United States Patent [19]

Brown

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[54] **TOOTHBRUSH HOLDER**

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[21] Appl. No.: **111,009**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 865,658, Oct. 13, 1969, abandoned.

[52] **U.S. Cl.**.....**206/15.1 C,** 312/73, 312/206

[51] **Int. Cl.**.....**A45d 44/18**

[58] **Field of Search**.....206/15.1 A–15.1 F, 206/15.2, 17; 222/254; 312/71, 73, 206, 207, 209

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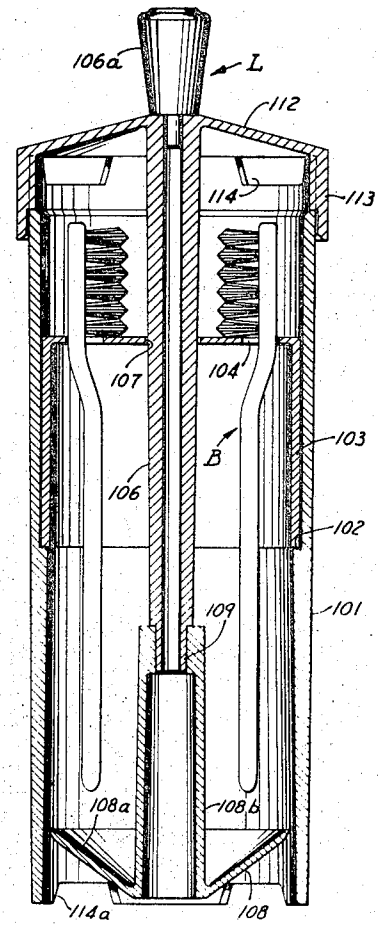
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[57] **ABSTRACT**

A toothbrush holder in which a number of brushes are hung in an enclosure from a brush support, a lifter for the brushes having a stem slidably extending through the brush support, and having a lower lift plate engageable with the brush handles to lift the brushes, the stem also having a closure for the enclosure which is lifted from the top of the enclosure before the brushes are elevated.

4 Claims, 6 Drawing Figures



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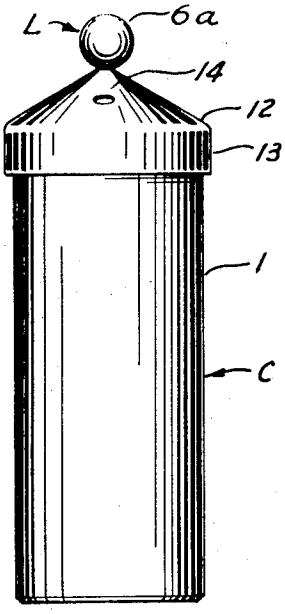


Fig. 1.

