

[54] TOOTHBRUSH HOLDER AND STERILIZER

[57] ABSTRACT

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A toothbrush holder and sterilizer having a cylindrical body with an interior shoulder adjacent the upper end and a perforated bottom wall with an annular flange extending downwardly relative to the body. A fluid reservoir upstanding from the bottom wall, the reservoir being open at the top and having a plurality of annularly spaced openings spaced downwardly of the upper end of the reservoir. There is also an exterior shoulder adjacent the upper end of the reservoir in the same plane as the shoulder at the upper end of the body to support an annular disk having a plurality of spaced openings for reception of toothbrushes. A shallow cup is disposed on the flange on the bottom of the body for reception of condensed disinfectant or the like which will flow through the openings or perforations in the bottom wall. Any suitable disinfectant, antiseptic, germicide or the like in liquid form, is disposed in the reservoir and the fumes from the disinfectant pass upwardly and out of the upper end of the reservoir into the chamber where the bristled ends of the toothbrushes are disposed.

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[58] Field of Search 21/83, 122; 206/63.5, 485, 206/486, 515, 519, 520; 312/206

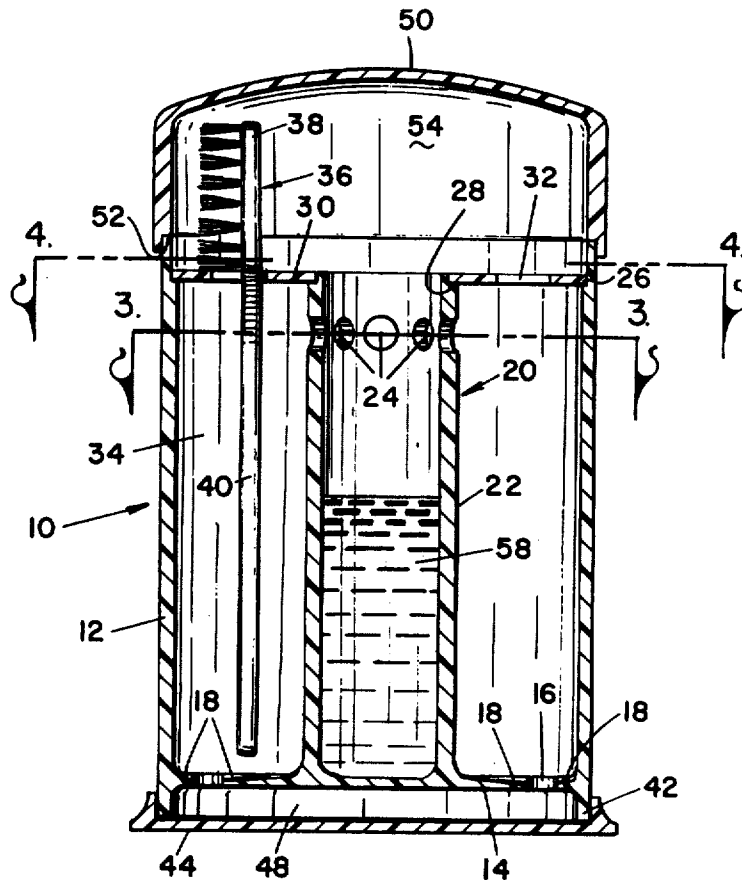
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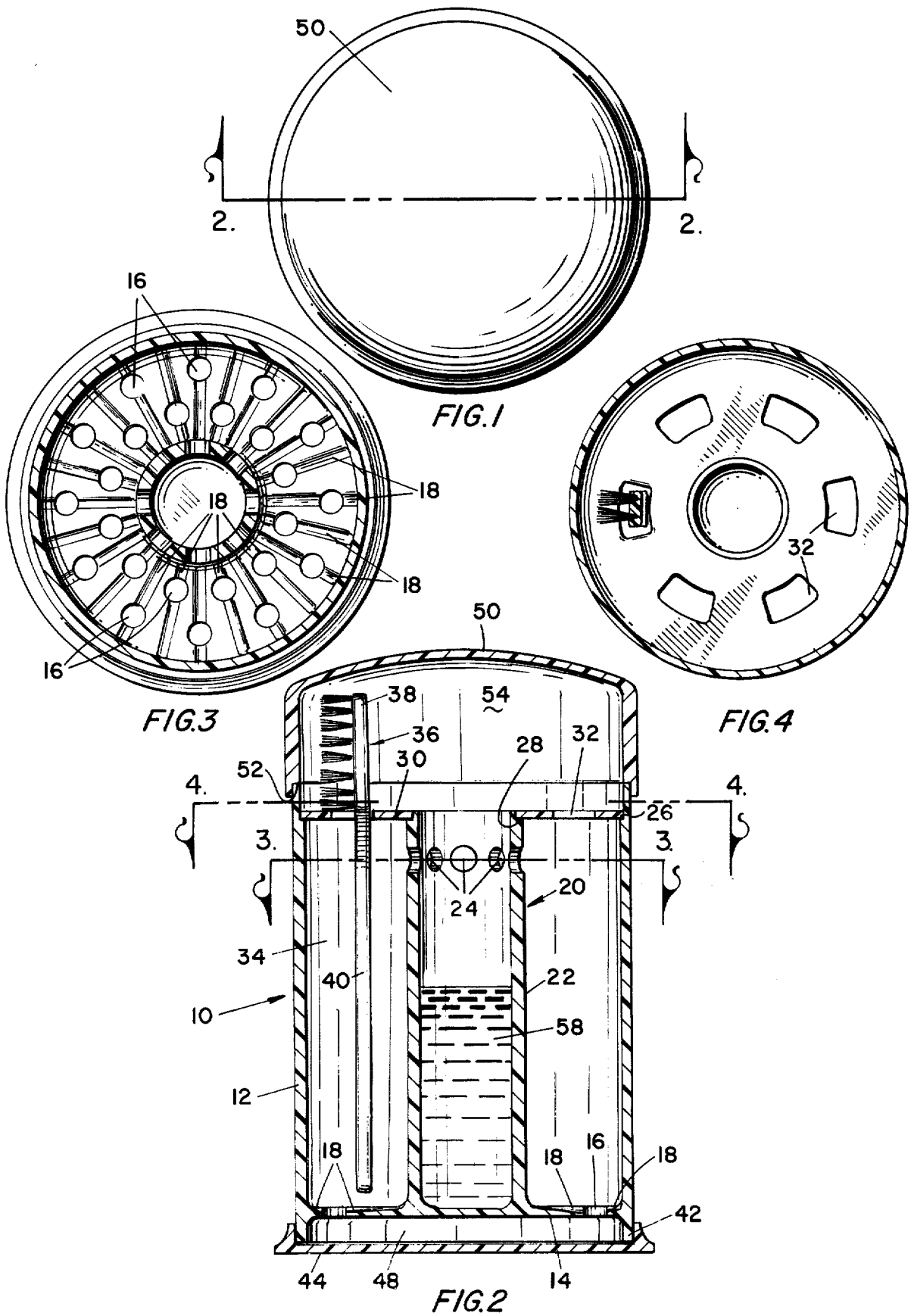
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4 Claims, 4 Drawing Figures





