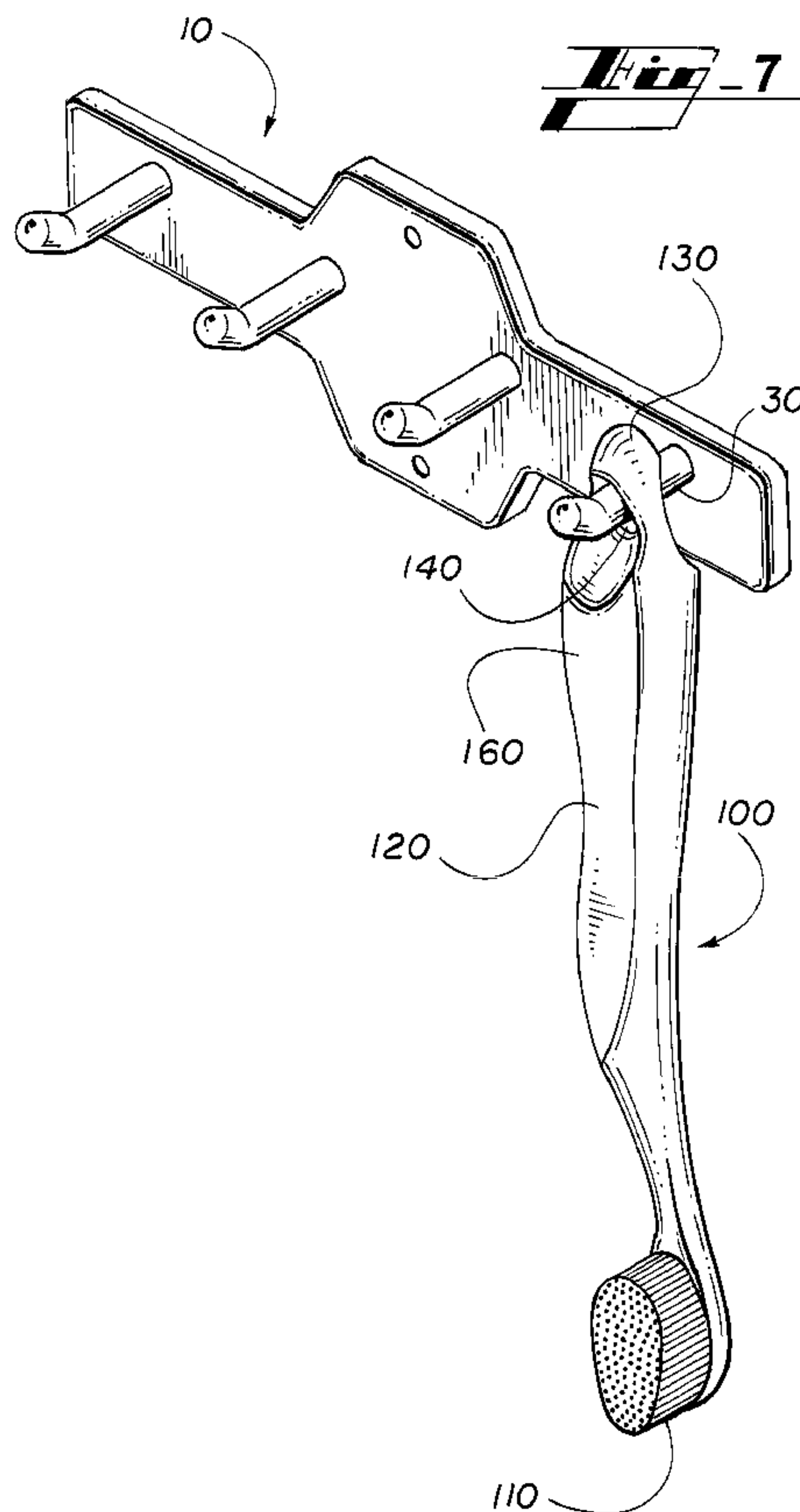




(86) Date de dépôt PCT/PCT Filing Date: 2009/11/04
 (87) Date publication PCT/PCT Publication Date: 2010/06/17
 (85) Entrée phase nationale/National Entry: 2011/06/03
 (86) N° demande PCT/PCT Application No.: US 2009/063284
 (87) N° publication PCT/PCT Publication No.: 2010/068352
 (30) Priorité/Priority: 2008/12/11 (US61/201,446)