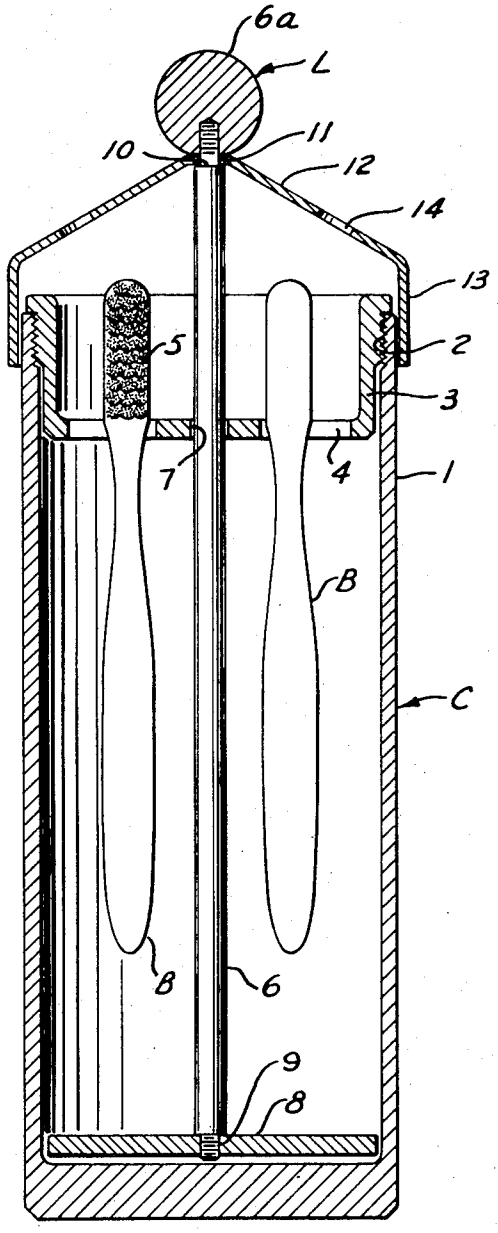


Fig. 2.

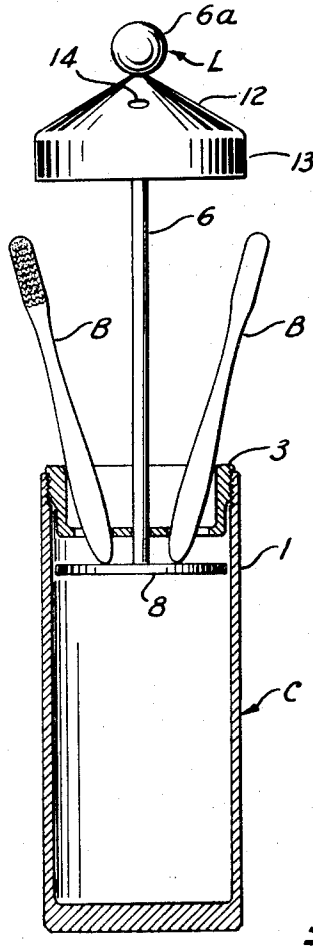


Fig. 3.

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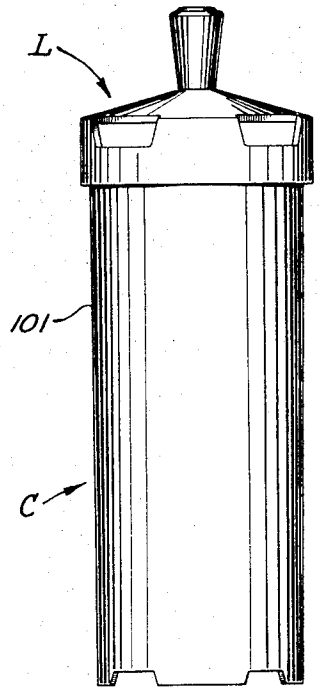


FIG. 4.

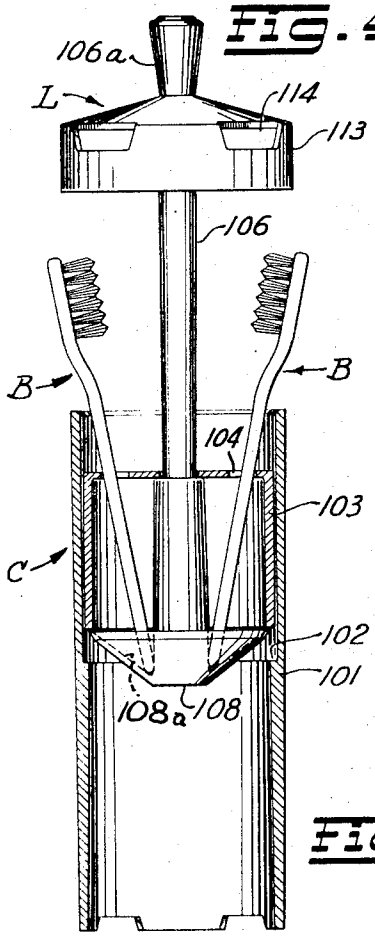


FIG. 6.

