

[54] **PORTABLE TOOTHBRUSH**  
 [76] **Inventor: Fred E. Sanders, 503 E. 108th St., Cleveland, Ohio**  
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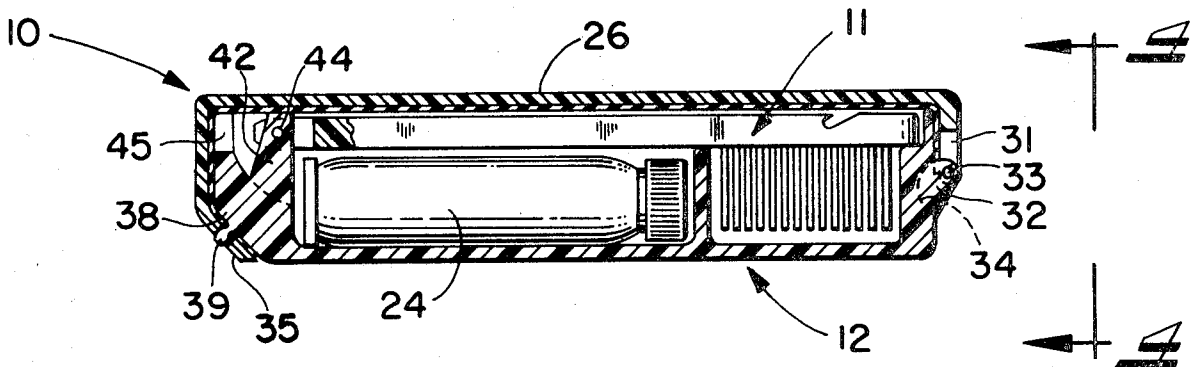
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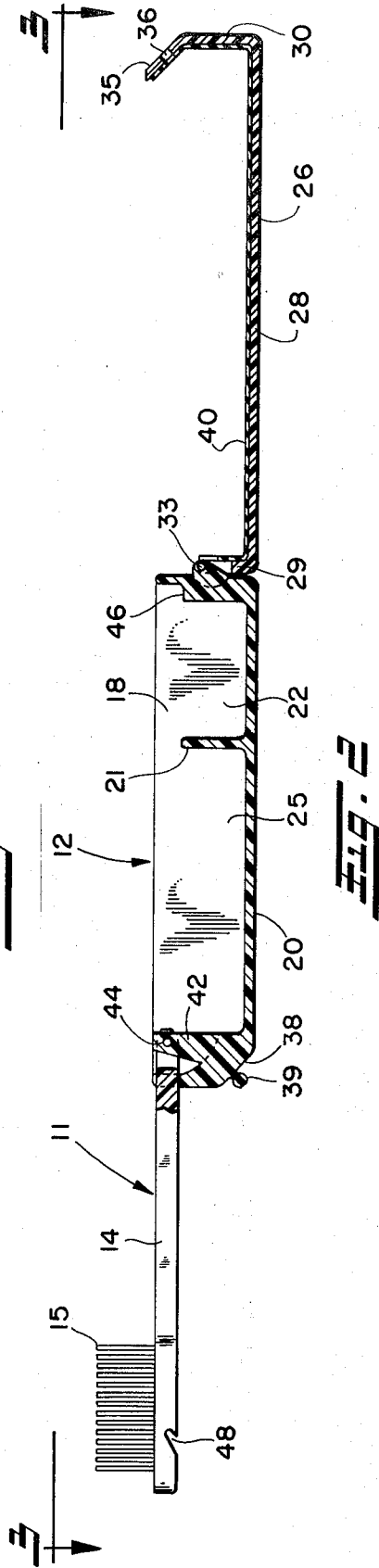
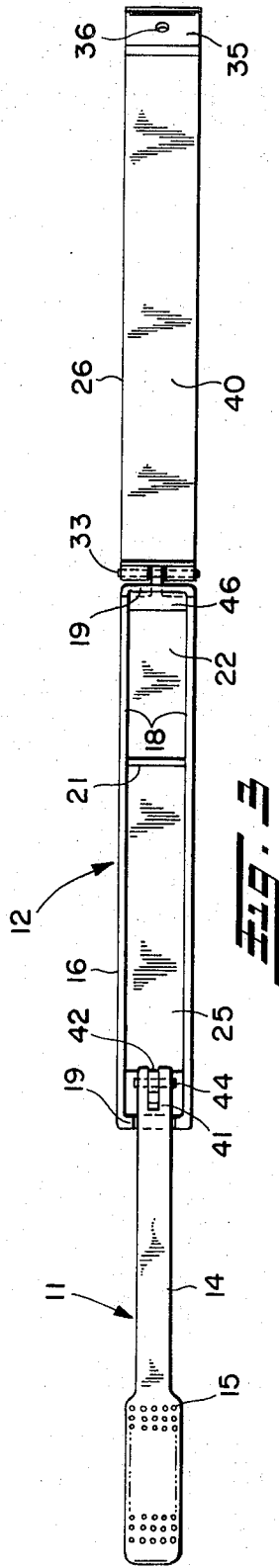
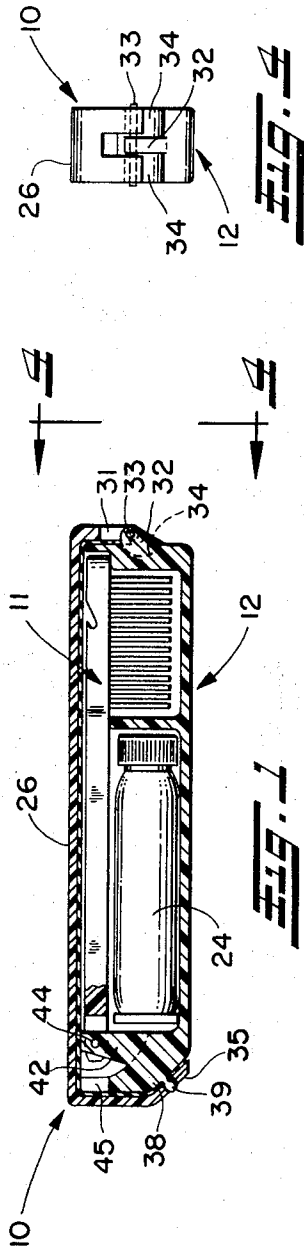
*Primary Examiner*—Louis G. Mancene  
*Assistant Examiner*—J. N. Eskovitz  
*Attorney*—Joseph B. Balazs et al.

