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(54) **Toothbrush with shield member(s)**

(57) A shield member (14) for a toothbrush (10), said shield member (14) being positionable on the toothbrush handle at a location between a grip portion (11) of the handle and the brush-head (13), said shield member (14) being shaped and orientated to prevent fluid flowing down the toothbrush from the head portion to the grip portion.

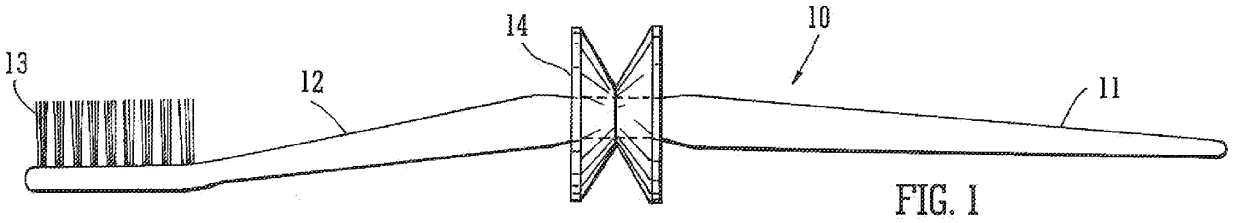

FIG. 1

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Description

[0001] The present invention relates to toothbrushes, whether manual or electric, and is intended to make toothbrushes easier and more comfortable to use.

[0002] At present, when using a toothbrush to brush one's teeth, a common problem is that, during brushing, the toothpaste mixes with saliva in the mouth and such mixture tends to flow down the toothbrush handle and may drip therefrom, or cause the toothbrush handle to become slippery and difficult to hold. This problem applies to both manual and electric toothbrushes and it is the object of the invention to seek to prevent the toothpaste/saliva mixture from reaching the handle portion of the toothbrush.

[0003] According to the present invention there is provided a shield member for a toothbrush handle, said shield member being positionable on the toothbrush handle at a location between a grip portion of the handle and the brush-head, said shield member being shaped and orientated to prevent fluid flowing down the toothbrush from the head portion to the grip portion.

[0004] The shield member is preferably integrally moulded with the handle of the toothbrush during manufacture, but, alternatively, may be supplied, with suitable adaptation, as a retro-fit to existing toothbrush designs. Similarly in the case of an electric toothbrush, which have a removable head portion and a powered body/grip portion, the shield member can be provided at the base of the removable head portion, either being provided integrally formed on the body portion or being provided as a removable adapter therefore. Additional, a further shield member can be provided on the body of an electric toothbrush to collect and prevent any fluid, which may pass the first shield reaching the handle portion of the body of the toothbrush.

[0005] The present invention will now be described further with reference to the accompanying drawings in which:

Figure 1 illustrates a side view of a toothbrush incorporating a shield of the present invention;

Figure 2 shows a top view of a toothbrush of Figure 1;

Figure 3 illustrates a section through the toothbrush and shield of the present invention;

Figure 4 illustrates a portion of a toothbrush showing the shield moulded therewith;

Figure 5 illustrates a version of the shield adapted for an electric toothbrush; and

Figure 6 shows a toothbrush of Figure 5 from the reverse side.

[0006] Referring now to the drawings, Figures 1 and 2 illustrate a manual toothbrush 10 having a gripping handle portion 11, a neck portion 12 and a brush-head 13. Additionally, toothbrush 10 includes a shield member 14, which is preferably integrally moulded with the toothbrush 10. The shield member is preferably shaped, as shown, namely a pair of facing frusto-conical portions, the first of which, nearest the brush-head, providing a first shield member, whilst the rear portion of the shield provides a back-up shield, designed to divert any overflow fluid which may pass the front shield portion.