(51) Cl.Int./Int.Cl. *A47K 1/09* (2006.01)
 (71) Demandeurs/Applicants:
 AFGHAN, FARZANA AYUBI, US;
 AFGHAN, M. FARAD, US
 (72) Inventeurs/Inventors:
 AFGHAN, FARZANA AYUBI, US;
 AFGHAN, M. FARAD, US
 (74) Agent: GOWLING LAFLEUR HENDERSON LLP

(54) Titre : BROSSE A DENTS SANITAIRE ET APPAREIL DE SUPPORT
 (54) Title: SANITARY TOOTHBRUSH AND HOLDER APPARATUS



(57) **Abrégé/Abstract:**

Disclosed is a sanitary, hygienic toothbrush and holder. The holder carries a plurality of pegs on its front surface. At a distal end of the toothbrush handle is an opening, sized to fit cooperatively over a peg of the holder. At least a portion of the margin of the opening is thinned toward the opening from a surface of the handle, so that, in use, at least a portion of the thinned margin rests cooperatively upon the peg of the holder when the toothbrush is placed by a user in a hanging position.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
17 June 2010 (17.06.2010)(10) International Publication Number
WO 2010/068352 A1(51) International Patent Classification:
A47K 1/09 (2006.01)(21) International Application Number:
PCT/US2009/063284(22) International Filing Date:
4 November 2009 (04.11.2009)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/201,446 11 December 2008 (11.12.2008) US

(72) Inventors; and

(71) Applicants : AFGHAN, Farzana Ayubi [US/US]; 1696 Quail Run, Lawrenceville, Georgia 30044 (US).
AFGHAN, M. Farad [US/US]; 1696 Quail Run, Lawrenceville, Georgia 30044 (US).