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[57] **ABSTRACT**  
 An article of manufacture consisting of a toothbrush hinged in a plastic storage container, the latter serving also as a part of the handle. Brush and paste compartments are provided in the container and a sealing lid serves in the open position as a hanger for drying purposes.

**4 Claims, 4 Drawing Figures**





## PORTABLE TOOTHBRUSH

## BACKGROUND OF THE INVENTION

This invention relates to hygienic apparatus and more particularly to a new form of toothbrush formed in part by a container which serves for storage of the brush and affords portability for same.

Little consideration has been given in the past to the storage and convenience aspects of toothbrushes and the like other than for the initial packaging of same in a container which can be retained and used for storage purposes, however usually being discarded when first opened and not conveniently available thereafter. It would be desirable to have a toothbrush which is designed specifically for portable uses which is of the size suitable for carrying in the pocket or purse and in which the container is an integral part thereof, affording easy manipulation of the brush and a ready place for storage of same.

## SUMMARY OF THE INVENTION

The apparatus of this invention is especially suited for travel, overnight trips and the like where it is desired to carry a toothbrush on one's person or in a suitcase. It is also advantageous in the guest situation where it is desired that one's toothbrush is clearly identifiable and not subject to confusion or intermixing with those of the host or his family. Further the apparatus of this invention provides a product which may be conveniently carried on one's person much in the manner of a hair comb and is available for use at anytime, the usual usage of toothbrushes being limited to the early morning and late evening hours.

It is one object of this invention to provide a new form of toothbrush which is designed for carrying, having its own container as an integral part thereof.

It is another object of this invention to provide a new form of toothbrush which is especially suited for portable applications and which is clearly distinguishable from conventional forms of toothbrushes.

It is a further object of this invention to provide an improved toothbrush which is foldable and in the folded state is smaller in at least one dimension than the conventional toothbrush.

It is a yet further object of this invention to provide improved toothbrush apparatus which is conducive to maintenance of a sanitary brush both in storage and portable conditions of same.

Other objects and advantages of the present invention will become apparent as the following description proceeds.

To the accomplishment of the foregoing and related ends, the invention, then, comprises the features hereinafter fully described, the following description and the annexed drawings setting forth in detail a certain illustrative embodiment of the invention, this being indicative however of but one of the various ways in which the principles of the invention may be employed.

## DESCRIPTION OF THE DRAWINGS

In said annexed drawings:

FIG. 1 is a cross-sectional view of the apparatus of the invention shown in the folded and carrying position;

FIG. 2 is a cross-sectional view of the apparatus of the invention shown in the unfolded operational condition;

FIG. 3 is a plan view of the apparatus of the invention taken along the lines 3—3 of FIG. 2; and

FIG. 4 is an end view of the apparatus of the invention in the folded condition taken along the lines 4—4 of FIG. 1.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT OF THE INVENTION

The improved toothbrush apparatus 10 of this invention comprises a toothbrush portion indicated generally at 11 and a container indicated generally at 12. The toothbrush 11 is of generally conventional configuration comprising an elongated handle 14 preferably made of a rigid plastic having a number of bristles 15 imbedded in one end thereof forming the brush. The handle 14 is substantially shorter in length than the conventional toothbrush handle, preferably being approximately two-thirds the length of a conventional handle but it will be clear that such dimension may be scaled upwardly or downwardly depending upon the intended usage. Further, overall dimensions may be scaled similarly, for example, for adult and children's sizes.