[0007] Referring to Figure 3, this shows a section through the shield member and illustrates the core 15 of the portion of a toothbrush between the neck portion 12 and the grip portion 11, upon which the shield member 14 is positioned and the outside diameter d of the shield member should be at least 1.25 inches, (3.2 centimetres). Although the shield diameter can be increased, it has been found, through experimental use, that the preferred diameter is 1.25 inches (3.2 centimetres). The core portion 15 ideally has a diameter c of 0.25 inches, or 0.64 centimetres, so that the distance from the core to the respective perimeters of the front and rear shield members is approximately half an inch (1.27 centimetres).

[0008] Referring now to Figure 4, this illustrates the solid construction of a portion of a toothbrush having the shield member integrally moulded therewith, which provides for ease of manufacture.

[0009] It will be appreciated that, in use, toothpaste and saliva mixture being generated at the brush-head 13 during brushing can flow down the neck portion 12, but is prevented from reaching the grip portion 11 by the shield member 14 so as to prevent such saliva and toothpaste mixture from causing the handle portion to become slippery and messy. This is useful for any user, but is particularly useful for young children learning to brush their teeth, or for elderly, or disabled persons, who may find difficulty in grasping the brush, particularly when such is wet and slippery. A further advantage of the position of such shield is that it removes the need for providing rubber or plastic grips in the handle portion, thereby removing the additional costs thereof.

[0010] Referring now to Figures 5 and 6, a version of the shield member is shown for use with an electric toothbrush 20, which comprises a body portion 21 a removable head portion 22, incorporating a brush-head 23. In this embodiment, at the base of the neck of the head portion 22, a first shield member 24 is provided which is preferably of a frusto-conical shape with the widest diameter portion of such facing the brush-head 23. The shield member 24 acts in a similar manner to that in the first embodiment, preventing a saliva/toothpaste mixture from travelling down the neck from the brush-head 23 onto the body portion 21 of the electric toothbrush. Ideally, a second shield member 25 is provided on the body of the toothbrush 20 to prevent any overflow from the first shield member 24 from reaching the handle portion 21 of the electric toothbrush 20, which provides the gripping portion of the toothbrush and also accommodates the

control switches 26 for the electric toothbrush 20. Drain holes 27 provided in the brush-head and the body portion.

[0011] As with the manual version of the toothbrush, shield members can be integrally moulded to the body 21 of the electric toothbrush 20 or can be provided as retro-fitted shields for existing toothbrushes.

Claims

1. A shield member for a toothbrush, said shield member being positionable on the toothbrush handle at a location between a grip portion of the handle and the brush-head, said shield member being shaped and orientated to prevent fluid flowing down the toothbrush from the head portion to the grip portion.

2. A shield member for a toothbrush as claimed in claim 1, in which the shield member is integrally moulded with the handle of the toothbrush during manufacture.

3. A shield member for a toothbrush as claimed in claim 1 or 2, in which the shield member comprises a pair of facing frusto-conical portions, the first of which, nearest the brush-head, providing a first shield member, whilst the rear portion of the shield provides a back-up shield to divert any overflow fluid which may pass the front shield portion.

4. A shield member for a toothbrush as claimed in claim 1, in which the brush head portion is detachable from the handle body portion, said shied member being positionable on either of the handle body portion, or the brush head portion, or both.

5. A shield member for a toothbrush as claimed in claim 3, in which the shield member or members is/are integrally formed with the detachable brush head and/or the handle portion.