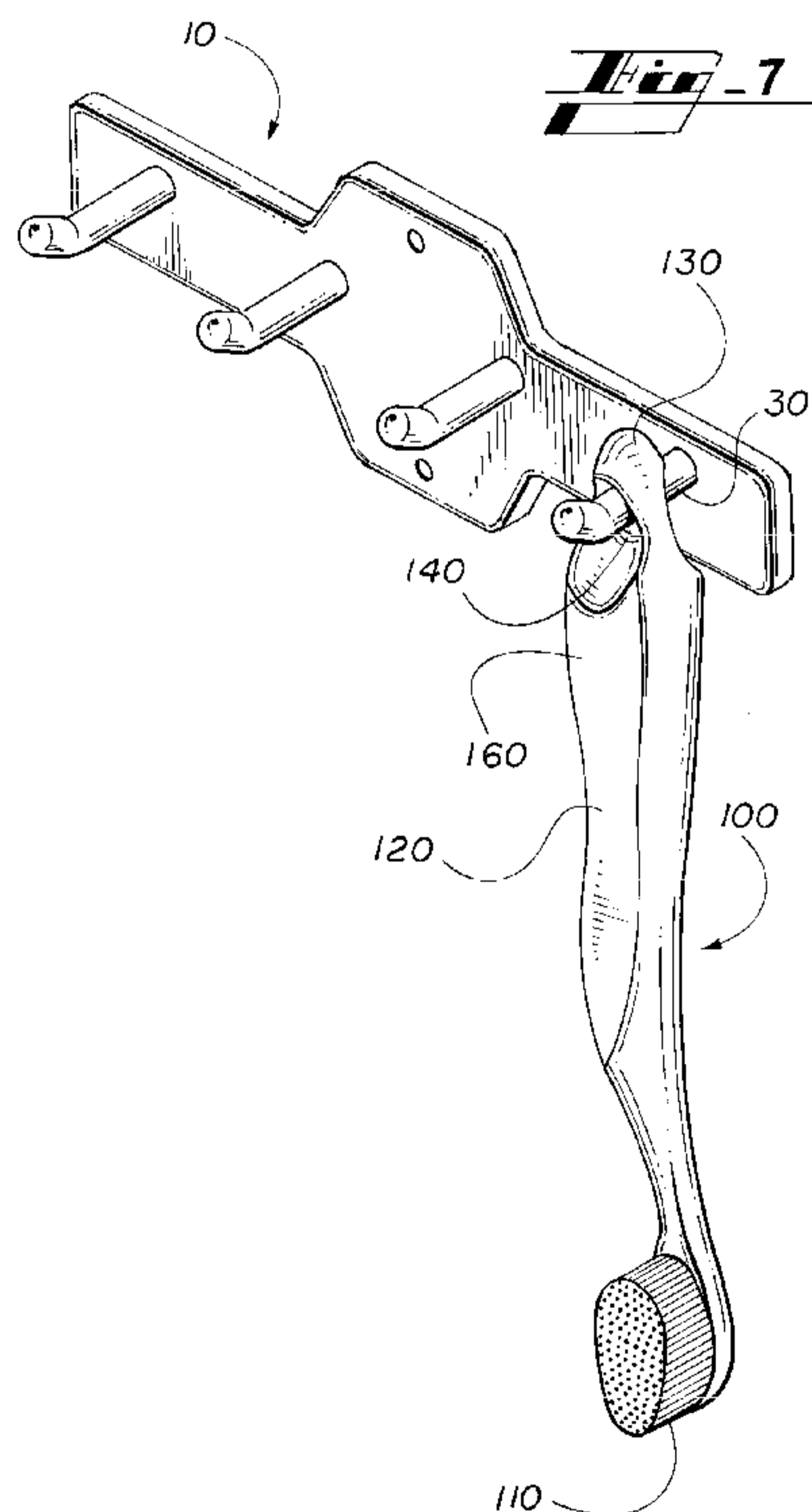
(74) Agent: KAPLAN, Barry E.; c/o KAPLAN WARD & PATEL, LLC, Cumberland Center II, 3100 Cumberland Boulevard, Suite 1400, Atlanta, Georgia 30339 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: SANITARY TOOTHBRUSH AND HOLDER APPARATUS



(57) Abstract: Disclosed is a sanitary, hygienic toothbrush and holder. The holder carries a plurality of pegs on its front surface. At a distal end of the toothbrush handle is an opening, sized to fit cooperatively over a peg of the holder. At least a portion of the margin of the opening is thinned toward the opening from a surface of the handle, so that, in use, at least a portion of the thinned margin rests cooperatively upon the peg of the holder when the toothbrush is placed by a user in a hanging position.

WO 2010/068352 A1

WO 2010/068352 A1 

Published:

— *with international search report (Art. 21(3))*

SANITARY TOOTHBRUSH AND HOLDER APPARATUS**PATENT COOPERATION TREATY APPLICATION
IN THE RECEIVING OFFICE OF THE
5 UNITED STATES PATENT AND TRADEMARK OFFICE**

Be it known that we, Farzana Ayubi Afghan and M. Farad Afghan, citizens of the United States of America, have
10 invented certain new and useful improvements in a toothbrush and holder apparatus, of which the following pages comprise the specification.

PRIORITY CLAIM TO RELATED APPLICATION

15 The present international patent application is related to, and hereby claims priority to, and the full benefit of, United States Provisional Application entitled "Germless Toothbrush Holder and Germless Toothbrush" filed on December 11, 2008, on behalf of Farzana Ayubi Afghan and M. Fared
20 Afghan and assigned Serial Number 61/201,446, incorporated herein by reference.

TECHNICAL FIELD

25 The present invention relates, generally, to an improved toothbrush and holder apparatus, and, more particularly, to an improved toothbrush and holder apparatus comprising a sanitary toothbrush having reduced surface area at a distal portion of

unit, wherein one or more toothbrushes may be stored when not in use.

Such holders may take the form of a horizontally oriented platform having a plurality of openings disposed therein, each opening intended for placement of a toothbrush. In such cases, the toothbrush is inserted by a user into an opening, handle first, such that the wet, bristled head of the toothbrush bears against, and is supported by, the platform.

