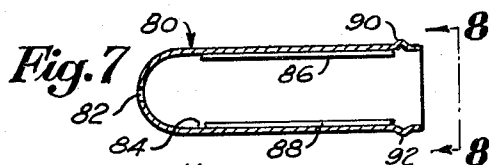
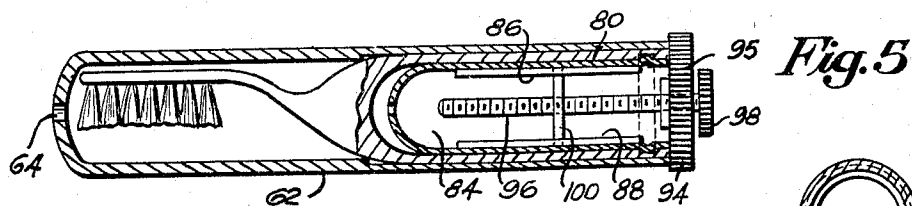
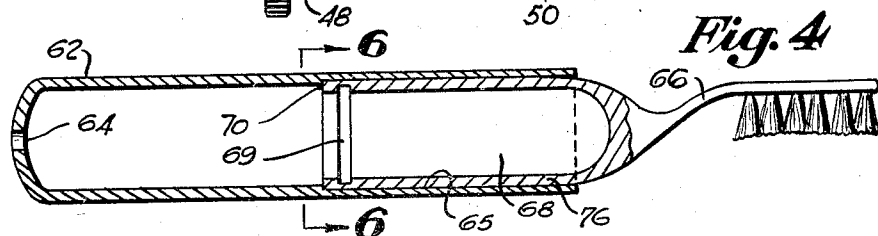
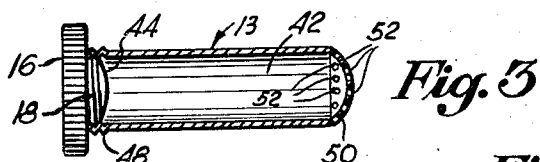
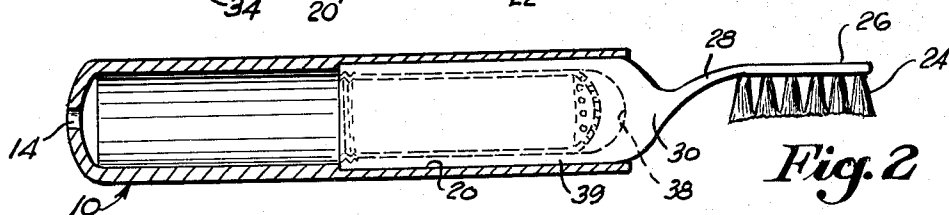
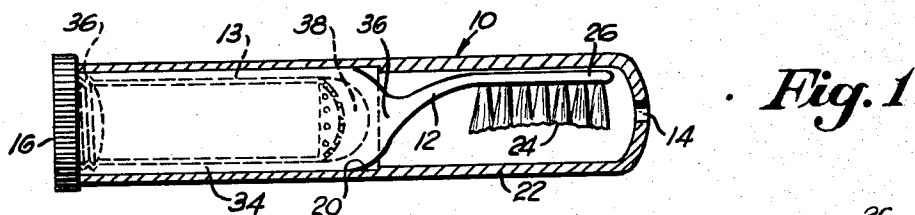
Nov. 29, 1960

P. REUTER

2,962,032

TOOTH BRUSH

Filed June 17, 1958



INVENTOR  
PAUL REUTER  
BY  
Richards & Meier  
ATTORNEYS

1

2,962,032

## TOOTH BRUSH

Paul Reuter, 23 Park Ave., Avenel, N.J.

Filed June 17, 1958, Ser. No. 752,534

2 Claims. (Cl. 132—84)

The invention relates to a tooth brush and refers more particularly to a combined tooth brush and holder which is provided with a suitable compartment for holding a dentifrice.

On many occasions, for example, while traveling, it is necessary to be supplied with a tooth brush and a tooth dentifrice. These items are generally purchased separately and require separate spaces in a travelling kit or bag. They require a substantial amount of space in a medicine cabinet, and they are so bulky that the user cannot comply with the requirement of modern dentistry of "brushing teeth after every meal."

It is an object of the present invention to provide suitable means for storing a tooth brush as well as a tooth dentifrice within a readily transportable and compact tubular holder.

It is another object of the present invention to provide novel means for storing a tooth brush as well as a dentifrice within a compact tubular holder which is capable of being simultaneously used as a gripping portion for the handle portion of the tooth brush during use.

Still another object of the present invention is to provide means for storing a dentifrice within a tooth brush which is readily carried within the confines of an appropriate tooth brush holder.

Yet a further object of the present invention is to provide means for releasing a dentifrice from its container disposed within a tooth brush which is readily carried within the confines of an appropriate tooth brush holder.

Other objects of the present invention will become apparent during the course of the following specification.

