

**2010**

**PATENT ATTORNEYS**

**EXAMINATION**

**PAPER E**

The New Zealand Law and Practice  
relating to Interpretation and Criticism of Patent Specifications

Regulation 158 (1) (e)

Duration: 4 hours (plus 10 minutes for reading)

When considering answers to the questions in this year's examinations, no account is to be taken of any provisions of the Patents Bill, the Trade Marks (International Treaties and Enforcement) Amendment Bill, the Regulatory Improvement Bill (as it relates to amendment of the Designs Act 1953), or any other bill that may be before the New Zealand Parliament.

## QUESTION

Your client Mr Brush informs you he has a new product which will revolutionise dental hygiene.

To date, toothbrushes have had limited functionality, merely enabling teeth to be brushed to remove bacteria etc from the surface. Separate devices such as interdental toothbrushes exist for improved cleaning in the gaps between teeth. While each device serves its purpose, it is inconvenient to use separate devices. Also, this clutters bathrooms which often have limited space. In practice, this has resulted in the additional devices being put away and seldom used.

Your client has provided you with a description of his invention (headed "**Client's Invention**") and tells you that he has conducted his own search of patent literature and found only **NZ 123456**. From a review of the IPONZ online register, you see that this application has been accepted and was published on 30 January 2010 and subsequently sealed. **NZ 123456** has a priority date of 1 July 2008 and the complete specification was filed 30 June 2009. Your own further search identifies relevant documents **Documents D1** to **D3** and no others.

Your client also passes you a toothbrush which he was given (along with all other passengers) on an Air New Zealand flight from Asia to New Zealand 5 years ago. Your client informs you that this was the inspiration for his design and wonders whether this is relevant to his own product. Sketches of this device prepared by your client are provided in **Document D4**. Your client explains that the arrangement shown in **D4** includes an integral handle and head. The handle has a hollow portion for storing a tube of toothpaste and the head may be covered with a lid when not in use.

Your client advises that he has a strong relationship with an injection moulding company called **IMC** and intends to use them to manufacture the products. However, they do not have the capability to add bristles and your client is therefore using a separate brush company **BC** for this task. **BC** have informed your client that it would be best if they were also to manufacture the section of the brush in which the bristles are formed. While **IMC** and **BC** are New Zealand companies, **BC** has a subsidiary in China which could be used to manufacture the bristle section.

Your client is keen to promote his new products at a dental conference in Rotorua in February 2011 and advises that he would like to clear up the question of possible infringement before the conference begins.

Advise your client on:

1. Infringement of **NZ 123456 (40 marks)**
2. Validity of **NZ 123456 (40 marks)**
3. Any other issues raised by your client's situation, including the possibility of amendment of **NZ 123456 (20 marks)**

### Documents

- A. Client's Invention
- B. **NZ 123456**
- C. **D1 (US 5,353,464)**
- D. **D2 (GB 0 809 385)**
- E. **D3 (US 5,590,436)**
- F. **D4 (Air New Zealand toothbrush)**

## CLIENT' S INVENTION

### A MULTIFUNCTIONAL TOOTHBRUSH

5 We have designed a multifunctional toothbrush having a structure where a toothbrush for cleanness of a mouth, an interdental brush, a tongue cleaner, a toothpick, etc. are integrally assembled with each other, thereby increasing convenience.

10 In order to secure cleanness of a mouth, use of a toothbrush has been encouraged. A typical toothbrush is shown in FIG. 1. The typical toothbrush 10 has bristles 14 coupled to an upper part of a body 12. The bristles 14 of such toothbrush 10 are coupled to a large area of the toothbrush so as to clean the surface of teeth. Therefore, there is a problem in that alien substances and tartar (plaque) adhered between teeth can not be removed. In order to resolve such a problem, an interdental toothbrush may be used.

15 FIG. 2 is a perspective view of a typical interdental toothbrush. As shown in FIG. 2, the interdental toothbrush 20 has interdental bristles 24 coupled to an upper part of a body 22. The interdental bristles 24 have a small coupling area in comparison with the bristles 14 coupled to a typical toothbrush 10, so that the interdental bristles 24 can be moved between teeth.

20 Since the toothbrush 10 and the interdental brush 20 are provided as separate products, the user has to buy two products and carry these separately during trips, etc. Therefore, there is inconvenience in using them.

#### 25 **1<sup>st</sup> embodiment**

FIG. 3 is a perspective view of a toothbrush according to a first embodiment. FIG. 4 is an exploded side view of FIG. 3.

30 As shown, the multifunctional toothbrush 100 roughly includes a body 110 and an extending bar 160. The body 110 includes a head part 120, a connecting part 130, and a grip 140.

35 The head part 120 has bristles 150 assembled on one side and a coating part 122 formed on a surface of the other side, and additionally has a tongue cleaner 124. The coating part 122 is made from soft plastic or natural resin so as to prevent wounds from occurring when the head part 120 bumps into the inside of a mouth during brushing.

40 It is also possible for the coating part 122 to be omitted and the head part 120 instead made from soft plastic or natural resin. It is possible to use harmless and soft material such as silicon, rubber, etc. as the soft plastic or natural resin.