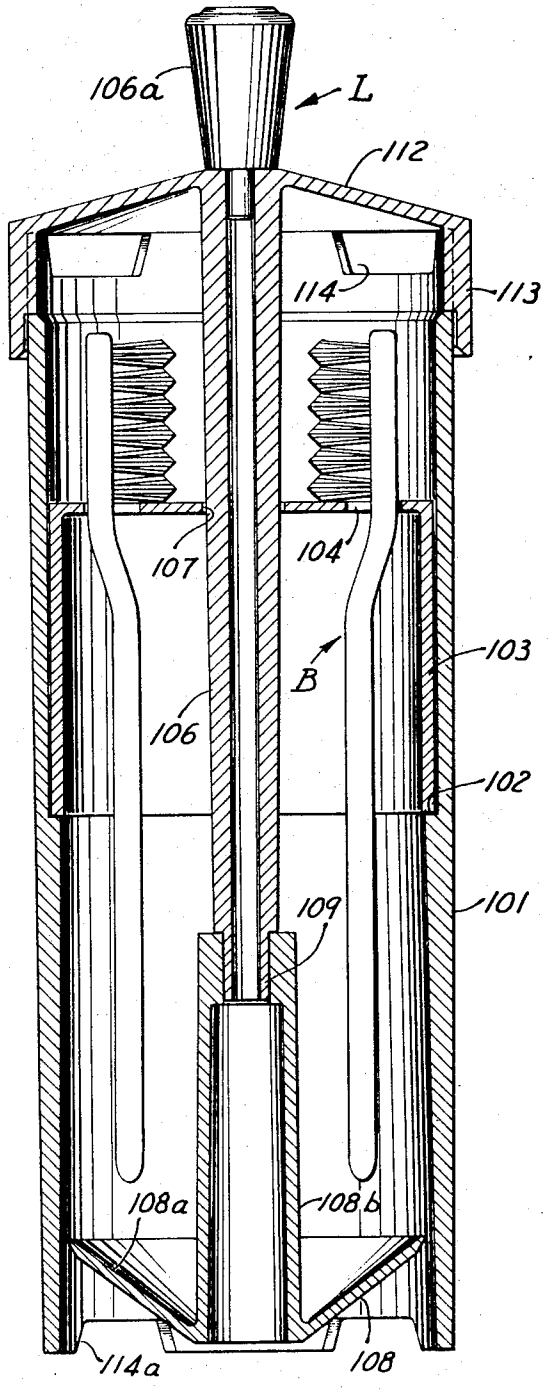


FIG. 5.

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TOOTHBRUSH HOLDER

CROSS-REFERENCE TO RELATED APPLICATION

This application is a continuation-in-part of my pending application Ser. No. 865,658, filed Oct. 13, 1969, now abandoned.

BACKGROUND OF THE INVENTION

Typically, toothbrushes are hung on racks in medicine chests or in racks on bathroom walls, where the brushes are exposed to the air and the accumulation of dirt. Such racks are not particularly sanitary and, in general are unsightly.

On the other hand, cases or receptacles have been provided for housing or enclosing toothbrushes in an environment isolated from the normal collection of dust or dirt, but such enclosures have been complex and difficult to use, in the sense that removal of a brush from the enclosure has been difficult, or unsanitary in the sense that the brushes are capable of contacting one another.

SUMMARY OF THE INVENTION

The present invention provides a novel toothbrush holder in which a number of toothbrushes may be stored between uses, in a relatively sanitary condition, separated from one another, and free from accumulation of dust or dirt thereon.

More particularly, the invention provides an enclosure or housing for a number of toothbrushes which are suspended handle downwardly from a support at the upper end of the enclosure, the enclosure having a top closure provided on a reciprocable lifter stem, and the lifter stem having at its lower end a lifter plate or disc. The lifter plate or disc is normally spaced below the handles of the brushes a sufficient distance to allow the closure to be elevated above the top of the enclosure, upon lifting of the stem, so as to provide space for access to the brushes when the brushes are slightly elevated by the lifter plate or disc on the lower end of the lifter stem.

