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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
11 October 2012 (11.10.2012)

WIPO | PCT

(10) International Publication Number
WO 2012/139111 A1

(51) International Patent Classification:
A46B 9/04 (2006.01)

(21) International Application Number:
PCT/US2012/032760

(22) International Filing Date:
9 April 2012 (09.04.2012)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/472,827 7 April 2011 (07.04.2011) US

(72) Inventors; and
(71) Applicants : **TESINI, David, A.** [US/US]; 13 Norcross Road, Hopkinton, MA 01748 (US). **WIESMAN, Joshua, P.** [US/US]; 130 Appleton Street, #2B, Boston, MA 02116 (US).

(74) Agents: **DUQUETTE, Jeffrey, J.** et al.; Mirick, O'Connell, DeMallie & Lougee, LLP, 1800 West Park Drive, Suite 400, Westborough, MA 01581 (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, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, 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, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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

(54) **Title**: ORAL CARE DEVICE

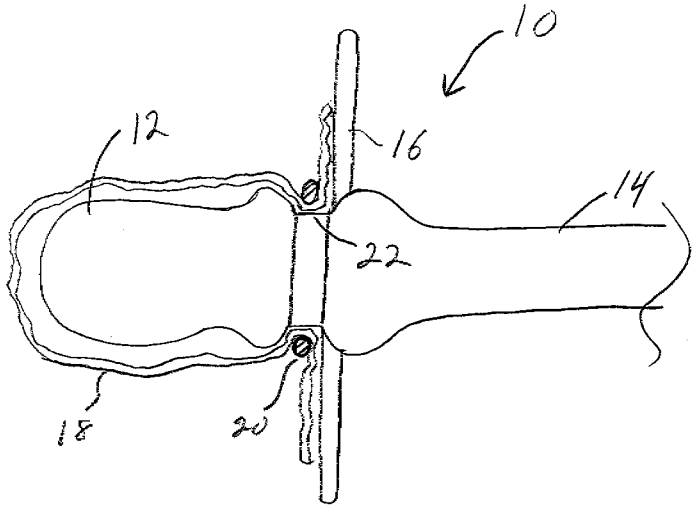

Figure 1

(57) **Abstract**: An oral care device is configured as an applicator having a set of bristles and a wipe covering the set of bristles. In use, the bristles flex and bend to massage tooth and gum surfaces through the wipe. Accordingly, the wipe minimizes irritation of the teeth and gums as can be caused by the bristles alone. In one arrangement, the wipe is configured with an oral treatment agent to minimize the effect of bacteria within the mouth. For example, the wipe can include Xylitol, fluoride, or other topical agents. In one arrangement, the applicator includes a handle, a shield, a head projecting from the shield, and a fastening mechanism configured to secure the wipe to the head, handle, or shield.

WO 2012/139111 A1

ORAL CARE DEVICE

RELATED APPLICATIONS

[0001] This patent application claims the benefit of U.S. Provisional Patent Application No. 61/472,827 filed on April 7, 2011 and entitled " Pre-Toothbrushing Oral Care Devices, System and Method," the contents and teachings of which are hereby incorporated by reference in their entirety.

BACKGROUND

[0002] For toddlers, it is important to begin dental health and dental prevention programs as early as the eruption of the first tooth. For example, cariogenic bacteria, a normal inhabitant of the mouth's oral flora, produce dextrans which cause the bacteria to adhere to intra oral tissues. The cavity causing bacteria can live in the toddler's mouth even before their teeth arrive.

[0003] To remove or minimize the effect of the cariogenic bacteria, the toddler's caretaker can utilize a variety of tooth and gum cleaning methodologies. For example, the caretaker can wipe the mouth and teeth of the toddler using a finger-mounted toothbrush. The toothbrush can loosen or remove the cariogenic bacteria while the gentle pressure provided by the toothbrush can provide the toddler with pain relief, particularly as the teeth erupt. In another example, the caretaker can use impregnated cotton wipes, such as Xylitol wipes to clean the toddler's mouth and newly erupted teeth. Xylitol reduces plaque formation and bacterial adherence (i.e., it is antimicrobial), inhibits enamel demineralization, reduces acid production, and has a direct inhibitory effect on Mutans Streptococcus bacteria. Xylitol wipes are currently recommended to clean a toddler's teeth, tongue, and gums to help keep the bacteria away and to orient the toddler to becoming comfortable with having their mouth regularly cleaned.

SUMMARY

[0004] Conventional oral cleaning devices suffer from a variety of deficiencies. For example, toddlers often "chew" on the toothbrush bristles. The bristles can then bend, fray, and/or fall out. Additionally, while Xylitol wipes can reduces plaque formation and bacterial adherence, it can

be difficult to effectively apply the Xylitol to the many crevices associated with a toddler's mouth using the conventional wipe.