The connecting part 130 connects the head part 120 and the grip 140 with each other, and further has an elastic groove 132 formed along an outer periphery thereof. Soft plastics are coupled with the elastic groove 132.

45 The grip 140 has a recess 144 which is open toward a lower end. The recess 144 provides a space, in which an interdental brush 166 of an extending bar 160, which will be described below, is installed. A plurality of ventilating holes 141 and 142 extend

## CLIENT' S INVENTION

through the body 110. The ventilating hole 141 is formed upward with a slant. The ventilating holes 141 and 142 are used for exhausting moisture from the interdental brush or for ventilating air. Members other than an interdental toothbrush can alternatively be included, such as a tooth pick.

5 A part 161 of the extending bar 160 is inserted into and assembled with the recess 144, and the interdental brush 166 is assembled with the part inserted into the recess 144 in such a manner that it extends from an interdental toothbrush bar 165. It is preferable that an assembling angle of the interdental brush 166 is 75 degrees respective to a horizontal plane.

10 Preferably, the interdental brush 166 (or other attachment to the extending bar) is detachable from the extending bar 160 to enable them to be replaced or interchanged as required.

15 A stopping jaw 145 is formed at a lower end of the recess 144, and a stopping protuberance 161 corresponding to the stopping jaw is formed at the extending bar 160 so as to allow the extending bar 160 to be disposed at the recess 144. A screw thread may be provided to couple the grip 140 with the extending bar 160.

20 While not shown, according to a proposed variant, the bottom of the extending bar 160 may be flat, enabling the multifunctional toothbrush 100 to stand in an upright position. More preferably, the lower surface of the extending bar has a downwardly projecting rim with one or more cut outs in the rim, enabling water to drain from the assembly.

### 2<sup>nd</sup> embodiment

25 FIG. 5 is an exploded sectional view of a toothbrush according to a second embodiment. FIG. 6 is a sectional view of the toothbrush of FIG. 5, in which the tooth brush is assembled.

30 As shown, the toothbrush 400 according to the second embodiment includes a body 410, a first extending bar 440, and a second extending bar 460.

35 The body 410 has bristles 450 coupled to an upper one side thereof and a first recess 411 formed at a lower part thereof. A screw part 412 is formed at an inner circumferential surface of the lower part of the first recess 411.

40 A first member inserting groove 445 is formed at an upper end of the first extending bar 440, and a second recess 441 is formed at a lower part of the first extending bar 440. The upper part of the first extending bar 440 is inserted into and assembled with the first recess 411.

45 A screw part 443 is formed at an outer circumferential surface of the upper part of the first extending bar 440 so that the body 410 and the first extending bar 440 may be fixedly assembled together. A sealing packing 444 is additionally provided with the lower part of the screw part 443 to help in maintaining airtightness.

## CLIENT' S INVENTION

A ventilating hole 442 is formed at the second recess 441 so as to help in maintaining ventilation in a state where a second member 448 (e.g. an interdental toothbrush) is assembled with the second extending bar 460 and received in the second recess 441.

5 A second member inserting groove 465 is formed at an upper end of the second extending bar 460, and the upper part of the second extending bar 460 is inserted into and assembled with the second recess 441.

10 The second extending bar 460 has upper and lower parts symmetrical to each other. Therefore, the second extending bar 460 is assembled with the first extending bar 440 in such a manner that the second member 448 is positioned within the second recess 441 when not being used. The second extending bar 460 may be reversed and assembled with the first extending bar 440 when the interdental toothbrush 448 is used.

15 The toothbrush 400 having such structure allows the user to perform interdental brushing by using the second member 448, as well as brushing performed by using the bristles 450 and cleansing a tongue by using a tongue cleaner 424. Also, an extra interdental toothbrush 449 can be received in the first extending bar 440 so that the user can replace the interdental toothbrush with the extra one.

20 Extra interdental toothbrush(es) 449, are received in the first extending bar preferably in an airtight state via the threaded coupling 412, 443 and sealing packing 444 so as to prevent the extra interdental toothbrush(es) from being deteriorated due to exposure to contaminant, such as air, water, etc. while it is not being used. The second extending bar on the other hand has a through hole formed at the recess so as to achieve drying of the second member 448.

25 Again, preferably, the other member is detachable to enable it to be replaced as required. Furthermore, as with the first embodiment, the assembly may be configured to stand in an upright position when not in use.