In the attainment of the aforesaid and other objectives, the inventive concept of the present invention may be realized through the provision of a compact, transportable, tubular holder carrying a tooth brush, and a dentifrice container disposed in a cavity or handle portion of the tooth brush. The tubular holder may be conveniently adapted for use as a gripping portion when frictionally engaged with the handle portion of the tooth brush. The tooth dentifrice container likewise may be readily removed from the tooth brush cavity in order to release and apply the dentifrice to the bristles.

The dentifrice of the present invention may consist of tooth paste, tooth powder or tooth soap.

The device of the present invention can be conveniently kept in medicine chests of households; it can be also carried in a pocket by school children and adults. Furthermore, it is particularly suitable for campers, Armed Forces, scouts and travelers.

A fuller understanding of the present invention may be had by referring to the following description taken in conjunction with the accompanying drawings, showing by way of example preferred embodiments of the inventive idea.

In the drawing:

Figure 1 is a longitudinal section of the tooth brush, holder, and dentifrice container constituting an embodi-

2

ment of the present invention showing the unit in a stored condition.

Figure 2 is a longitudinal section of the tooth brush, and holder showing the unit in an operative position.

Figure 3 is a longitudinal section of the tooth dentifrice container and cap.

Figure 4 is a longitudinal section of the tooth brush and holder constituting another embodiment of the present invention, showing the unit in an operative position.

Figure 5 is a longitudinal section of the tooth brush, holder, and dentifrice container constituting another embodiment of the present invention showing the unit in a stored, transportable condition.

Figure 6 is a transverse view taken through the tubular holder along the line 6—6 of Figure 4.

Figure 7 is a longitudinal view of the dentifrice holder.

Figure 8 is a transverse view taken through the tubular dentifrice container along the line 8—8 of Figure 7.

Figure 9 is a longitudinal view of the stem member.

Figure 10 is a transverse view taken through the disc along the line 10—10 of Figure 9.

Figure 11 is a transverse view taken through the disc along the line 11—11 of Figure 9.

Referring now to the drawing in greater detail, wherein like reference numerals indicate like parts, reference numeral 10 indicates a tubular casing carrying a tooth brush 12, and a tooth dentifrice container 13.

The tubular casing 10 is provided with an air vent 14 at one end thereof. A knurled cap 16 carrying a threaded plug 18 serves as closure means for one open end of the tubular casing 10 and tooth dentifrice container 13. A partially recessed inner wall 20 disposed at one end 22 of the casing 10 snugly accommodates the tooth brush 12.

The tooth brush 12 is provided with a plurality of bristles 24 which are secured firmly to a backing 26. A shank portion 28 connects the backing 26 with a collar portion 30. The collar portion 30 gradually widens at its base to form a cylindrical handle portion 34, inside of which is a cavity 38 of sufficient dimension to conveniently house the tooth dentifrice container 13. The handle portion 34 is provided with a flat, smooth outer wall 39. An inner threaded wall 36 is disposed at the closure end of the handle portion 34.

The tooth dentifrice container 13, shown in Figure 3, is provided with a cavity 42 of sufficient dimension to accommodate a considerable amount of tooth dentifrice, for example, in powder form. One end of the container 13 is further provided with an inner threaded wall 44 and an outer partially threaded wall 48. The threaded plug 18 with the knurled cap 16 is removably carried by the inner threaded wall 44, while the inner threaded wall 36 is correspondingly adapted to accommodate the outer partially threaded wall 48 of the container 13. The opposite end 50 of the container carries a plurality of openings 52 for releasing the dentifrice from the cavity 42 when needed. The greater portion of the outer wall 52 of the container 13 is smooth and flat, so that it is correspondingly engaged by the inner walls of the cavity 38 of the handle portion 30. Likewise, the outer wall 39 is a smooth and flat surface, so that it is frictionally carried by the evenly recessed flat wall 20 of the casing 10.

When the dentifrice consists of tooth soap, the container 42 may be eliminated and replaced by a correspondingly shaped cake of tooth soap.

In operation, the user unscrews the knurled cap 16 of the unit shown in Figure 1, while simultaneously withdrawing and unscrewing the tooth brush 12 from the casing 10. After the tooth brush 12 is removed from the casing 10, the user proceeds to unscrew the dentifrice container 13 from the cavity 38 of the brush 12. After

3

the container 13 is removed, the handle portion 34 is firmly inserted into the recessed wall 20 of the casing 10. The bristles 24 are now ready for the dentifrice, and it is applied through the openings 52 by shaking the container 13 lightly over the bristles 24. The brush 12, which is readily dismantled after using, is replaced into the cavity of the casing 10 by sliding it therein in such a manner that the outer walls 38 are contiguously positioned against the recessed walls 20. The container 13 is then firmly screwed into position within the cavity 38 of the tooth brush handle portion 34.

In accordance with the second embodiment of the present invention shown in Figures 4 to 11 in the drawing, another cylindrical casing 62, having an air vent 64 disposed at one end thereof, and a partially recessed inner wall 65 at another end, is provided with a tooth brush 66 which also has a compartment 68 similar in construction to the compartment 38 of the first embodiment with the exception, however, that an inner circumferential groove 69 is disposed near the end 70 of the recessed wall 65.

