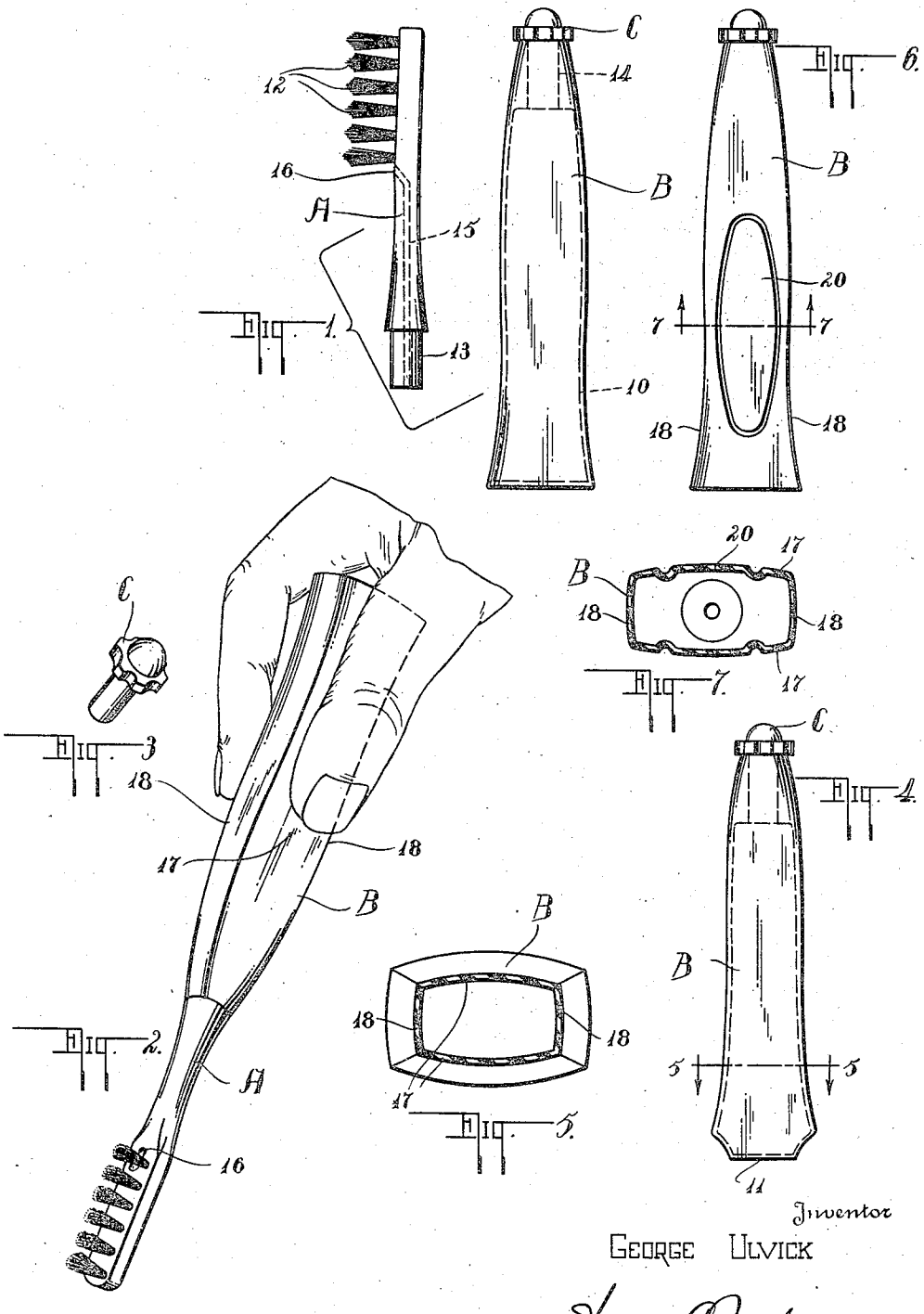
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TOOTHBRUSH

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TOOTHBRUSH

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2 Claims. (Cl. 15—136)

This invention relates to a toothbrush and flexible container which forms a vial for a dentifrice, the vial-like container being the handle for the toothbrush and having a character and closure means whereby said container handle may be dispensed as a unit with the brush head portion of the toothbrush.

A feature resides in providing a small flask or vial-like handle of flexible material for the toothbrush which has a cork or stopper for closing the same and is adapted to support the brush head of the toothbrush when the stopper is removed, or when the cork is in place, the handle acts as a container for the dentifrice and the toothbrush can be collapsed into a small package so that the unit consisting of the brush head and the vial handle for containing the dentifrice may be held in a small package or container. Thus my toothbrush provides a convenience for travelers who desire to have the dentifrice in the handle of the toothbrush and wherein the handle and the brush head are units adapted to operate together when desired for use, or collapsed into a small state when not in use.

A further feature resides in providing a toothbrush with replaceable brush heads, whereas the handle portion being the container for the dentifrice, may be used for a considerable time. It is of primary importance that the handle portion of this toothbrush be made of flexible plastic material so that by squeezing the side walls of the same toward each other, the dentifrice is caused to be forced out with a pumping action toward the bristles of the toothbrush. The natural expansion of the plastic handle acts to expand the handle portion sufficiently to draw air into the same so that with repeated impulses against the side walls of the container, all of the dentifrice can be forced out to the bristles. This dispensing of the dentifrice a degree at a time, permits drops or small quantities of the dentifrice to be dispensed to the bristles when desired.