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CLIENT'S INVENTION

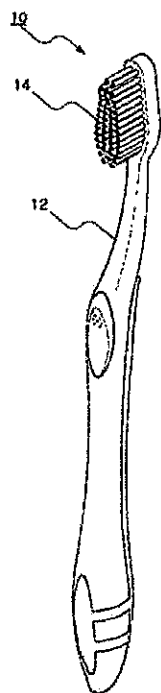


FIG. 1

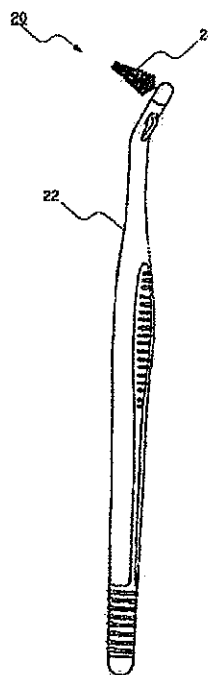


FIG. 2

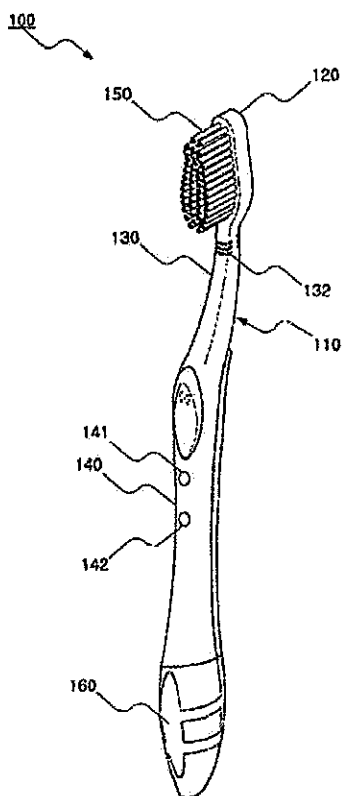


FIG. 3

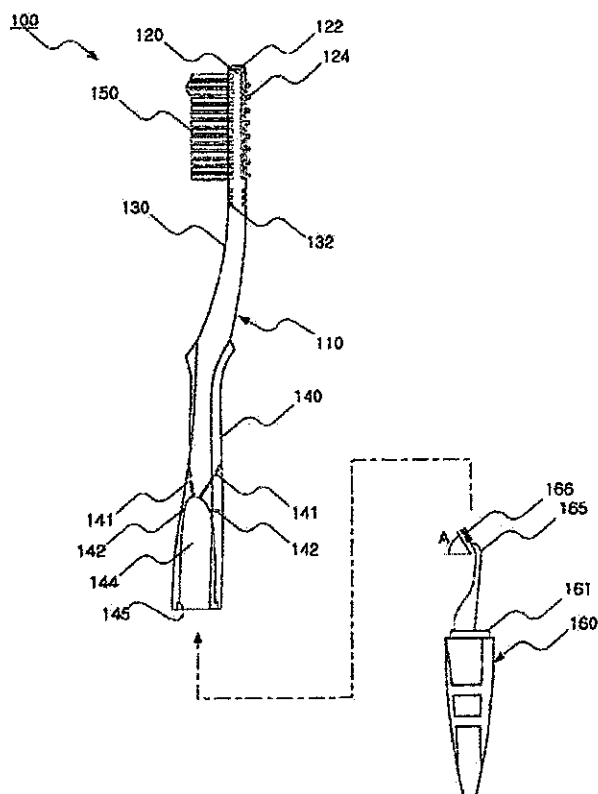


FIG. 4

CLIENT' S INVENTION

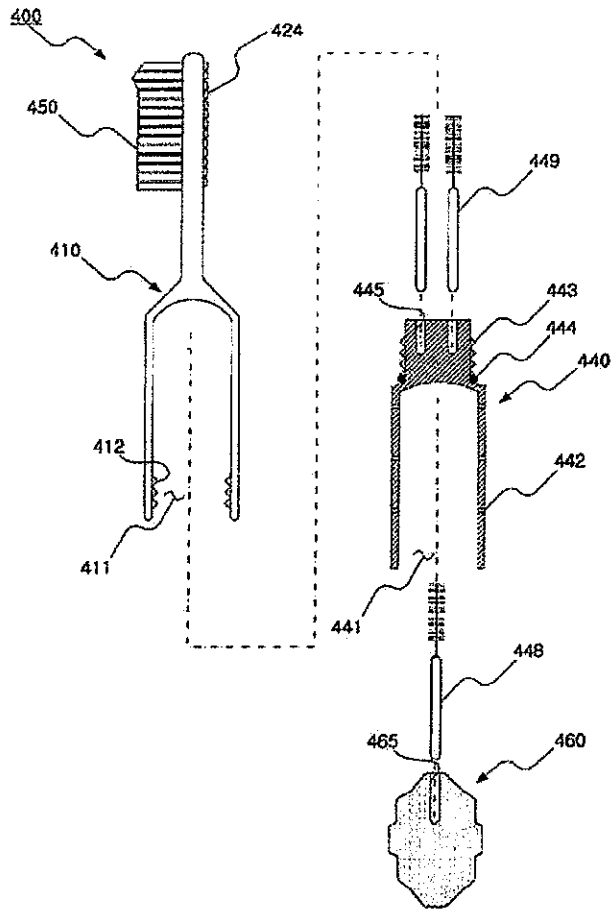


FIG. 5

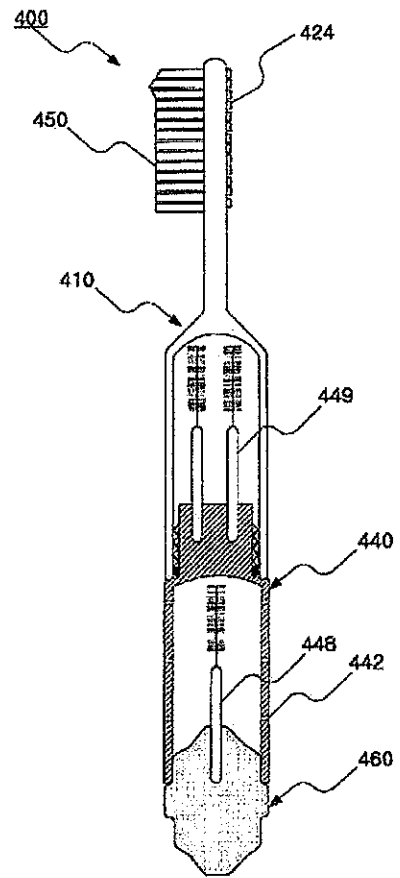


FIG. 6

**TOOTHBRUSH ASSEMBLY**

**BACKGROUND OF THE INVENTION**

**A. Field of the Invention**

5 The present invention relates generally to toothbrushes, and, more particularly, to a toothbrush assembly having a toy-shaped handle with a compartment for removably storing a separate figurine or other toy.

**B. Description of the Related Art**

10 Many children's toys are handheld, and, especially with vehicle type handheld toys, contain a compartment with a lid for retaining figurines, such as toy people, therein. For example, the LEGO Company of Denmark offers several vehicle type handheld toys that have a compartment with a transparent lid to retain a LEGO figurine, such as a driver, within the vehicle. Such handheld toys are not known to have been used as  
15 toothbrush handles.

There is a need in the art to appeal to children with a toy-shaped toothbrush handle having a compartment and a cover or lid for removably storing a figurine or other child's toy therein, wherein the handle can function as a toy with or without a detachable  
20 toothbrush head to encourage children to brush their teeth.

**SUMMARY OF THE INVENTION**

The present invention provides a toothbrush having a head and neck which may be detachably connected to a toy-shaped handle, such as a rocket or vehicle or figurine.  
25 The handle includes a compartment with a cover or lid for removably storing a separate vehicle, figurine, other toy or sundry product, such as candy or a miniature tube of toothpaste therein. The handle is preferably a handheld toy design that functions as a toy whether or not detached from the toothbrush head. The inventors of the present invention have found that such handheld toy designs, containing a compartment with  
30 an additional toy or sundry product therein, makes an ideal toothbrush handle which offers a fun and exciting way for children to brush their teeth. Such excitement motivates children to brush their teeth often, to set in place lifelong habits of good oral



hygiene.

5 As embodied and broadly described herein, the present invention is broadly drawn to a toothbrush assembly, comprising: a head connected to a neck, said head having an exposed outer surface; a plurality of bristles mounted to said head, said bristles being grouped into bristle tufts which extend outwardly from the exposed outer surface; a handle connected to said neck, said handle having a compartment provided therein and an opening that provides access to the compartment; and a vehicle, figurine, other toy or sundry product removably provided within the compartment of said handle, said vehicle, figurine, other toy or sundry product being provided removably and storeably  
10 within said compartment via the opening provided in said handle.