[0005] By contrast to conventional oral cleaning devices, embodiments of the present innovation relate to an oral care device. In one arrangement, the oral care device is configured as an applicator having a set of bristles and a wipe covering the set of bristles. In use, the bristles flex and bend to massage tooth and gum surfaces through the wipe. Accordingly, the wipe minimizes irritation of the teeth and gums as can be caused by the bristles alone. In one arrangement, the wipe is configured with an oral treatment agent to minimize the effect of bacteria within the mouth. For example, the wipe can include Xylitol, fluoride, or other topical agents. In one arrangement, the applicator includes a handle, a shield, a head projecting from the shield, and a fastening mechanism configured to secure the wipe to the head, handle, or shield. For example, the fastening mechanism can include an o-ring and a reduced diameter neck, proximate to the shield, for accepting the o-ring. Alternately, the coupling mechanism can include a rotated lock, an interference fit mechanism, an adhesive, and/or a magnetic coupling, for example.

[0006] The oral care device can be used by toddlers in the age category extending from between about 3 months and 24 months as a pre-toothbrush device to orient the toddler to becoming comfortable with having their mouth regularly cleaned. Alternately, the oral care device can be utilized by a person who has lost one or more teeth or who has a relatively large amount of gum tissue.

[0007] In one arrangement, embodiments of the innovation relate to an applicator having a head, a set of bristles carried by the head, and a wipe secured to the head and supported by the bristles, the wipe configured to provide a topical agent to an oral cavity.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The foregoing and other objects, features and advantages will be apparent from the following description of particular embodiments of the innovation, as illustrated in the accompanying drawings in which like reference characters refer to the same parts throughout the different views. The drawings are not necessarily to scale, emphasis instead being placed upon illustrating the principles of various embodiments of the innovation.

[0009] Figure 1 illustrates an applicator having a wipe, according to one arrangement.

[00010] Figure 2 illustrates an applicator and brush, according to one arrangement.

[00011] Figure 3A illustrates a shield assembly, according to one arrangement.

[00012] Figure 3B illustrates a sock, according to one arrangement.

[00013] Figure 4A illustrates a first view of an interface mechanism for a shield assembly, according to one arrangement.

[00014] Figure 4B illustrates a second view of the interface mechanism of Fig. 4A.

[00015] Figure 5A illustrates an arrangement of an applicator configured in a pacifier-style, according to one arrangement

[00016] Figure 5B illustrates a cleaning head of the applicator of Figure 5A.

[00017] Figure 6A illustrates an arrangement of a bristle having a fin.

[00018] Figure 6B illustrates an arrangement of a bristle having a pair of fins.

DETAILED DESCRIPTION

[00019] Figure 1 illustrates an example of an applicator 10, according to one arrangement. The applicator 10 includes a head 12 that is configured to be inserted into a mouth, a handle 14 that can be held and manipulated by an adult or the child, and a wipe 18, such as a Xylitol-impregnated wipe. The head 12 can be configured as a brush design as shown in Figures 2 and 5, or can be configured in another shape, such as a pacifier bulb as shown in Figure 1. The handle 14 includes a shield 16, such as a pacifier shield, configured to limit or prevent the head 12 from going too far into the user's mouth. In one arrangement, the shield 16 has an overmolded elastomeric washer-like structure that fits over the brush and holds the wipe 18 in place. The handle 14 of the applicator 10 can also include a hard stop feature that limits the position of the shield 16. This helps assure the device head 12 is not a choking hazard and helps keep the wipe 18 in place.

[00020] The head12 includes bristles (not shown) configured to flex and bend to massage an applicant's tooth and gum surfaces through the wipe 18. The bristles can be configured with varying length and dimensions which to allow irregular movement of the wipe 18. For example, with such a configuration, certain areas of the bristle will be relatively stiff while other areas will be relatively soft and flexible. Such geometries can lead to irregular movement of the wipe 18 during use which helps the bristles to both clean and massage through the wipe. Additionally, the varying length and dimension of the bristles, such as a diameter of about 1.5 mm and a length of about 5 mm, allows the wipe 18 to fit into small crevices and spaces in the mouth's anatomy.

[00021] The head 12 of the applicator 10 can be configured in a variety of ways. In one arrangement, the head 12 is configured with a relatively rigid center section (e.g., having a maximum durometer of about 90A) and a soft outer section (e.g., having a minimum durometer of about 40A). Such an applicator 10 can be used by a person with early erupting teeth as the harder center is good for cleaning the tooth while the softer outer section is beneficial for the tooth/gum boarder. In one arrangement, the head 12 is configured with a relatively soft center section (e.g., having a minimum durometer of about 40A) and a relatively hard outer section (e.g., having a maximum durometer of about 90A). Such an applicator 10 can be used by a person having no teeth or teeth just beginning to erupt.