Such an arrangement is disadvantageous for many reasons. First, the portion that has just been within the user's mouth, and which is, therefore, highly likely to carry germs or viruses in the first instance, bears against the platform. The water from the toothbrush head may pool against the platform, and may further flow into the opening, tending to follow the path of the handle.

This is an ideal environment for propagation of germs, viruses, molds, mildew, and the like, and further may be a collection point for dirt, dust, debris, and the like. Each time the user removes his or her toothbrush from the platform holder, it is likely that the bristles of the toothbrush carry undesirable, biologically contaminated remnants into the user's mouth. Additionally, owing to the influence of gravity, some of these water -borne contaminants likely have followed the path of the handle during storage. Accordingly, some of the contaminants may be transferred from the handle to

the user's hand for subsequent communication to other surfaces or persons, unless the user is extremely diligent - which is sometimes not the case, especially with regard to younger children.

5 Of course, unless the holder is frequently cleaned and disinfected, the above-identified problem is exacerbated with each use, and is further exacerbated through the use of a common holder for multiple users' toothbrushes.

10 Other holders take the form of a wall-mounted peg arrangement, typically having a plurality of pairs of horizontally disposed pegs, whereby each such pair of parallel pegs is used for support of a toothbrush by its head. Such holders obviously suffer from the problems identified above with regard to platform -type holders.

15 Still other holders take the form of a wall-mounted peg arrangement, whereby a toothbrush may be hung from its handle upon a peg. In such cases, the toothbrush typically has a hole formed within its handle for such purposes.

20 In this instance, the peripheral surface of the hole formed within the toothbrush is the same width as the toothbrush handle is thick. This peripheral surface is wide enough to hold sizable droplets of water, and to, thereby, collect germs and other undesirable biologically active contaminants. Excess water, so contaminated, will tend to
25 travel downwardly under the influence of gravity, following

the handle toward, and ultimately into, the toothbrush
bristles, whereupon the contaminants may be subsequently
transferred into the user's mouth.

Therefore, what is needed, but which has not heretofore
5 been available, is a novel toothbrush and holder that obviates
or reduces the above-discussed problems and disadvantages
found within the prior art. Such a novel toothbrush and
holder is, accordingly, described herein.

10 BRIEF SUMMARY OF THE INVENTION

Briefly described, in a preferred embodiment, the present
invention overcomes the above-mentioned disadvantages, and
meets the recognized need, by providing, generally, a unique
and aesthetically pleasing holder for mounting against a wall,
15 and a unique, ergonomically designed toothbrush for use with
the holder of the present invention.

More specifically, in a preferred embodiment, the holder
is shaped, generally, in the form of a plus-sign, the vertical
portions tapering to a truncated flat region. A plurality of
20 pegs are carried by and project from the holder.

Further provided, in a preferred embodiment, is an
ergonomic toothbrush having a bristled head and a handle. The
distal end of the handle carries an opening sized to fit
cooperatively over a peg of the holder. At least a portion of

the margin of the opening is thinned toward the opening from a surface of the handle, and preferably from at least one of the front and back of the handle. So disposed, at least a portion of this thinned margin rests cooperatively upon a peg of the holder when the toothbrush is placed by a user in a stored position.

Advantageously, the thinned margin is generally of insufficient surface area to hold a sizable droplet of contaminated water. Such a design, thereby, decreases the quantity of contaminants that may be captured and held between the toothbrush and its holder, and further promotes rapid air drying of both toothbrush and holder for the avoidance of further contamination.

Accordingly, one feature and advantage of the present invention is the provision of a wall-mounted toothbrush holder which is aesthetically pleasing and functional.

Another feature and advantage of the present invention is the provision of an ergonomic toothbrush for cooperative use with the holder of the present invention.

Another feature and advantage of the present invention is the provision of a toothbrush having an opening disposed within its handle that is sized to fit cooperatively over a peg of the holder, at least a portion of the margin of the opening being thinned toward the opening from a surface of the handle.