TOOTHBRUSH HOLDER AND STERILIZER**BACKGROUND OF THE INVENTION****1. Field of the Invention**

This invention relates generally to toothbrush holders and relates more particularly to toothbrush holders having means for sterilizing the brushes.

2. Description of the Prior Art.

Various devices have been proposed for holding and sterilizing toothbrushes but these generally are complicated in construction and hence are difficult and expensive to manufacture.

SUMMARY OF THE INVENTION

The invention comprises a cylindrical body having a bottom wall with perforations therein and a tubular reservoir upstanding from said bottom wall. The reservoir is open at the top and is provided with a plurality of annularly spaced openings providing communication between the interior of the upper end of the reservoir and an annular chamber defined by the annular wall of the body, the bottom wall and the reservoir. There is an annular interior shoulder at the upper end of the wall of the body and there is also an annular exterior shoulder at the upper end of the reservoir. These shoulders are in a common plane and an annular donut-shaped disk is removably disposed on these shoulders. A plurality of annularly spaced openings or holes are provided in the disk for reception of the handles of toothbrushes. The handles depend into the annular chamber below the disk and the parts of the toothbrushes having bristles are disposed above the disk. There is a cap having an annular interior shoulder adjacent the free edge and said cap is removably disposed on the upper end of the body and provides a compartment in which the bristled parts of the toothbrushes are disposed. At the bottom end of the body, there is an annular flange which extends below the plane of the bottom wall and a bottom cup is disposed on this flange to thereby provide a collecting chamber for condensed disinfectant, antiseptic or the like which is disposed in the lower portion of the reservoir and is in liquidated form. These fumes are adapted to pass from the reservoir into the compartment by way of the open end of the reservoir and additional fumes pass from the reservoir into the annular chamber through the openings in the reservoir wall adjacent the upper end of said reservoir. Fumes that condense in the compartment will flow downwardly into the chamber by way of the openings in which the toothbrushes are disposed and hence will flow into the collecting chamber by way of the holes in the bottom wall of the body. There are channels in the top of the bottom wall leading to the respective holes to facilitate drainage into said holes and thence to the collecting chamber.

OBJECTS AND ADVANTAGES OF THE INVENTION

It is an object of the present invention to provide a toothbrush holder and sterilizer that is simple in construction and relatively inexpensive to manufacture.

It is another object of the invention to provide a device of this character having means for supporting toothbrushes and for subjecting them to the disinfectant, antiseptic, germicide and the like.

It is a further object of the invention to provide a device of this character wherein a liquid disinfectant, an-

tiseptic, germicide in a reservoir from which the fumes will pass into the compartment in which the bristled parts of the brushes are disposed.

A still further object of the invention is to provide a device of this character having a cup defining a collecting chamber into which condensed fumes pass.

Still another object of the invention is to provide drainage means for facilitating drainage into the collecting cup or chamber.