[00022] The wipe 18 can be configured as a Xylitol-impregnated wipe. Conventional Xylitol-impregnated wipes, such as sold over the counter, are made from a cotton or synthetic weave of material generally in a folded rectangle or square shape (e.g., like a gauze pad). The material is soaked in Xylitol and packaged in a foil or similar pouch to preserve the wet Xylitol. The wipe 18 can also be configured with a variety of other agents. For example, the wipe 18 can be soaked in over-the-counter strengths of fluoride, other anti-cariogenic solutions, or other substances or topical agents designed to be used in human mouths, such as the mouths of children in the toddler age group. In one arrangement, the sleeve is made of a fabric or material, such as a cotton material, that is washable and re-useable. With such an arrangement, a user would apply topical agent, such as Xylitol, to the sleeve prior to use.

[00023] The wipe 18, such as the Xylitol-impregnated wipe, is placed over head 12 and coupled to throat region 22 via a fastener 20, such as an o-ring or other elastomeric washer, that is placed over the wipe 18. The wipe 18 is folded or pulled over the head 12 of the applicator and held in place with the fastener 20. As described elsewhere, the off the shelf wipe or a custom wipe can be held onto the applicator in other fashions.

[00024] Figure 2 illustrates a combination applicator and brush 40. Not shown in this Figure is the wipe 18 that could be used with device 40. Brush head 42 is like the head of a toothbrush; it has a head base 44 at the end of neck 46, with bristles 48 projecting from base 44. In this non-limiting example, bristles 48 are a combination of angled and straight bristles. For example, the bristles 48 are disposed on the head 42 to provide cross-action movement during operation. For example, the arrangement of the bristles on the head 42 allows the bristles 48 to more effectively penetrate between teeth to clean the interproximal areas. The applicator and brush 40 also includes a handle 54 coupled to the head 42 and a shield 56 disposed on the handle 54 and configured to prevent head 42 from being inserted too far into the mouth.

[00025] As the anatomy of the interproximal areas in newly dentate infants or toddlers is anatomically different than that of an adult, the silicone bristle 48 size, length, flexibility, and angulation is designed to (1) provide the sub-base for a Xylitol- impregnated wipe or sleeve (2) provide gum massage with or without the wipe or sleeve and (3) effectively disrupt the plaque colonization from smaller "squat" shaped primary teeth during brushing without risk bristle injury to the gingival.

[00026] The bristled head 42 can also include single, silicone, non-tufted bristles. In one arrangement, as illustrated in Figures 6A and 6B, the bristles 48 can have one or more fins 200 on one or more sides of the bristle 48 to stiffen the bristle. For example, Figure 6A illustrates the bristle 48 as having a single fin 200-1 while Figure 6B illustrates the bristle 48 as having two fins 200-1, 200-2 with the first fin 200-1 being taller than the second fin 200-2. The fins 200 can be configured in a variety of ways. For example, the fins 200 are typically from between about 1/3 and 2/3 the height of the bristle 48 from the bottom of the bristle 48. The height of the fin 200 on the bristle 48 can change the flexibility and the motion of the individual bristle 48. The

different types of finned bristles 48 then can be arranged in different patterns and angles on the head 42 to create different stages of the pre-toothbrush applicator and brush 40. Patterns of finger fins 200 will dictate scrubbing and circular motions for cleaning and massage. Patterns of finger fins 200 will also provide support for the wipe 18 (e.g., a Xylitol sock/shield/wipe).

[00027] While the bristle 48 illustrated in Figures 6A and 6B are shown as being substantially cylindrical, such illustration is by way of example only. In one arrangement, the bristle 48 is configured as a substantially planar structure, where the bristle 48 is thicker than the associated fin 200.

[00028] Returning to Figure 2, the applicator and brush device 40 includes a fastener to allow an impregnated wipe 18 to be coupled thereto and thus carried thereon. For example, the fastener can be configured similar to that shown in Figure 1. Reduced diameter neck 52 located between handle 54 and neck base 50 is adapted to accept an elastomeric o-ring (not shown) that is stretched over an impregnated wipe (not shown).

[00029] In one arrangement, the impregnated wipe 18 can be configured as a custom sock or sleeve 60, such as a sock. The sleeve 60 can be disposed on and secured to the applicator 90 as will be described below. In another arrangement, the sleeve 60 is configures to fits over and be secured to a user's finger where the user's finger massages the gums and/or teeth of a subject.

[00030] Figure 3A and 3B and Figures 4A and 4B illustrate two example interface mechanisms to secure the sleeve 60 to the device 40.

[00031] In one arrangement, as shown in Figure 3B, the sleeve 60 includes a sock portion 64 configured to hold a topical agent and an o-ring 66. The ring 66 can be secured to the sock portion 64 by sewing it in place. With reference to Figure 3A, the sleeve 60 is configured to be coupled to the shield assembly 63. For example, the o-ring 66 fits over the raised features 68 and 70 in the shield 62. With the o-ring 66 disposed over the raised features 68, 70 on the shield 62, the interaction between the o-ring 66 and the raised features 68, 70 operates as the interface mechanism to secure or fasten the sleeve 60 to the shield assembly 63.