It is also a feature to provide a toothbrush wherein a series of handle vials may be contained in a package with the toothbrush head and thus provide dentifrice in a convenient handle vial which may be quickly attached to the brush head for use. The handle vial and the toothbrush head act as a unit, co-operating and working together to provide the complete toothbrush for operation.

The drawing illustrates in Figure 1 the units of the toothbrush, namely, the brush head and the vial-like handle.

Figure 2 illustrates the units of the toothbrush put together, and the act of squeezing the side walls together to dispense dentifrice from the vial handle to the bristles of the brush.

Figure 3 illustrates the cork of the vial handle which closes the vial when the units are collapsed as is illustrated in Figure 1.

Figure 4 illustrates the vial handle with a different shaped bottom portion from that illustrated in Figure 1.

Figure 5 is a transverse section on the line 5—5 of Figure 4.

The unitary toothbrush consists of the brush head A and the vial-like flexible handle B. The handle B is provided with a stopper or cork C. The handle B and the cork C are made of plastic material and are of a nature wherein the wall portions of the handle are sufficiently thin to permit the walls to be flexed readily.

The handle B is hollow to form a chamber 10 within the same which is adapted to hold a supply of liquid or emulsified dentifrice. The handle is formed with a flat bottom portion 11 so that the vial handle B may be readily stood on end.

The brush head A is formed with the regular bristles 12 and is provided with a reduced shank which fits into the opening 14 in the handle B when the stopper C is removed so as to attach the brush head A to the vial-like handle B. A small passageway 15 is formed extending through the shank of the handle A and extends out at the point 16 adjacent the row of bristles 12.

When the toothbrush is desired for use and the portions A and B are put together after the stopper C has been removed, then by holding the brush in the position illustrated in Figure 2 and squeezing with the fingers against the side walls of the handle portion B, the dentifrice in the handle is caused to be pumped out through the opening 15 to the bristles 12 of the brush head A. The squeezing operation of the side walls of the vial handle B can be repeated the desired number of times to force the proper amount of dentifrice onto the bristles 12. This brush forms a convenient way of supporting the dentifrice right in the handle, and owing to the flexible nature of the handle portion B, the walls of the same may be operated to force the liquid to the bristles.

The shape of the vial handle B is such that a cross sectional thereof is more or less rectangular as illustrated in Figure 5, so as to provide comparatively wide side walls 17 and narrower longitudinally extending edge walls 18. The walls

18 form the rigidity for the handle B so that when it is grasped in the hand the side wall 17 will not be operated. Thus it is possible to grip the handle B firmly in the hand while brushing the teeth where the gripping pressure is directed to the edge walls 18 and no action is brought to bear on the handle B to cause any of the dentifrice to be discharged therefrom.

The flat bottom portion 11 of the vials B permit the handle to be stood on end either when separated from the brush head portion A or when the toothbrush is put together, and this provides a convenient means of using the toothbrush where the brush head may be held projecting upwardly rather than being laid down when the brush is not in use.

This toothbrush is not only convenient for traveling, but also is desirable because in one unit, one or more of the handle vials B may be provided, making it convenient for the operator to use the dentifrice from the handles without being necessary to refill the handles if it is not desired. Furthermore, one or more brush heads A may be provided as a unitary package along with a number of vial handles B, and thus the advantage of selecting different brush heads is available to the user rather than having just one toothbrush. The brush heads and handles may be made in various colors of plastic to make them more easily distinguished one from the other.

Figure 6 is a side view of another design of my handle vial B, showing an oval-shaped finger depressing surface 20.

Figure 7 is a cross-section on the line 7—7 of Figure 6.

Dentists have recommended that the brush heads be allowed to dry thoroughly between uses, and by this unit toothbrush construction, the user may have more than one brush head if he so desires, as well as a number of vial handles.

It is of primary importance that this toothbrush is of a unitary nature, each unit consisting of a brush head and a vial-like flexible handle which contains and supports a supply of dentifrice.

While the formation and design of this toothbrush may be varied without departing from the invention proper, the principles of the invention are within the scope of the following claims.

I claim:

1. The combination of a toothbrush comprising a bristle portion having a series of bristles projecting therefrom, a hollow shank formed on said bristle portion and providing an outlet duct into said bristles, a shoulder adjacent the inner end of said shank, a plastic vial-like handle portion for holding dentifrice and having a reinforced inner end for engaging said shank against said shoulder, wide longitudinally extending substantially flat thin side walls formed in said handle, narrow rigid longitudinally extending edge walls connecting with said side walls forming the body of said handle, and a transversely extending rear end wall integrally connected with said side and edge walls and adapted to form a bottom end for said handle to rest on to permit the dentifrice in said hollow shank to drain back into said handle.

2. A fountain toothbrush comprising a brush head with a bristle portion and a reduced portion forming a longitudinally extending shank and a shoulder, said brush head and shank having a continuous channel therethrough leading to said bristle portion, a hollow plastic rigid one-piece handle for said brush head, said hollow handle constituting a reservoir for dentifrice and having a resilient integral wide wall portion for feeding the dentifrice to said bristle portion when said wall portion is pressed by the hand of the user, said handle having a flat bottom and a thickened apertured integral neck portion frictionally receiving said shank with said shoulder acting as a stop.

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