As illustrated in Figure 6, the circumferential groove 69 communicates with two notches or passages 72 and 74 diametrically disposed directly opposite each other. An outer cylindrical wall 76 is frictionally engaged and contiguously positioned against the inner recessed wall 65 of the casing 62 when the unit is dismantled and stored.

The dentifrice container 80 is provided with an opening 82 at one end thereof for releasing powder or other similar dentifrice therefrom upon the bristles of the tooth brush 66. An inner cavity wall 84 has two side ridges 86 and 88 formed therein and which are disposed directly and diametrically opposite each other. The two ridges 86 and 88 originate near the circumferential groove 69 and extend in a straight line parallel to each other running downward and toward the base of the container 80.

Directly opposite the circumferential groove 69 disposed on the outer wall 89 of the container 80 are two guide projections 90 and 92 situated directly and diametrically opposite each other. The guide projections 90 and 92 are of such dimension that the two passages 72 and 74 upon insertion of the container 80 into the compartment 68 of the tooth brush handle portion will allow them to pass therethrough and become secured, yet movable, in the circumferential groove 69.

A knurled cap 94 for closing the container 80 is provided with an aperture 95 through which a stem member 96 equipped with another smaller knurled cap 98 is inserted. The knurled cap 98, smaller in diameter than the knurled cap 94, is superposed to cap 94 which is of sufficient diameter to conveniently cover the compartment of both the tooth brush 66 and the casing 62 when the unit is in a closed and stored position.

As illustrated in Figure 9, the stem member 96 is equipped with a movable disc 100 and a movable, radially slotted disc 103. The disc 100 is provided with two grooves 102 and 104 disposed directly and diametrically opposite each other. The grooves 102 and 104 are movably guided along the two side ridges 86 and 88 disposed within the inner cavity wall 84 of the container 80. The disc 103 is likewise movable along the stem member 96 and is provided with a radial slot 105. This slot 105 is of sufficient dimension to allow a quantity of dentifrice, such as tooth paste, to leave the container compartment and to be applied to the bristles of the tooth brush without loss or spillage. The larger disc 100 permits the entire quantity of tooth dentifrice to be constantly moved forward as the supply gradually

4

diminishes by alternately opening and closing the container compartment with the knurled cap 94 of the container 80, while simultaneously pulling the smaller knurled cap 98 outwardly when the bulk of the dentifrice is desired to be brought forward.

To remove the container 80 from the compartment of the tooth brush handle portion, the guide projections 90 and 92 are aligned with the passages 72 and 74, so that a slight backward pull of the knurled cap 94 will readily release the container 80 therefrom.

It is to be understood that the present invention is not restricted to any of the embodiments hereinabove described, but includes such embodiments and equivalents as fall within the scope of the appended claims.

What is claimed is:

1. A combined tooth brush and tooth brush holder, comprising a casing, a tooth brush removably carried in said casing, said casing having a recessed inner wall disposed at one end thereof and an air vent disposed at another end thereof, said tooth brush comprising a brush backing, bristles carried by said brush backing at one end thereof, a handle portion having a compartment at one end thereof and connected with said brush backing, said compartment having an inner circumferential groove disposed at one end of said compartment, and two grooves disposed opposite each other and communicating with said circumferential groove, a dentifrice-container removably carried by said compartment, and having an opening disposed at one end of said container, said container having two side ridges disposed opposite each other and carried by the inner wall thereof, and two side projections disposed opposite each other and carried by the outer walls of said container, a knurled cap having a central aperture therein and removably carried by said container, a stem member comprising a knurled cap smaller than said first-mentioned knurled cap at one end thereof and removably carried by said central aperture, a disc having two oppositely disposed peripheral grooves and a central aperture and carried by said stem member, and another slotted disc smaller than said first-mentioned disc and carried by said stem member.

2. In combination, a tooth brush comprising a backing, bristles carried by said backing, a hollow cylindrical handle portion, a collar portion connected with said handle portion and a shank portion connecting said collar portion with said backing, said handle portion having an inner-threaded wall portion; a casing adapted to receive said tooth brush and having a recessed inner wall adapted to be engaged by said collar portion when the tooth brush is within the casing, said casing having an open end and a closed end having an air vent formed therein, and a closure for the open end of said casing, said closure comprising a cap adapted to engage said open end, a threaded plug carried by said cap, and a dentifrice container having an inner threaded wall portion engaging the threads of said plug and an outer threaded wall portion engaging the inner threaded wall portion of said handle portion.

#### References Cited in the file of this patent

##### UNITED STATES PATENTS

793,259	Wilson	June 27, 1905
965,309	MacDonald	July 26, 1910
1,339,265	Levitan	May 4, 1920
1,505,363	Mather	Aug. 19, 1924
1,716,617	Brockelsby	June 11, 1929

##### FOREIGN PATENTS

246,842	Switzerland	Oct. 16, 1947
---------	-------------	---------------