[00032] In one arrangement, device 40 includes an interface mechanism 71. For example, as shown in Figures 4A and 4B, a non-threaded quarter turn interface 72 fits over the extruded features 68, 70 of the shield 62, and turns 90 degrees where it moves past a bump that fixes it in place. Interface 72 defines receiving recesses 74 and 76 that fit over features 68 and 70. Slots such as slot 78 communicate with these recesses 74, 76 to accommodate the turn and lock aspect. The sock 60 is sewn in place at the four holes (e.g., holes 80) in the molded quarter turn interface 72. This concept could be converted to a true threaded pattern as well.

[00033] The interface mechanism 71 is easy to use (e.g., install or remove) and is configured to provide enough hold to prevent the sock 60 from becoming dislodged during use. It should be noted that alternate interface mechanisms can be utilized as well. For example, the interface mechanism can include a threaded quarter turn lock, a snap (e.g., interference fit / hold) or clip (i.e., click into place) such as an alligator clip, a magnetic lock (e.g., magnet to magnet or substrate to magnet), or an adhesive application (e.g., a sticky tape-like application).

[00034] Figures 5A and 5B illustrate another arrangement of an applicator 90 having a pacifier-style shield 92 where the shield is configured to substantially conform to a user's lips, and a cleaning head 94. The head 94 defines, spaced around its entire periphery (about 360°), features 96, 98, 100 for cleaning the mouth. For example, the cleaning head 94 has grooves and thicker fins/ridges that are configured to massage a subject's gums with or without a wipe 18 or sleeve 60. Head 94 is relatively soft, so the head 94 can be used to wipe the gums. In one arrangement the applicator device 90 can also be used to dispense or spread the Xylitol to the gums / mouth.

[00035] The applicator 90 can provide 360 degree cleaning potential and is gentle on the baby's mouth. While the cleaning head 94 can be made of a variety of materials, in one arrangement, the cleaning head 94 is manufactured from a soft silicone material. The pacifier shape looks familiar to baby and parents. The design allows the child to prepare for a more brush-like head such as shown in Figures 4A and 4B, and/or get accustomed to an object in their mouth. In one arrangement, the applicator 90 can be configured a "finger thimble" product by making neck area 104 hollow so that a finger, such as an adult finger, can be inserted into it. The neck area 104 disposed proximate to the base 102 also can accept an o-ring to couple a wipe to head 94.

[00036] The applicator devices can be manufactured using a variety of materials. For example, for elastic interface parts, silicone or polyurethane (or a similar family of materials) can be used. The parts include o-rings, slip over washer (overmolded) to shield and snap fit / press / interference fit interfaces. The shield and or locking/threaded components can be manufactured of polyurethane or similar (e.g., such as polypropylene or polyethylene) silicone, ABS, or PVC, for example. The sock can be manufactured from a woven or non-woven synthetic or natural textiles that will hold (soak in) a gel or liquid form of Xylitol.

[00037] Parts are intended to be injection molded or machined. The sock could be coupled to the interface component through an adhesive, sewn in during manufacture of the sock, sewn in after manufacture of the sock, and/or mechanically attached (staple, rivet, other).

[00038] While various embodiments of the innovation have been particularly shown and described, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the spirit and scope of the innovation as defined by the appended claims.

[00039] For example, the oral care device can be configured as an "all-in-one" oral health tool to get a child on oral health care transitions that lead to proper daily oral care. Three or more stages of devices can be included. For example, a stage 1 device can provide for gentle massage and oral stimulation, while stage 2 and 3 devices can prepare the toddler for positioning of standard toothbrushes (e.g., different bristle patterns for more aggressive cleaning action) and can provide cleaning of newly erupted teeth within the limits of toddler dexterity. All three of these stages can be used or fitted to provide topical agent (e.g., Xylitol) application for cavity reduction.

[00040] In another example, the applicator or wipe may be configured in a variety of forms, such as part of a stuffed animal (e.g., the ears of a bunny rabbit toy). For example, a portion of the stuffed animal, such as the ears, can be made from the re-usable/washable wipes 18.

CLAIMS

What is claimed is:

1. An applicator, comprising:

a head;

a set of bristles carried by the head; and

a wipe secured to the head and supported by the bristles, the wipe configured to provide a topical agent to an oral cavity.

2. The applicator of claim 1, wherein the wipe comprises a Xylitol agent.

3. The applicator of claim 1, further comprising a shield, the head coupled to and extending from the shield.

4. The applicator of claim 3, wherein the shield is configured to substantially conform to a user's lips.

5. The applicator of claim 3, further comprising a fastening mechanism configured to secure the wipe to the applicator.

6. The applicator of claim 5, wherein the fastening mechanism comprises an o-ring.

7. The applicator of claim 6, wherein the fastening mechanism further comprises a reduced diameter neck proximate the shield configured to accept the o-ring.