15 In various practices of the present invention, the toothbrush handle takes the form of a rocket ship having a compartment and a cover or lid for retaining a figurine, such as action figure, or a vehicle or another type toy or sundry product (hereinafter generally referred to as a "figurine") therein; the compartment having a cover, or lid, or otherwise being openable and reclosable, such as by being in two parts or sections, which sections may be screwed together, force fit together, snapped-together, or hinged-together to form the compartment which holds the figurine. Preferably, the cover is  
20 transparent so that the figurine may be viewed within the rocket ship-shaped handle. The cover may preferably be opened and closed, or removed and replaced so that the figurine may be removed and stored in the handle compartment.

25 In another aspect of the present invention, the toothbrush handle rather than being in the form of a rocket ship takes the form of a vehicle (e.g. a rescue vehicle) having a compartment and a transparent cover for retaining a figurine, such as a toy driver, therein. The transparent cover of the vehicle-shaped handle may function as a windshield for the vehicle, and as discussed above may preferably be opened and closed, or removed and replaced so that the figurine may be removed and stored in the  
30 handle compartment.

In still another aspect of the present invention, the toothbrush handle may be a more

conventional toothbrush shape, not the shape of a toy, but still acts as a storage and display case for the figurine contained in a compartment provided therein. An entirely transparent or translucent handle or an opaque handle with a transparent or translucent cover may be provided to enable the figurine to be displayed, and may preferably be opened and closed, or removed and replaced so that the figurine may be removed and stored in the handle compartment.

Further scope of applicability of the present invention will become apparent from the detailed description given hereinafter. However, it should be understood that the detailed description and specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description. It is to be understood that both the foregoing general description and the following detailed description are exemplary and explanatory only and are not restrictive of the invention, as claimed.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

The present invention will become more fully understood from the detailed description given hereinbelow and the accompanying drawings which are given by way of illustration only, and thus are not limitative of the present invention, and wherein:

Fig. 1 is a front elevational view of a toothbrush having a head and a rocket ship-shaped handle having a removable and replaceable cover that allows access to a compartment for storing a figurine therein in accordance with one embodiment;

Fig. 2 is a side elevational view of the toothbrush shown in Fig. 1;

Fig. 3 is a rear elevational view of the toothbrush shown in Figs. 1 and 2;

Fig. 4 is a top plan view of the toothbrush shown in Figs. 1-3;

Fig. 5 is a bottom plan view of the toothbrush shown in Figs. 1-4;