Another and further feature and advantage of the present invention is the provision of a toothbrush handle opening with a thinned margin which is, generally, of insufficient surface area to hold a sizable droplet of contaminated water.

5 Another and further feature and advantage of the present invention is the provision of a toothbrush and holder which decreases the quantity of contaminants that may be captured and held between the toothbrush and its holder, and further promotes rapid air drying of both toothbrush and holder for
10 the avoidance of further contamination.

These and other features and advantages of the present invention will become apparent to those of ordinary skill in the art after reading the following Detailed Description of the Invention and Claims in light of the accompanying drawing
15 Figures.

BRIEF DESCRIPTION OF THE DRAWINGS

Accordingly, the system and method of the present invention will be understood best through consideration of,
20 and with reference to, the following drawings, viewed in conjunction with the Detailed Description of the Invention referring thereto, in which like reference numbers throughout the various drawings designate like structure, and in which:

FIGURE 1 depicts a top view of the preferred embodiment

of a toothbrush holder constructed according to the present invention;

FIGURE 2 depicts a front view of the preferred embodiment of a toothbrush holder of the present invention shown in **FIGURE 1**;

FIGURE 3 depicts a right side view of the preferred embodiment of a toothbrush holder of the present invention shown in **FIGURE 1**;

FIGURE 4 depicts a bottom view of the preferred embodiment of a toothbrush holder of the present invention shown in **FIGURE 1**;

FIGURE 5 depicts a rear view of the preferred embodiment of a toothbrush holder of the present invention shown in **FIGURE 1**;

FIGURE 6 depicts a left side view of the preferred embodiment of a toothbrush holder of the present invention shown in **FIGURE 1**;

FIGURE 7 depicts a perspective view of an ergonomic toothbrush according to a preferred embodiment of the present invention in association with the holder of **FIGURE 1**; and

FIGURE 8 depicts a right side sectional view of an ergonomic toothbrush according to a preferred embodiment of the present invention in association with the holder of **FIGURE 1**, and further shown mounted upon a wall according to a

preferred method of use.

It is to be noted that the drawing Figures presented are intended solely for the purpose of illustration and that they are, therefore, neither desired nor intended to limit the claimed invention to any or all of the exact details of construction shown, except insofar as they may be deemed essential to the claimed invention.

DETAILED DESCRIPTION OF THE INVENTION

In describing preferred embodiments of the invention of the present disclosure, as illustrated in the drawing Figures, specific terminology is employed for the sake of clarity. The claimed invention, however, is not intended to be limited to the specific terminology so selected, and it is to be understood that each specific element includes all technical equivalents that operate in a similar manner to accomplish a similar purpose.

The disclosure set forth hereinbelow generally sets forth exemplary, preferred apparatus, and associated methods of use and application thereof, according to the present invention. Accordingly, and in that form of the preferred embodiment of the present invention chosen for purposes of illustration, **FIGURES 1 through 6** demonstrate toothbrush holder **10**.

It will be apparent to one of ordinary skill in the art

that holder **10** could be fabricated from any of a variety of plastics, stainless steel, ceramics, or the like. In one form, holder **10** could be made utilizing a glow-in-the-dark plastic, for special attraction and usefulness with children.

5 In a preferred embodiment, holder **10** is shaped, generally, in the form of a truncated plus-sign (+). This shape is viewed as being advantageous for the reasons that a relatively larger surface area may be provided for attachment to a wall surface, in an attractive and space-saving design,
10 as described further hereinbelow. A relatively larger surface area of holder **10** provides potential for greater frictional association of holder **10** against a wall **W**, as may best be seen with reference to **FIGURE 8**.

Horizontal portion **20** of holder **10** preferably carries a
15 plurality of pegs **30**. Pegs **30** are carried by, and project from, horizontal portion **20**. Pegs **30** are preferably formed such that distal ends **40** thereof are angled upwardly, measured from a horizontal axis running concentrically through pegs **30** at their points of attachment to holder **10**. Such
20 configuration advantageously prevents a toothbrush of the present invention from slipping from a peg **30** when not intended by the user.