8. The applicator of claim 3, wherein the fastening mechanism comprises a rotated lock.

9. The applicator of claim 1, wherein the wipe is configured as a sock.

10. The applicator of claim 1, wherein the head comprises a relatively rigid center section and a relatively soft outer section.

11. The applicator of claim 1, wherein the head comprises a relatively soft center section and a relatively hard outer section.

12. The applicator of claim 1, wherein each bristle of the set of bristles comprises one or more fins disposed on one or more sides of the bristle.

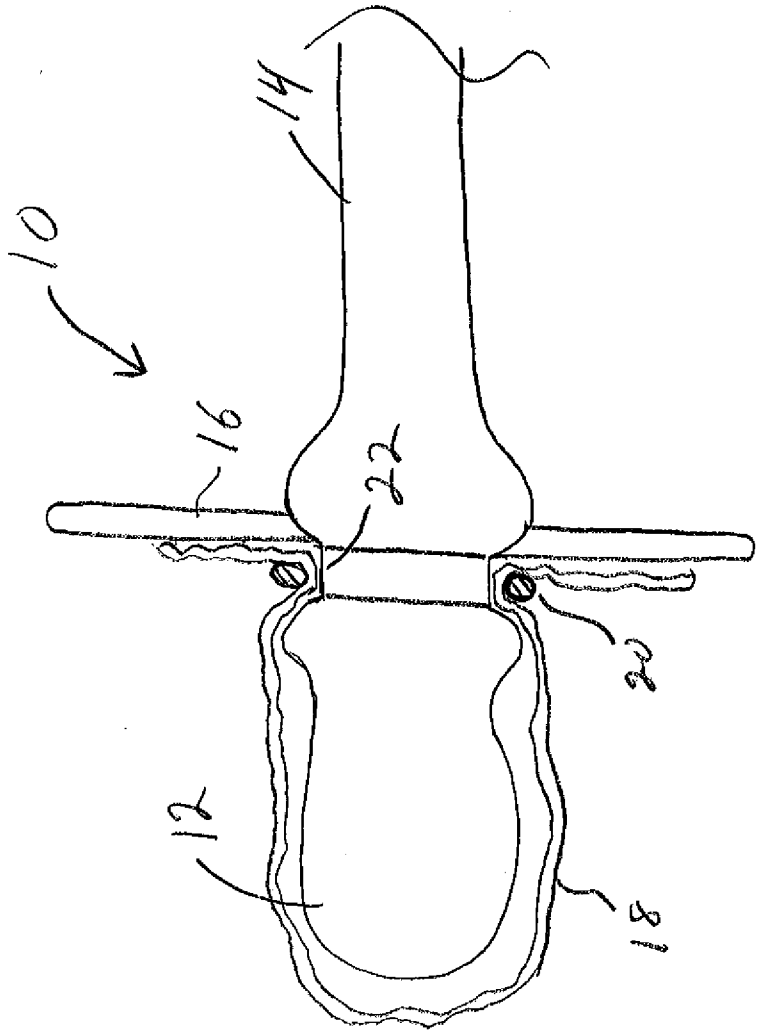

Figure 1

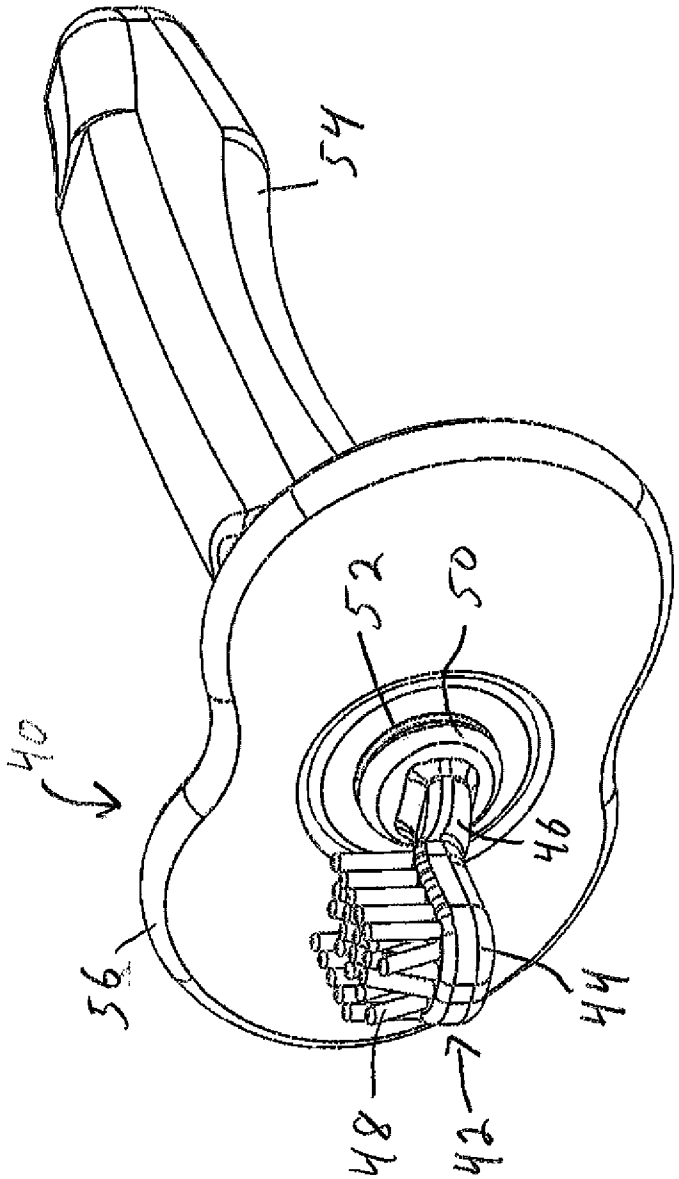

Figure 2

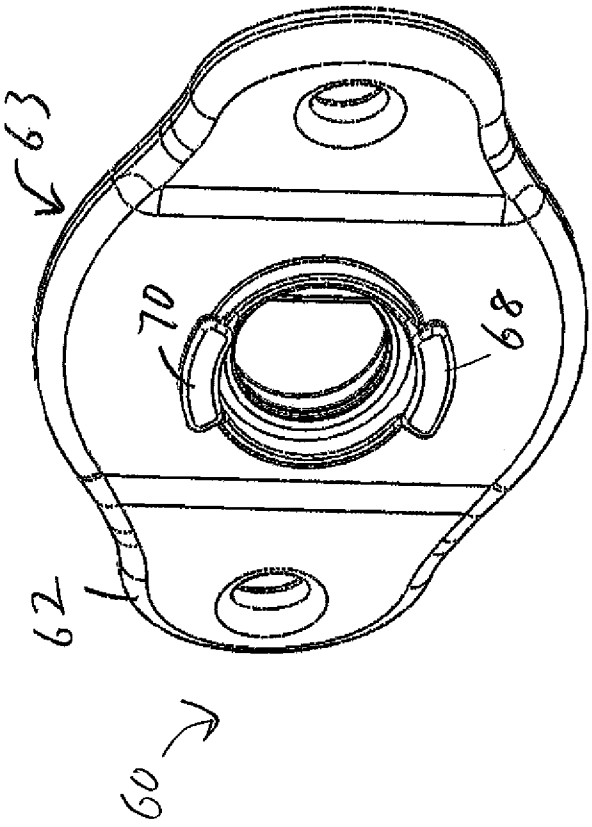

Figure 3A