Fig. 6 is a front elevational view of the toothbrush handle shown in Figs. 1-5, and showing a removable and replaceable cover held in place by a snap-in latch;

Fig. 7 is a cross-sectional view in elevation of the toothbrush handle shown in Figs. 1-6, taken along line 7-7 of Fig. 6 and showing a snap-in latch provided in a receiver recess;

Fig. 8 is a front elevational view of the toothbrush handle shown in Figs. 1-5, and showing an alternative embodiment with a hinged full cover with a snap-in latch;

Fig. 9 is a front elevational view of the toothbrush handle shown in Figs. 1-5, and showing another alternative embodiment with a vertically-hinged two-piece cover with snap-in latches for each removable and replaceable cover;

Fig. 10 is a front elevational view of the toothbrush handle shown in Figs. 1-5, and showing still another alternative embodiment with a horizontally-hinged two-piece cover with snap-in latches for each removable and replaceable cover and a figurine removed from the compartment of the toothbrush handle;

Fig. 11 is a side elevational view of a toothbrush having a removable head and neck (shown in phantom outline) and a vehicle-shaped handle having a removable and replaceable cover displaying a compartment that removably stores a figurine therein in accordance with still another embodiment of the present invention;

Fig. 12 is a front elevational view of the toothbrush shown in Fig. 11;

Fig. 13 is a fragmental rear view of the toothbrush shown in Figs. 11 and 12, and showing how a retainer button of the toothbrush neck engages a retainer slot formed in the handle;

Fig. 14 is a side elevational view of a toothbrush having a removable head and neck, and a handle having a cover displaying a compartment that stores a figurine therein in accordance with still another embodiment of the present invention; and

Fig. 15 is a side elevational view of still another embodiment of a toothbrush of the present invention having a removable head and neck, and a handle having a cover displaying a compartment that stores a figurine therein.

## **DETAILED DESCRIPTION OF EMBODIMENTS OF THE INVENTION**

The same reference numbers in different drawings identify the same or similar elements.

Figs. 1-5 illustrate a toothbrush 10 including a neck section 12 interposed between a head 14 and a handheld handle 16. Preferably, neck 12 and head 14 are integrally connected, and together are detachably connected to handle 16 so that head 14 may be replaced as the bristles become worn and so that handle 16 may function separately

as a toy when detached from neck 12 and head 14. In an alternate embodiment, the head 14 and neck 12 are integral and permanently connected to the handle 16.

As further shown in Figs. 1-5, handle 16 preferably includes a hollowed-out compartment 22 with a cover, window, or lid 24 for retaining a figurine 28, such as an action figure. However, it is understood that in place of the figurine may be a vehicle, such as a submarine, plane or other toy or sundry product, such as candy or a miniature toothpaste tube which will appeal to a child. Cover 24 may be hinged or otherwise fixedly attached to, such as by being removably snapped thereto, or integrally formed with a body portion 17 of handle 16 and may be transparent for displaying figurine 28 housed within compartment 22. Although cover 24 may be configured to be removable, if cover 24 is fixedly attached to handle 16, an access opening for compartment 22 should be provided where neck 12 connects to handle 16 (as described more fully below with reference to Fig. 11). An indicia band 30 may additionally be provided for displaying a toy logo. Since the embodiment of the handle 16 shown in Figs. 1-5 is shaped like a rocket ship, it preferably includes fins 32 which simulate rocket ship fins, but also act as support feet, conveniently and hygienically holding toothbrush 10 in a preferably upright position for easy storage or display.

Figs. 6-10 show various ways an openable cover may be arranged over an opening provided in a body portion 17 of handle 16, as opposed to the fixedly attached cover 24 shown in Figs. 1-5. Fig. 6 shows a handle body portion 17 with an opening 34 provided therein for receiving a removable and replaceable cover 36 held in place by two snap-in latches 38. Snap-in latches 38 are received and retained in respective receptacles 40 formed in body portion 17 of handle 16, as best shown in Fig. 7. Latches 38 may be engaged to remove cover 36 from opening 34, permitting removal or insertion of figurine 28 from or within compartment 22 of handle 16.

Fig. 8 shows a handle body portion 17 with an opening 34 provided therein for receiving a cover 42 hingedly connected to body portion 17 with a pair of hinges 44. A snap-in latch 38 is provided on an edge of cover 42 opposing the edge attached to hinges 44. Snap-in latch 38 may be received and retained in a receptacle 40 formed in body

portion 17. Latch 38 may be engaged to pivot cover 42 away from opening 34, permitting removal or insertion of figurine 28 from or within compartment 22 of handle 16.

5 Fig. 9 shows a handle body portion 17 with an opening 34 provided therein for receiving a two-piece cover 46 hingedly connected in a vertical direction to body portion 17 with two pairs of hinges 44. Snap-in latches 38 are provided on an edge of each piece of cover 46 opposing the edge attached to hinges 44. Snap-in latches 38 may be received and retained in respective receptacles 40 formed in body portion 17. Latches 38 may  
10 be engaged to pivot two-piece cover 46 away from opening 34, permitting removal or insertion of figurine 28 from or within compartment 22 of handle 16.