The characteristics and advantages of the invention are further sufficiently referred to in connection with the following detailed description of the accompanying drawings, which represent one embodiment. After considering this example, skilled persons will understand that many variations may be made without departing from the principles disclosed and I contemplate the employment of any structures, arrangements or modes of operation that are properly within the scope of the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

Referring to the drawings which are for illustrative purposes only:

FIG. 1 is a top plane view of a device embodying the present invention;

FIG. 2 is a sectional view taken on line 2—2 of FIG. 1;

FIG. 3 is a sectional view taken on line 3—3 of FIG. 2; and

FIG. 4 is a sectional view taken on line 4—4 of FIG. 2.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring more particularly to the drawings, there is shown a device embodying the present invention and having a cylindrical body, indicated generally at 10, defined by a cylindrical wall 12. The lower end of the body 10 is closed by a wall 14 having openings or perforations 16 therein, there being channels 18 in said bottom wall inclined towards the openings 16 for drainage of condensed fumes of a disinfectant, or the like, as will be described more fully hereinafter. A cylindrical tubular reservoir, indicated generally at 20, is defined by cylindrical wall 22 which is upstanding from the bottom 14. The reservoir is open at its upper end and there are a plurality of openings 24 in the wall 22 of the reservoir spaced downwardly of the upper end of the reservoir. Wall 12 of the body has an interior shoulder 26 and the wall of the reservoir 22 has an exterior shoulder 28 adjacent its upper end.

An annular donut-shaped disk 30 is removably disposed on the shoulders 26 and 28 and said disk is provided with a plurality of annularly spaced openings 32 for reception of the handles of toothbrushes so that said handles depend into an annular chamber 34 defined by the walls of the body and the reservoir, it being noted that the exterior diameter of the reservoir is substantially smaller than the interior diameter of the body. A toothbrush is indicated generally at 36, the bristled portion being indicated at 38 and the handle being indicated at 40.

Body wall 12 has a longitudinal extension or flange 42 below the bottom wall 14 and there is a shallow cup 44 in which the flange 42 is received. The cup provides a collecting chamber 48 for condensed fumes and since the cup is removable, liquid that has been collected

therein, may be disposed of after the cup has been removed.

The upper end of the body is provided with a cap 50 having an interior shoulder 52 which rests on the upper end of the body wall 12 when the cap is in place. A compartment 54 is defined by the cap and the disk 30, the bristled ends 38 of toothbrushes disposed in the device being in said compartment 54.

While only one toothbrush has been shown, it is to be understood that a plurality of brushes may be placed in the device in the openings 32 and when it is desired to use a toothbrush, the cap is removed and the toothbrush removed from its opening.

When toothbrushes are not in use, they are disposed in the device and liquid disinfectant, antiseptic, germicide or the like is disposed in the lower portion of the reservoir as indicated at 58.

Fumes from the antiseptic or the like will pass into the compartment 54 by way of the open upper end of the reservoir while some of the fumes will also pass through the openings 24 in the reservoir wall into the annular chamber 34. When these fumes condense, they condensate in compartment 54, flow through the openings 32 and into the chamber 34. These fumes as well as the fumes condensed in the chamber 34, will flow onto the bottom wall in the channels 18 and through the openings 16 into the collecting chamber.

From the foregoing, it will be apparent that a sanitary toothbrush holder and sterilizer is provided. The device also protects the toothbrushes from air-carried germs, or bacteria or the like.

The device is simple and economical and relatively inexpensive to manufacture. Also, when it is desired to use a toothbrush, it is readily accessible by removal of the cap and is easy to remove. It is also equally easy to replace and with the replacing of the cover, the device is fully effective to provide the advantages hereinafore described.

The invention and its attendant advantages will be understood from the foregoing description and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit or scope thereof or sacrificing its material advantages, the arrangement hereinbefore described being merely by way of example and

I do not wish to be restricted to the specific form shown or uses mentioned except as defined in the accompanying claims.

I claim:

1. A toothbrush holder and sterilizing device comprising:

a wall defining a holder body; a bottom wall fixedly attached to said holder body wall at the lower end of said body, said bottom wall having a plurality of perforations therethrough;

a substantially imperforate tubular reservoir means for holding sterilizing liquid extending upwardly from the bottom wall and closed at the lower end by said bottom wall, the upper end of said reservoir being open, the reservoir being defined by a tubular wall of smaller cross-sectional area than the interior cross-sectional area of the body, the space between the wall of the body and the wall of the reservoir defining a sterilizing chamber therebetween;

an annular disk having a plurality of spaced apart toothbrush handle receiving openings through said annular disk, said disk having a central opening therethrough for accommodating the upper end of said tubular reservoir, said holder body having means for supporting said disk adjacent the upper end of the body, the perforations in said bottom wall acting to drain any liquid which would otherwise accumulate within said chamber; a drainage cup mounted at the lower end of said holder body below said perforations in said bottom wall for collecting liquid draining through said perforations; and

a removable cap for the upper end of the body.

2. The invention defined by claim 1, wherein the collecting cup is removably mounted on said holder body.

3. The invention defined by claim 1, wherein the bottom wall has a plurality of channels in the upper side thereof, said channels communicating with the openings in the bottom wall.

4. The invention defined by claim 3, wherein said channels are inclined downwardly toward respective openings in the bottom wall.

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