The container 12 consists of a rigid plastic housing 16 of generally rectangular configuration having a pair of side walls 18 spaced to accommodate the greatest width dimension of the toothbrush 11 and a pair of end walls 19 spaced sufficiently to receive the full handle length of the toothbrush. The housing 16 further comprises a bottom wall 20 and preferably the side walls 18, end walls 19 and bottom wall 20 are formed from a single piece of plastic by injection molding techniques or the like. Included in the container 12 is an inner wall 21 spanning the side walls 18 of the housing 16 and dividing the latter into compartments for receipt of the bristles 15 of the toothbrush 11 in one compartment 22 and for receipt of a tube of toothpaste 24 in the second compartment 25. As will be described in greater detail hereafter such inner wall 21 forms a support member for the toothbrush 11 when in the folded condition and serves to retain same in a predetermined position therein.

The container 12 further comprises a lid 26 for enclosing the housing 16 consisting of a substantially flat rectangular plate 28 of semi-rigid plastic material formed into a shape as seen most clearly in FIG. 2, including angularly extending upturned legs 29, 30 at either end thereof. One leg 29 provides a means for pivotal attachment to the housing 16 having a notch 31 therein adapted to receive a boss 32 extending from the end wall of the housing, being secured by a pin 33 passing through the leg 29 and the boss 32, with freedom for pivotal movement being allowed by recesses 34 formed in the end wall 19 of the housing adjacent the boss 32. The other leg 30 of the lid 26 includes an inwardly angled portion 35 at its upper end as viewed in FIG. 2 and includes an aperture 36 therein, which leg is adapted to conform as a flap with the end wall 19 of the housing 16 which also includes an angled portion 38. A stud 39 is integrally formed on such angled portion 38 of the housing and cooperates with the aperture 36 in the leg 30 of the lid to provide a means for securing the lid 26 to the housing 16, sufficient resiliency being provided in the material forming the lid 26 so that the aperture 36 may be deformed and easily snapped in place over the stud 39. A gasket 40 consisting of a thin layer of rubber or the like is bonded to the

interior surface of the lid 26 and in the closed condition engages the edges of the walls of the housing 16 as well as the end walls 19 to form a tightly sealed enclosure.

The handle 14 of the toothbrush 11 includes a bifurcation 41 at one end which is adapted to receive an up-  
standing boss 42 supported on and spaced inwardly of  
the end wall 19 of the housing, the handle 14 being piv-  
otally secured in place by a pin 44. The end wall 19 of  
the housing includes a notch 45 therein conforming to  
the width of the handle 14 and of a depth to support the  
handle in a position substantially parallel with the lower  
wall 20 of the container 12. The handle 14 is prevented  
from substantial sideways movement by the sides of the  
notch 45 and from movement downwardly by the bot-  
tom of the notch 45 and the pivot pin 44. It may be seen  
then that the container 12 and the toothbrush 11 may  
be grasped by the person using same when the tooth-  
brush is in such operative position most conveniently  
by placing the thumb against the top side of the handle  
14, forcing same downwardly into the notch 45 while  
grasping the container 12 with the palm and fingers. In  
this manner the toothbrush 11 may be manipulated in  
the conventional manner for tooth cleaning purposes  
and the combined length of the handle 14 and the hous-  
ing 16 is more than sufficient to be comparable to the  
length of a conventional toothbrush and afford access  
to any place within the mouth. In this operative posi-  
tion of the toothbrush the lid 26 is left free to hang from  
the end wall 19 of the housing 16 and extending sub-  
stantially along the same line as the toothbrush 14 and  
housing 16, provides little or no hindrance to operation  
of same.

In the storage position of the toothbrush apparatus  
10 as depicted in FIG. 1 the handle 14 is pivoted on the  
pin 44 out of the notch 45 and into the housing 16,  
being supported on the inner wall 21 and on one end  
wall 19 on a ledge 46 formed therein. The inner wall 21  
and ledge 46 in the end wall 19 are of such dimensions  
as to support the toothbrush 11 so that the bristles 15  
are spaced from the bottom wall 20 of the housing 16,  
this configuration preventing deformation of the bris-  
tles 15 and/or contamination of same from water de-  
posits and the like on the bottom wall 20 of the hous-  
ing.