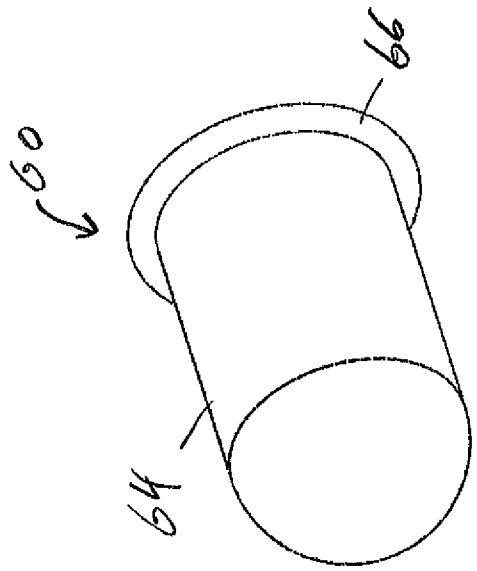

Figure 3B

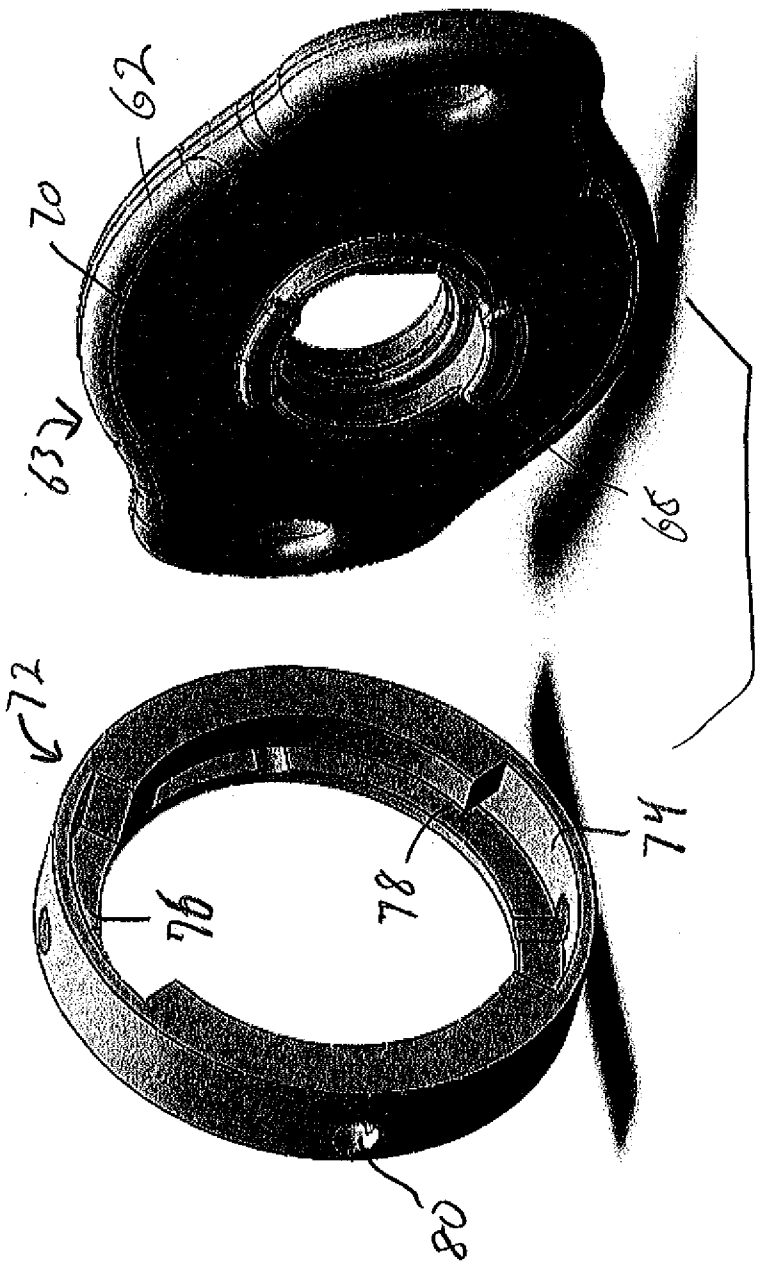

Figure 4A

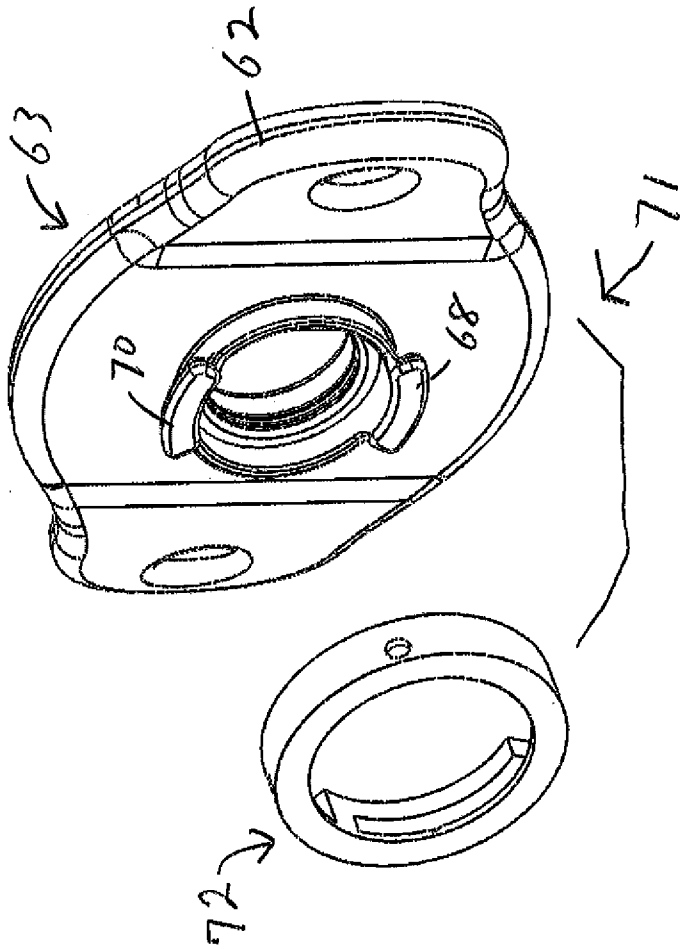

Figure 4B

Figure 5A

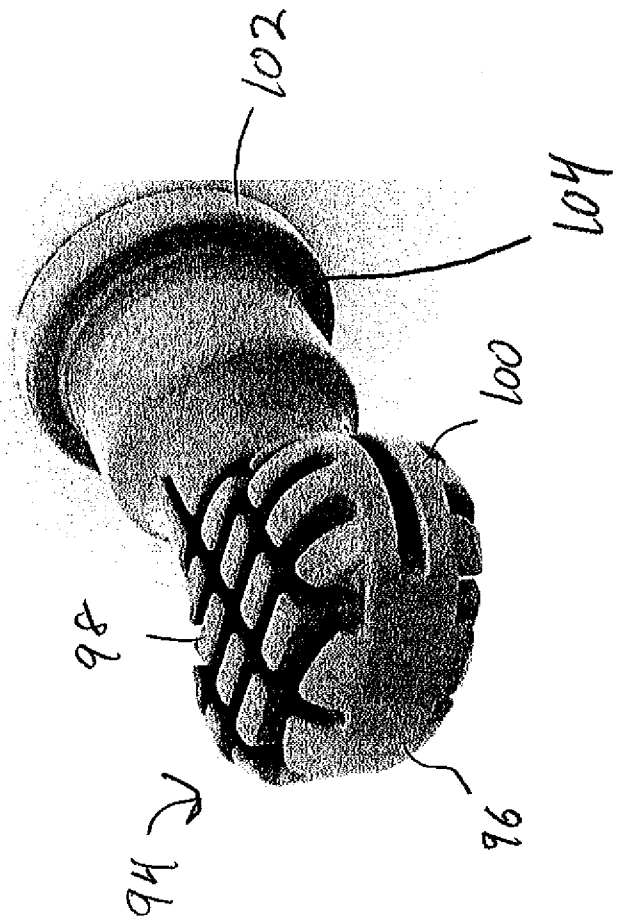

Figure 5B

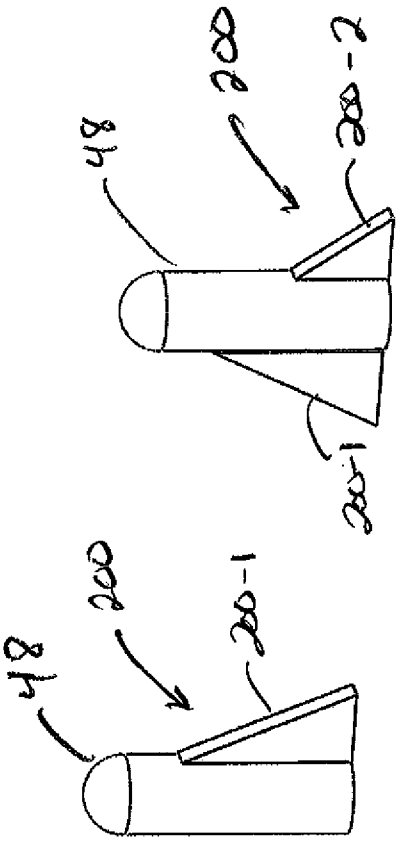

Fig. 6A

Fig. 6B

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 12/32760

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - A46B 9/04 (2012.01)
USPC - 15/167.1
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
USPC 15/167.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
IPC(8): A46B 9/04 (2012.01)
USPC: 15/1, 104.001, 105, 106, 110, 111, 114, 159.1, 160, 167.2, 171, 175