Fig. 10 shows a handle body portion 17 with an opening 48 provided therein for receiving a two-piece cover 50 hingedly connected in a horizontal direction to body  
15 portion 17 with two pairs of hinges 44. Snap-in latches 38 are provided on an edge of each piece of cover 50 opposing the edge attached to hinges 44. Snap-in latches 38 may be received and retained in respective receptacles 40 formed in body portion 17. Latches 38 may be engaged to pivot two-piece cover 50 away from opening 34, permitting removal or insertion of figurine 28 from or within compartment 22 of handle  
20 16.

Although hinges 40 and latches 38 are shown in specific quantities and at specific locations in Figs. 6-10, more or less hinges 40 and latches 38 may be provided, at a variety of locations on handle 16 in accordance with the broad teachings of the present  
25 invention. Likewise, the covers shown in Figs. 6-10 may have a variety of other shapes than shown in Figs. 6-10, in accordance with the broad teachings of the present invention. Furthermore, other mechanisms may be used to connect and pivot the covers to the handles of the present invention.

30 Figs. 11-13 show one version of how neck 12 and head 14 of toothbrush 10 may be removably connected to the handle of toothbrush 10. An alternate version of handle 16A is also shown in Figs. 11-13. Handle 16A as shown may be shaped like a vehicle,

such vehicles may include a race car, a submarine or an all terrain vehicle and includes a body portion 17A fixedly connected to or integrally formed with a transparent cover or window 24A. Window 24A displays a figurine 28, such as an action figure, that may be provided in a compartment 22A provided in handle 16A.

5

As further shown in Figs. 11-13, a lower portion of neck 12 includes a retainer button 52 integrally connected to a spring arm 54, and a stiffener arm 56. Neck 12 and head 14 may be removably attached to handle 16A by depressing retainer button 52 in a direction as shown by arrow 53, moving neck 12 in a direction as shown by arrow 55, sliding stiffener arm 56 and the button 52/spring arm 54 combination into an opening 60 provided in body portion 17A of handle 16A, and releasing retainer button 52. Retainer button 52 extends through a retainer slot 58 provided in body portion 17A, and remains in slot 58 due to the spring force provided by spring arm 54. Neck 12 and head 14 may be removed from handle 16A by depressing retainer button 52, and pulling neck 12 and head 14 away from handle 16A.

10

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As shown in Figs. 14 and 15, the handle may be configured as a conventional generally cylindrical toothbrush handle. As shown in Fig. 14, toothbrush 10 includes a neck section 12 interposed between a head 14 and a handheld display handle 62. Handle 62 preferably includes a hollowed-out compartment 64 with a transparent window 66 for retaining a figurine 28 (e.g. an action figure). In this embodiment, handle 62 includes two hinged or separable and rejoinable sections, a top section 62A and a bottom section 62B, which sections when separable and rejoinable are threadably, snap-fit, force-fit or otherwise connected, preferably the connection contains an indicia band 68 (similar to indicia band 30) and a threadable connection via mating threads 70 provided on indicia band 68 and sections 62A, 62B. When top section 62A or bottom section 62B are separated by as preferably indicated being unscrewed from indicia band 70, figurine 28 may be removed from or inserted in compartment 64 of handle 62.

20

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As shown in Fig. 15, toothbrush 10 includes a neck section 12 interposed between a head 14 and a handheld display handle 72. Handle 72 preferably includes a hollowed-out compartment 74 with a transparent window 76 for retaining a figurine 28 (e.g. an

action figure). In this embodiment, handle 72 may either threadably connect with a screw off top 78 (having neck 12 connected thereto), via mating threads 80, threadably connects with a screw off base 82, via mating threads 84, or threadably connects with screw off top 78 and screw off base 82. When screw off top 78 or screw off base 82 are unscrewed from handle 72, figurine 28 may be removed from or inserted in compartment 74 of handle 72.

Any embodiment of the toothbrush handles 16, 16A, 62, 72 of the present invention may be permanently attached to neck 12 and head 14, or may be removably attached to neck 12 or head 14 using any of the attachment configurations shown in Figs. 11-15. Preferably, however, the toothbrush handles of the present invention are removably attached to neck 12 and head 14 so that the handles may function more easily as a separate toy.

Head 14 of the present invention may have a generally flat face 18 that holds a plurality of tufts or bristles 20. Head 14 may have variety of shapes, including but not limited to circular, oval, square, rectangular, various regular or irregular shapes, etc.

Bristles 20 extending from face 18 may be coplanar with each other so that the outer surface of bristles 20 lie in a single plane. The invention, however, could be practiced where some or all of the bristles 20 extend outwardly a different distance than other bristles 20 to result in a stepped effect for the outer surface of the bristles. In the illustrated embodiment as best shown in Fig. 2, bristles 20 extend outwardly from an outer surface 26 of head 14 approximately the same distance to create a generally flat surface or flat bristle trim for receiving the toothpaste.

The bristles 20 could be mounted to the tuft blocks or sections by extending through suitable openings in face 18 so that the base of bristles 20 is mounted within or below the surface of face 18 using conventional staple or in-mold tufting technology for mounting therein. If desired, the bristles could be embedded in an elastomeric material which would permit the bristles to have an independent motion. Such various forms of bristles may thus be used for the bristles used in any section of head 14.