According to one embodiment of the invention, the lifter plate and stem are captive in the closure, but according to another embodiment, the brush support is suspended in the enclosure on a stop, but is freely removable from the enclosure upon upward movement of the lifter beyond the normal level enabling removal of the toothbrushes.

Objects of the invention include the provision of a toothbrush holder of neat appearance, which consists of few parts, is easy to use, and which is readily susceptible of cleaning when desired or necessary.

Other advantages and objects of the invention will be hereinafter described or will be apparent to those skilled in the art, and the novel features of the invention will be defined in the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevation of one embodiment of a toothbrush holder made in accordance with the invention;

FIG. 2 is a vertical section through the toothbrush holder of FIG. 1;

FIG. 3 is a view partly in vertical section and partly in elevation of the toothbrush holder of FIG. 1, showing the lifter elevated to position the brushes for removal from the holder;

FIG. 4 is a view corresponding to FIG. 1, but showing another embodiment of the invention;

FIG. 5 is a vertical section through the toothbrush holder of FIG. 4; and

FIG. 6 is a view partly in vertical section and partly in elevation of the toothbrush holder of FIG. 4, showing the lifter elevated to position the brushes for removal from the holder, and showing the brush support slightly elevated by the lifter.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

As seen in the drawings, the toothbrush holder of the invention according to the embodiment shown in FIGS. 1–3, comprises a canister or an enclosure C which consists essentially of a tubular body 1 provided with internal threads at the upper end to accommodate a complementally threaded, cup-like brush support 3. This brush support 3 extends downwardly into the upper end of the body 1 and is provided with a suitable number of circumferentially spaced openings 4. The toothbrushes B are adapted to be hung by the bristles 5 with the handles extending downwardly through the openings 4 into the enclosure body 1.

Lifter means L are provided whereby to elevate the brushes B to positions at which the handles of the brushes may be manually gripped to remove the brushes from the holder. This lifter means L includes an elongated lifter rod 6 which reciprocably extends through a central opening 7 in the brush support 3. At its lower end, the lifter rod 6 supports a lifter disc or plate 8 which may be threadedly connected as at 9 or otherwise suitably joined to the lower end of the rod 6. At its upper end, the lifter rod 6 supports on a shoulder 10 the central portion 11 of a closure 12. A lifter handle 6*a* is threaded or otherwise connected to the upper end of the rod 6 and retains the closure 12 in place relative to the rod 6. The closure 12 has an outer peripheral flange 13 adapted to extend downwardly about the upper end of the enclosure body 1 when the lifter means L is in its lowermost position. In order to enable ventilation to facilitate the drying of the brushes, the closure 12 is provided with a suitable number of vent openings 14.

In the use of the brush holder of the invention, a number of the brushes B may be hung from the brush support 3 with the brush handles extending downwardly through the openings 4, and when the closure 12 is in its lowermost position, the brushes are effectively protected from accumulation of dust or dirt in the air. When it is desired that one or more of the brushes B be used, the lifter means L is manually elevated so that the lifter plate 8 engages the lower ends of the handles of the brushes B to elevate the brushes in response to further upward movement of the lifter means L. It is to be noted that the length of the lifter stem 6 is greater than the distance between the lower ends of the brushes B and the lifter plate 8, so that the closure 12 is initially elevated substantially above the upper end of the brushes B, before the brushes B are elevated, to facilitate removal of the brushes when the lifter means L is elevated to the position shown in FIG. 3.

From the foregoing, it is apparent that the present invention provides a toothbrush holder in which a number of toothbrushes may be conveniently stored between uses in a relatively sanitary atmosphere. It will also be noted that the toothbrush holder may be readilly disassembled for cleaning purposes by removing the brush support **3** from the upper end of the body **1**, so that the entire lifter means L and the brush support **3** may be removed to permit washing of all components of the brush assembly.