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWEST and Google: toothbrush, tooth, brush, applicator, oral, mouth, teeth, tooth, gums, hygiene, cleaning, brushing, cleaning, bristle, wipe, sleeve, fabric, cotton, weave, woven, cloth, fibrous, bacteria, xylitol, fluoride, topical, agent, acriogenic, damage, injury, scrape, scratch, abrasion, child, infant, baby, toddler, o-ring, cap, cover,

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003/0168075 A1 (Schwartz) 11 September 2003 (11.09.2003) para [0035]-[0040]; Fig. 4-6	1, 9
---		----
Y		2-8, 10-12
Y	US 2006/0037165 A1 (McDevitt et al) 23 February 2006 (23.02.2006) para [0060] and [0187]	2
Y	US 860,527 A (Cochrane) 16 July 1907 (16.07.1907) pg 1, ln 7-14; pg 1, ln 23-39; pg 1, ln 42-51	3-8
Y	US 2009/0158540 A1 (Baertschi et al) 25 June 2009 (25.06.2009) para [0114]; Fig. 14b	10
Y	US 2009/0005810 A1 (Bonazza) 01 January 2009 (01.01.2009) para [0034] and [0058]; Fig. 9	11
Y	US 2005/0060822 A1 (Chenvainu et al) 24 March 2005 (24.03.2005) para [0025] and [0034]; Fig. 1 and 3b	12
Y	US 2004/0240928 A1 (Trocino) 02 December 2004 (02.12.2004) para [0034]; Fig. 2	6-7
A	US 5,729,859 A (Guffin, III) 24 March 1998 (24.03.1998) col 4, ln 16-51; Fig. 1-3	1-12
A	US 2006/0133884 A1 (Oberstadt et al) 22 June 2006 (22.06.2006) para [0057]-[0070]; Fig. 2-4	1-12
A	US 2003/0077107 A1 (Kuo) 24 April 2003 (24.04.2003) para [0071]-[0076]; Fig. 5a-b	1-12

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
01 July 2012 (01.07.2012)	11 JUL 2012
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)