Similarly, while Figs. 1-7 illustrate the bristles to be generally perpendicular to face 18 of head 14, some or all of the bristles may be angled at various angles with respect to the outer surface of the bristle head. It is thereby possible to select the combination of  
5 bristle configurations, bristle materials and bristle orientations to achieve specific intended results, such as to create as much movement from the oscillating tuft heads to deliver additional oral health benefits like enhanced cleaning, tooth polishing, tooth whitening and/or massaging of the gums.

10 It is to be understood that the invention can be practiced by locating tufts of bristles in any otherwise open area of toothbrush head 14. Such tufts of bristles could be fixed bristles perpendicularly mounted or mounted at an angle to the exposed outer surface 26 of the head 14 or could be bristles mounted on an elastomeric base with a Shore A durometer in the range of about 0 to about 90, so as to be independently movable  
15 when pressure is applied. Such bristles in their normal condition could be either perpendicular or at an angle to the face 18 of head 14.

The invention may also be practiced where different sets of bristles have different colors. It is to be understood, however, that any combination of colors including only  
20 one color could be used for bristles 20. Likewise, neck 12 and handle 16 may have a variety of colors, and may be opaque, transparent, translucent, clear, etc.



**What we claim is:**

1. A toothbrush assembly, comprising:  
a head connected to a neck, said head having a plurality of bristles extending outwardly therefrom; and

5 a handle connected to said neck, said handle having a compartment provided therein,

wherein the compartment is for receiving a vehicle, figurine, other toy or sundry product, and

10 wherein the handle includes feet for supporting the assembly conveniently and hygienically for easy storage or display.

2. A toothbrush assembly as recited in claim 1, comprising said vehicle, figurine, other toy or sundry product being provided in the compartment.

15 3. A toothbrush assembly as recited in claim 1 or claim 2, wherein the compartment has a cover which may be opened and reclosed whereby said vehicle, figurine, other toy or sundry product may be removed and replaced in the compartment.

20 4. A toothbrush assembly as recited in any one of the preceding claims, wherein said handle is in the shape of a rocket ship or a vehicle or a figurine or a display case.

5. A toothbrush assembly as recited in claim 1, wherein when said neck removably connects to said handle.

25 6. A toothbrush assembly as recited in claim 1, wherein said handle includes a top section connected to said neck and a bottom section distal from said neck, the top and bottom sections being joined in such a manner as to be hinged or to be separable and rejoinable, wherein said top and bottom sections form the compartment which retains said figurine.

30 7. A toothbrush assembly as recited in claim 3, wherein the cover permanently connects to a body portion of said handle.

8. A toothbrush assembly as recited in any one of the preceding claims, wherein said handle comprises two sections connected together.

5 9. A toothbrush assembly as recited in claim 8, wherein said top section and bottom section are joined by a rejoinable connection selected from the group consisting of a snap-fit and a force-fit connection.

10 10. A toothbrush assembly as recited in claim 8 or claim 9, wherein at least one said section is configured to provide a sealable enclosure.

11. A toothbrush assembly as recited in any one of the preceding claims, wherein the compartment includes one or more apertures for allowing moisture to drain therefrom.

15 12. A toothbrush assembly substantially as herein described with reference to any one of the embodiments shown in the drawings.