Vertical portions **50** taper from horizontal portion **20** to truncated flat regions **60**. Vertical portions **50** optionally

may be provided with mounting holes **70**. Mechanical fasteners **80**, such as screws, nails, pins, or the like may be inserted through mounting holes **70** for affixation of holder **10** to wall **W**.

5 Holder **10**, in this preferred form, uniquely provides mounting points top and bottom, with sufficient surface area to provide enhanced frictional characteristics when mounted upon a wall, to assist in maintaining holder firmly against a wall surface.

10 Yet additionally, rearward surface **90** of holder **10** provide optional locations **90a**, **90b** for application of a suitable alternative fastener. Such alternative fasteners may take the form of an adhesive, such as a double-sided tape or foam, Velcro, glue, caulk, or the like.

15 Further provided, in a preferred embodiment, is an ergonomic toothbrush **100** having a bristled head **110** and a handle **120**. Distal end **130** of handle **120** carries an opening **140** sized to fit cooperatively over a peg **30** of holder **10**. At least a portion of a margin **150** of opening **140** is thinned
20 toward opening **140** from a surface **160** of handle **120**, and preferably from at least one of the front surface **160a** and back surface **160b** of handle **120**. As best seen with reference to **FIGURES 7-8**, handle **160a**, **160b** may be contoured into approximately concave shaped region(s) such that an

appropriately thinned margin **150** is provided. So disposed, at least a portion of this thinned margin **150** rests cooperatively upon a peg **30** of holder **10** when toothbrush **100** is placed by a user in a stored position.

5 Advantageously, thinned margin **150** is generally of insufficient surface area to hold a sizable droplet of contaminated water. Such a design, thereby, decreases the quantity of contaminants that may be captured and held between toothbrush **100** and its holder **10**, and further promotes rapid
10 air drying of both toothbrush **100** and holder **10** for the avoidance of further contamination.

In use, and best seen with regard to **FIGURE 8**, a user mounts holder **10** upon a wall **W**, preferably proximate a sink or other water source. Holder **10** is preferably mounted to wall **W**
15 using mechanical fasteners **80**, such as screws, nails, or the like. In this regard, mechanical fasteners **80** are placed into mounting holes **70**, whereupon mechanical fasteners **80** are driven into wall **W** according to the requirements of the fastener (to wit, typically hammered or screwed into place).

20 Alternatively, an adhesive product, such as glue, caulk, double-sided foam tape, double-sided film tape, or the like, may be used to affix holder **10** to wall **W**. In this regard, the adhesive product typically will be applied to the rearward surface **90** of holder **10**, and holder **10** will be pressed against
25 wall **W** until firmly adhered. In the case of caulk-type

attachment, the peripheral edges of holder **10** may be sealed against wall **W**.

A user thereafter takes toothbrush **100** and brushes his or her teeth in usual manner. Upon completion of brushing process, toothbrush **100** is preferably shaken to remove excess water. Toothbrush **100** is then inverted so that head **110** is oriented downwardly. Opening **140** is placed over peg **30** and toothbrush **100** is left in a hanging orientation to dry, as is best seen with reference to **FIGURE 7**.

Upon subsequent use, the user removes preferably dry toothbrush **100** from peg **30**, brushes his or her teeth, and repeats the above-described hanging and storing process.

Having thus described exemplary embodiments of the present invention, it should be noted by those skilled in the art that the within disclosures are exemplary only and that various other alternatives, adaptations, and modifications may be made within the scope and spirit of the present invention. For example, while the present disclosure has been made with regard to a single holder and toothbrush apparatus, a plurality of holders and toothbrushes may be included, as by integral formation, bonding, attachment, affixation, or the like, in series or parallel arrangement in order to increase an amount, nature, degree, or quantity of toothbrushes that may be carried upon the holder(s). Similarly, the shape and size of holder **10**, and/or of toothbrush **100**, generally, and

specifically toothbrush head **110** and handle **120**, may be varied to accommodate the wishes and needs of the user. Further, opening **140** may be formed in a shape other than round. Yet additionally, the inventive disclosure herein may be applied to both ordinary, manually operable toothbrushes and to electrically powered toothbrushes, including those that are battery powered.