In the storage position the leg 30 of the lid 26 closely  
overlies the end wall 19 of the housing 16 and the aper-  
ture 36 is secured over the stud 39 to retain the lid in  
place. It will be noted that the gasket 40 on the leg 30  
of the lid 26 effectively seals the notch 45 in the end  
wall 19 of the housing and that the opposite leg 29 of  
the lid is similarly provided with gasket material  
thereby sealing the container 12 to allow carrying of  
same without the possibility of moisture and the like ex-  
uding from the container. The toothbrush 10 in this  
configuration is substantially smaller in length than a  
conventional toothbrush and may be readily carried  
from place to place, the provision of a tube of tooth-  
paste 24 in the compartment 25 of the housing 16 al-  
lowing utilization in any location.

Referring again to the operative configuration of the  
apparatus 10 as depicted in FIG. 2 with the toothbrush  
11, housing 16 and lid 26 in a substantially aligned posi-  
tion, a notch 48 in the handle 14 of the toothbrush  
being provided for facilitating removal of same from  
the container, it will be clear that all elements of the ap-  
paratus 10 are exposed and that this configuration is  
suitable for drying purposes. Most conveniently the ap-

paratus 10 may be hung from a shelf, hook or the like,  
by placing the leg 30 of the lid 26 over an edge and dis-  
posing the apparatus 10 in a vertical position. It will be  
clear also that the aperture 36 in the leg 30 may be  
placed over a hook if desired and that the apparatus 10  
will assume substantially the same vertical disposition.  
It will be readily apparent then that the apparatus 10  
may be placed in a drying position in the bathroom area  
sufficiently removed from the area where other mem-  
bers of the household store their cleansing items to en-  
courage a sanitary condition and that the apparatus 10  
will be sufficiently distinguishable to avoid confusion.

Although a plastic container 12 is indicated as prefer-  
able it will be apparent that other materials would be  
suitable as well and that variations in the configuration  
of the apparatus are possible. For example instead of  
the stud 39 and aperture 36 closure shown, such com-  
ponents may be reversed in location or ledge-type fric-  
tion closures well known in the plastic art may be em-  
ployed. Additionally, if desired, the side walls 18 can be  
apertured to provide vents for drying the toothbrush  
while being carried in the closed condition.

The embodiments of the invention in which an exclu-  
sive property or privilege is claimed are defined as fol-  
lows:

1. Portable toothbrush apparatus comprising a tooth-  
brush, a housing for storing said toothbrush for carry-  
ing purposes, said housing having a pair of spaced apart  
side walls and a pair of end walls defining a cavity for  
receipt of said toothbrush therein, said toothbrush  
comprising a handle having brush bristles attached to  
one end, means pivotally mounting the other end of  
said handle within said housing adjacent one end wall  
thereof for pivotal movement of said toothbrush be-  
tween a stored position within said housing and an op-  
erative position with said handle and brush bristles ex-  
tending outwardly beyond said one end wall of said  
housing, said one end wall of said housing having a  
notch in the upper edge thereof conforming to the  
width of said handle and of a depth to support said han-  
dle in the desired operative position, said housing being  
adapted to be grasped for manipulation of said tooth-  
brush when in the operative position, and a lid for en-  
closing said housing when said toothbrush is in the  
stored position within said housing, said lid comprising  
a substantially flat rectangular plate having angularly  
extending legs at each end thereof, one of said legs  
being pivotally attached to the exterior surface of the  
other end wall of said housing below the upper edge  
thereof for pivotal movement of said lid between an  
open position extending outwardly from said other end  
wall and a closed position with said legs overlying both  
end walls of said housing, and a gasket bonded to the  
inner surface of said lid for providing sealed engage-  
ment with the upper edges of the walls of said housing  
and the exterior surfaces of said end walls of said hous-  
ing when in the closed position to form a tightly sealed  
enclosure, the exterior surface of said one end wall of  
said housing including an angled portion, and said  
other leg on said lid being angled inwardly to conform  
with said one end wall of said housing when in the  
closed position, said lid being formed of a semi-rigid  
material adapted to be flexed to allow said other leg to  
fit over said one end wall of said housing, a stud on said  
angled portion of said one end wall, and an aperture in  
said other leg of said lid, said other leg being adapted  
to be flexed to allow said aperture to receive said stud

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for releasably securing said lid to said housing to retain said toothbrush in the stored position therein.

2. The apparatus of claim 1 further comprising a notch in the side of said handle opposite said brush bristles to facilitate pivoting of said toothbrush from the stored position within said housing to the operative position.

3. The apparatus of claim 1 further comprising support means in said housing for engagement by said toothbrush when the latter is in the stored position

within said housing, said support means being adapted to prevent the bristles of said toothbrush from engaging said housing.

4. The apparatus of claim 3 wherein said support means comprises a member dividing said housing into two compartments, the bristles of said toothbrush being adapted for disposition in one compartment, and the second compartment being adapted for storage of a tube of toothpaste therein.

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