6. A shield member for a toothbrush substantially as herein described with reference to the accompanying drawings.

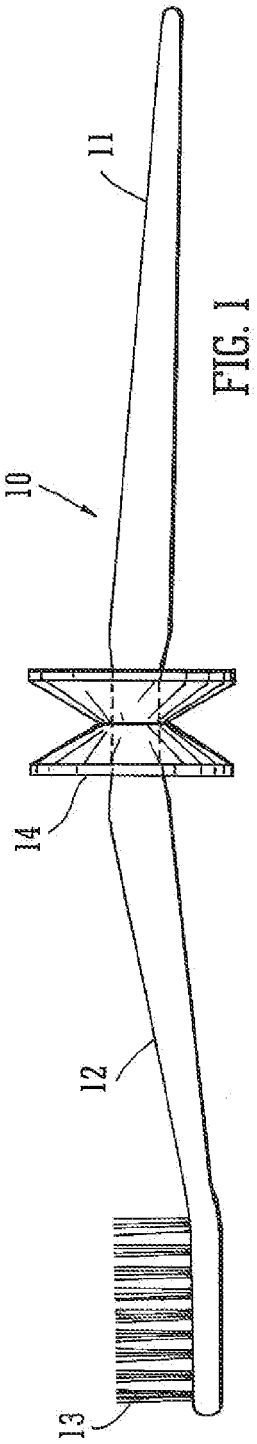

FIG. 1

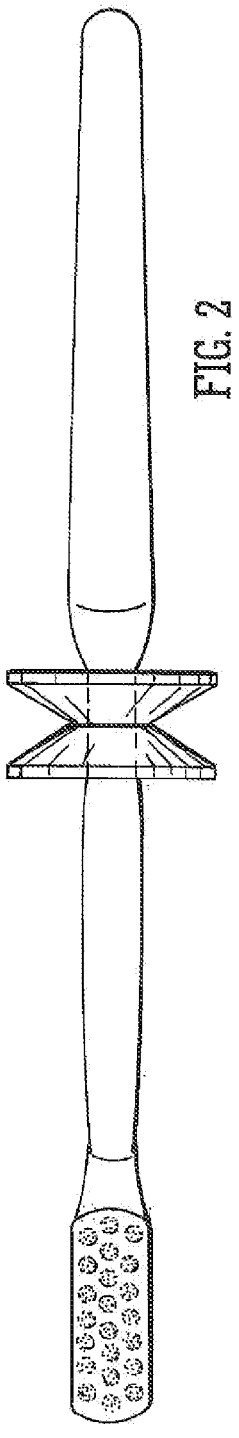

FIG. 2

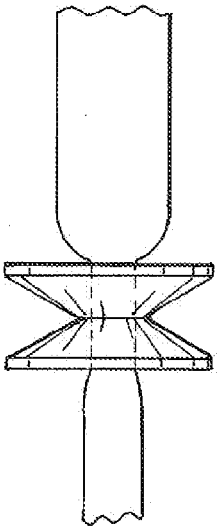

FIG. 4

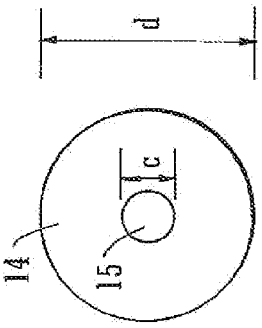

FIG. 3

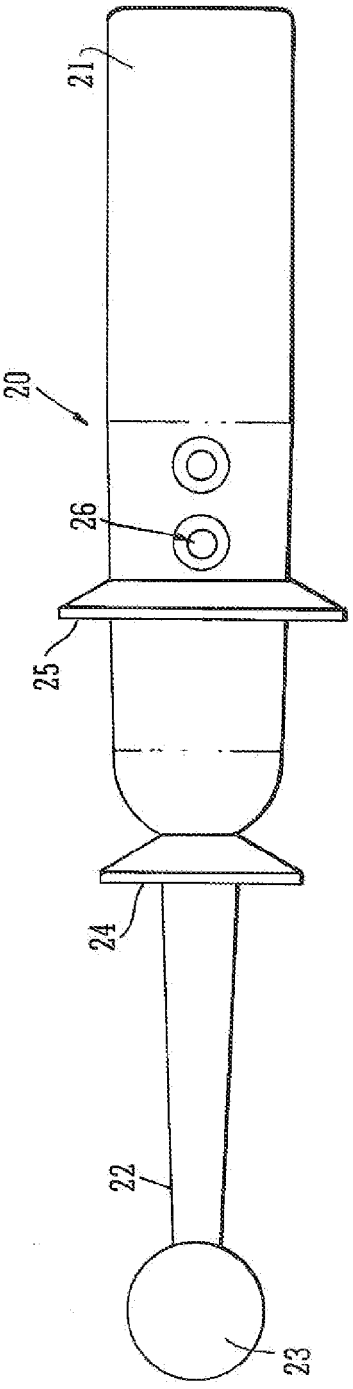

FIG. 5

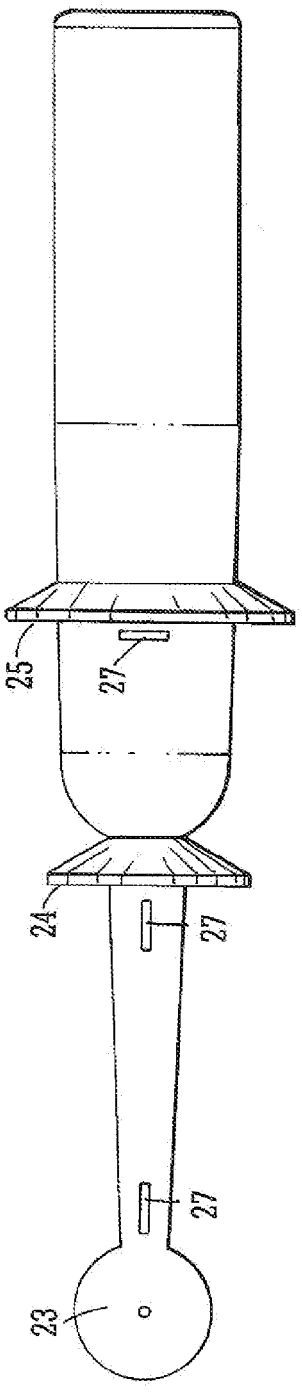

FIG. 6

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EUROPEAN SEARCH REPORT

Application Number
EP 10 19 4770

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 20 2009 001189 U1 (XXD PRODUKTDESIGN GMBH [DE]) 5 November 2009 (2009-11-05) * claims; figures *	1-6	INV. A46B5/00 A46B11/00
X	DE 29 21 587 A1 (HAGHAYEGHI MOHAMMED REZA) 4 December 1980 (1980-12-04) * figures *	1-6	
X	DE 298 06 116 U1 (GERISCHER NORBERT DIPL ING FH [DE]) 30 July 1998 (1998-07-30) * claims; figures *	1-6	
X	CN 2 862 816 Y (LI JINJIN [CN]) 31 January 2007 (2007-01-31) * figures *	1-6	
X	CN 101 449 875 A (HONGXIANG LIANG [CN]) 10 June 2009 (2009-06-10) * figures *	1-6	
X	CN 201 143 013 Y (SICHUAN PROVINCE SHUANGLIU COU [CN]) 5 November 2008 (2008-11-05) * figures *	1-6	TECHNICAL FIELDS SEARCHED (IPC) A46B
X	US 5 507 641 A (CLINE MICHELLE T [US]) 16 April 1996 (1996-04-16) * figures *	1,2,4-6	
X	US 2009/244850 A1 (SUH DAEWOONG [US] ET AL) 1 October 2009 (2009-10-01) * figures *	1-6	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	13 May 2011	Fouquet, Michèle

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 10 19 4770

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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13-05-2011

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 202009001189 U1	05-11-2009	NONE	
DE 2921587 A1	04-12-1980	NONE	
DE 29806116 U1	30-07-1998	NONE	
CN 2862816 Y	31-01-2007	NONE	
CN 101449875 A	10-06-2009	NONE	
CN 201143013 Y	05-11-2008	NONE	
US 5507641 A	16-04-1996	NONE	
US 2009244850 A1	01-10-2009	NONE	

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