In this regard, it is contemplated that the general teachings hereof could and may be adapted to other, further, and future configurations and implementations conducive to use of the present invention. Accordingly, the present invention is not limited to the specific embodiments as illustrated herein, but is only limited by the following claims.

WHAT IS CLAIMED IS:

1. A sanitary toothbrush and holder comprising, in combination:

(a.) a toothbrush holder carrying a plurality of pegs;
5 and

(b.) a toothbrush comprising a head carrying bristles,
and a handle, said handle further comprising an
opening disposed near a distal end thereof, said
opening sized to fit cooperatively over a peg of
10 said holder, at least a portion of a margin of said
opening being thinned toward said opening from a
surface of said handle.

2. A hygienic toothbrush and holder combination comprising:

(a.) a holder for mounting against a wall, said holder
15 comprising:

(i.) a relatively thin, generally plus-sign shaped
body, said body comprising a central portion
to be disposed horizontally against a wall
when mounted for use, said body further
20 comprising, relative to said central,
horizontally disposed portion, an upper and a
lower portion, each of said upper and lower
portion being widest where joined with said
central portion, and tapering outwardly from

said central portion to a truncated edge;

(ii.) at least one peg carried by and projecting from said central portion, a distal portion of each said peg being angled upwardly with respect to a central axis of said peg; and,

(iii.) means for mounting said holder against a wall;

(b.) a toothbrush, said toothbrush comprising:

(i.) a toothbrush head carrying bristles;

(ii.) a handle joined to said toothbrush head, a distal end of said handle carrying an opening, said opening sized to fit cooperatively over a peg of said holder, at least a portion of a margin of said opening being thinned toward said opening from a surface of said handle;

wherein at least a portion of said thinned margin rests cooperatively upon said peg of said holder when said toothbrush is placed by a user in a hanging position.

3. The holder of claim 2, wherein said at least one peg comprises a plurality of pegs.

4. The holder of claim 2 wherein each of said upper and lower portions comprise means for mounting said holder against a wall.

5. The holder of claim 4 wherein said mounting means comprises an opening in each of said upper and lower portions for use in association with a mechanical fastener.
- 5 6. The holder of claim 5 wherein said mechanical fastener comprises a screw.
7. The holder of claim 5 wherein said mechanical fastener comprises a nail.
8. The holder of claim 5 wherein said mechanical fastener
10 comprises a pin.
9. The holder of claim 2 wherein said holder is affixed to a wall using an adhesive means.
10. The holder of claim 9 wherein said adhesive means
15 comprises an elongate strip of substrate material carrying adhesive upon at least two surfaces thereof.
11. The holder of claim 2 wherein said holder is affixed to a wall using hook and loop fasteners.
12. The toothbrush of claim 2 wherein said handle is ergonomically-shaped.
- 20 13. The toothbrush of claim 2 wherein said said margin of said opening tapers from least one of a front and a back surface of said toothbrush handle.
14. The toothbrush holder of claim 2 wherein said holder is formed from plastic.

15. The toothbrush holder of claim 2 wherein said holder is formed from stainless steel.

16. The toothbrush holder of claim 2 wherein said holder is formed from a ceramic material.

5 17. A hygienic toothbrush for use with a pegged holder, said toothbrush comprising:

(a.) a toothbrush head carrying bristles;

10 (b.) a handle joined to said toothbrush head, a distal end of said handle carrying an opening, said opening sized to fit cooperatively over a peg of said holder, at least a portion of a margin of said opening being thinned toward said opening from a surface of said handle;

15 wherein at least a portion of said thinned margin rests cooperatively upon the peg of the holder when said toothbrush is placed by a user in a hanging position.

18. The toothbrush of claim 16 wherein said handle is ergonomically-shaped.

20 19. The toothbrush of claim 16 wherein said said margin of said opening tapers from least one of a front and a back surface of said toothbrush handle.

20. The toothbrush of claim 16 wherein said margin of said opening tapers both from a front surface of said toothbrush handle and from a back surface of said

toothbrush handle.