Referring to FIGS. **4–6**, another embodiment of the invention is illustrated, wherein the canister or enclosure C is also essentially a tubular body **101**, but the brush support **103** is in the form of an inverted cup which rests upon suitable stop means within the canister, specifically shown as an internal annular, radial shoulder **102** provided on the interior of the canister. The brush openings **104** are in the top of the cup-like support **103**, so that the toothbrushes B, as in the previously described embodiment, are adapted to be hung by the bristles, with the handles extending downwardly through the support **103** and into the body of the canister **101**.

The lifter means L in this embodiment, which are operable to elevate the brushes B to positions at which the brush handles may be manually grasped, as seen in FIG. **6**, comprises an elongated hollow rod **106** which reciprocably extends through a central opening **107** in the top of the brush support **103**. At its lower end, the lifter rod **106** supports the lifter disc **108**, which is shown as an inverted frustum of a cone to provide an inclined surface **108***a* for engaging the lower ends of the handles of the brushes B to cam the brush ends inwardly and assure that the bristle ends of the brushes extend outwardly, so as to be more conveniently manually gripped. This lifter disc **108** is formed with a central stem **108***b* to which the lower end of the lifter rod **106** is attached, as at **109**.

At its upper end, a lifter handle **106***a* is connected to the lifter rod **106**, and a closure **112** is integrally formed on the rod **106**. The closure **112** has an outer peripheral flange **113** adapted to embrace the upper end of the canister **101**, the flange **113** having an internal shoulder **113**a on which the closure seats.

In order to enable ventilation and facilitate drying of the brushes B, the closure **112** is provided with a number of vent openings and further vent openings **114**a are preferably provided at the bottom of the canister **101**, whereby air is free to circulate between the openings **114** and **114***a* through the annular gap between the lifter disc **108** and the openings **104**.

The use of the brush holder of FIGS. **4–6** is essentially the same as that previously described. However, it will be noted, as seen in FIG. **6**, that when the lifter means L elevates the brushes, the brushes are caused to tilt so as to assure that the brushes may be conveniently removed from the brush holder, by virtue of the inclined surface **108***a* of the lifter disc **108**. In addition, the stem **108***b* is of greater diameter than the hole **107** through the support **103**, to provide means for elevating the support **103** from the canister, when desired or necessary to clean the inside of the assembly.

I claim:

1. A toothbrush holder comprising a hollow body, a brush support in said body having a plurality of brush handle receiving openings larger than the brush handle, whereby a number of brushes may be supported in said body by the bristles of said brushes, a closure for the upper end of said body, lifter means connected to said closure for removing said closure and engageable with said brush handles for lifting said brushes upwardly relative to said support upon upward movement of said lifter means, said brush support comprises a cup-like member slidably disposed in said body, means removably supporting and limiting downward movement of said cup-like member in the upper end of said body, said lifter means including a rod reciprocably extending through said brush support and having abutment means engageable with said support to lift the latter from said body upon removal of said lifter means, and a disc at the lower end of said rod in said body for engagement with the lower ends of the handles of said brushes to lift said brushes upon elevation of said lifter means, said rod extending downwardly through said brush support a distance greater than the length of the handles of said brushes, whereby said closure is elevated by said lifter means above the upper end of said body before said brushes are elevated in said brush support.

2. A toothbrush holder as defined in claim **1**, said disc having a downwardly and inwardly inclined surface for tilting the lower ends of the brushes inwardly and the upper ends of said brushes outwardly upon lifting said brushes.

3. A toothbrush holder as defined in claim **1**, wherein said support member comprises an inverted cup, said downward limiting means comprising an internal abutment in said hollow body engageable by said cup to limit said downward movement of said cup.

4. A toothbrush holder as defined in claim **1**, wherein said body has an open bottom and vent openings in the side of said body, and said closure also has vent openings.

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