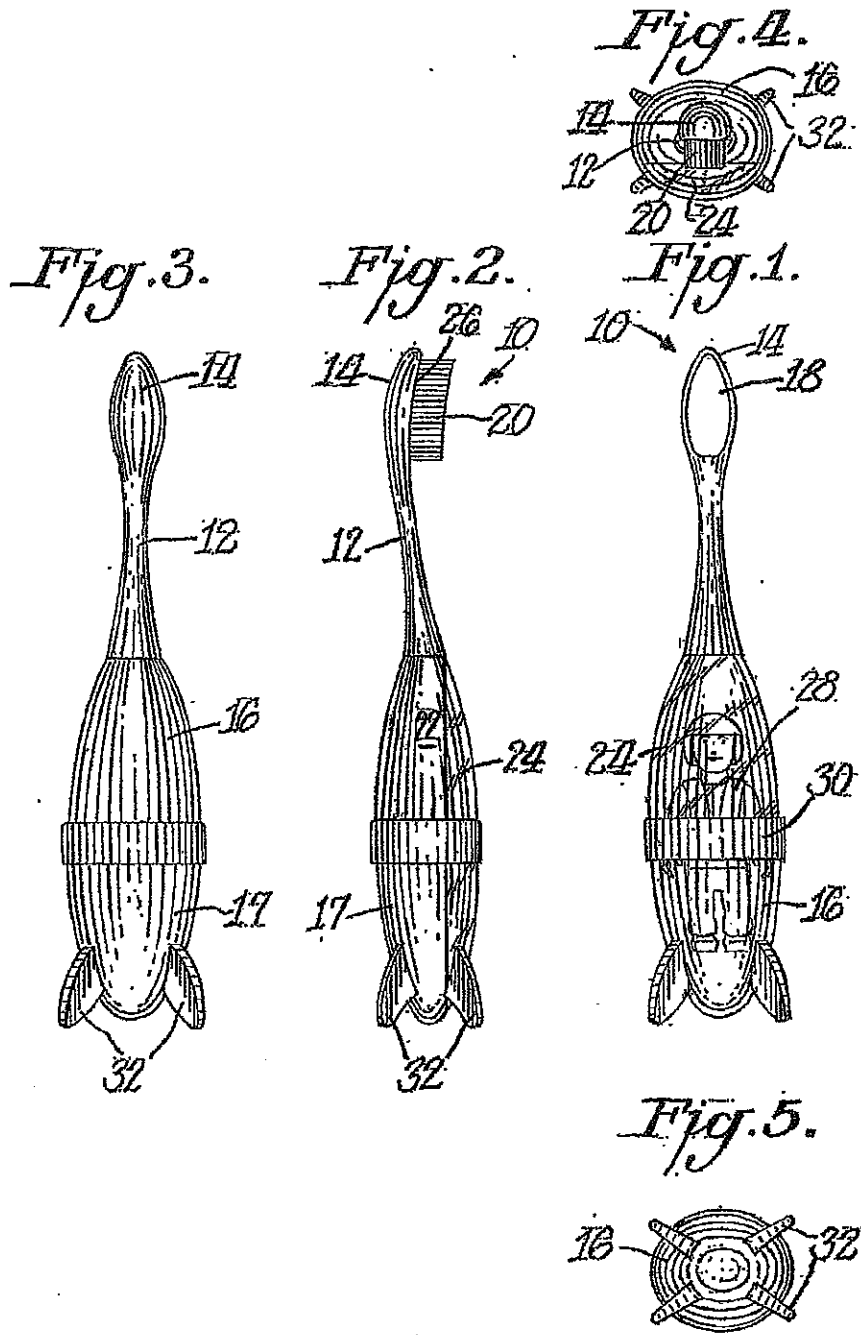


Fig. 6.

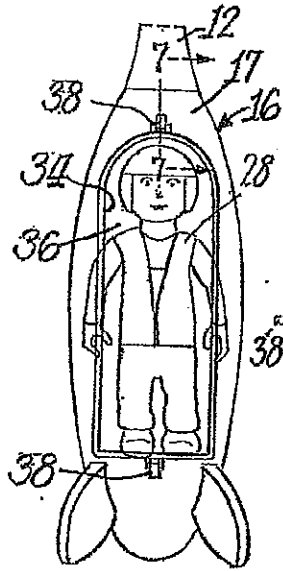


Fig. 8.

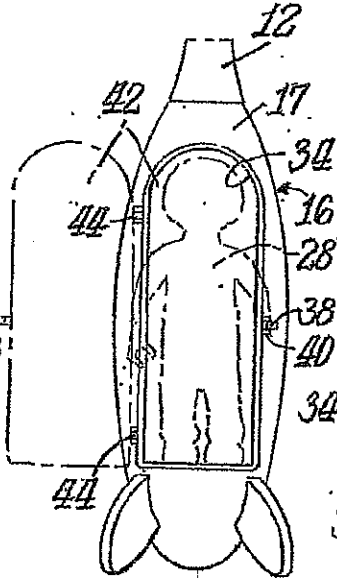


Fig. 9.

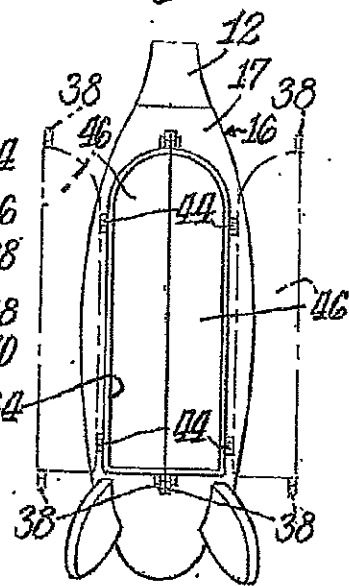


Fig. 7.

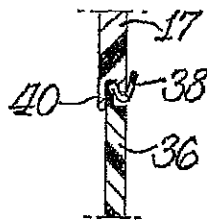


Fig. 10.

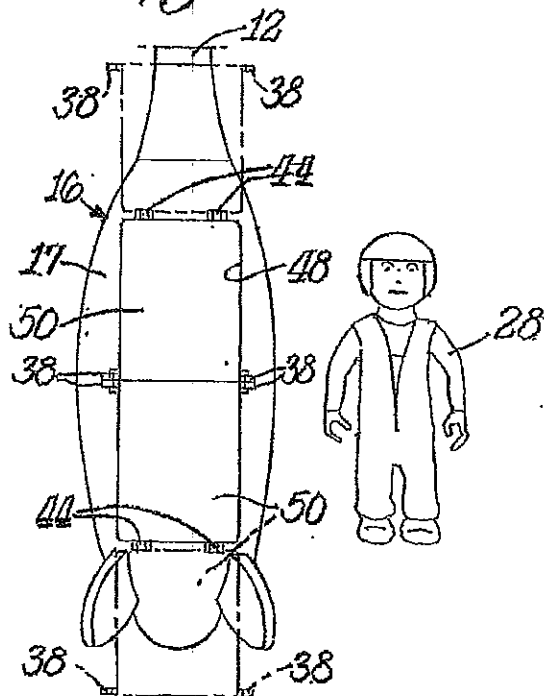


Fig. 11.

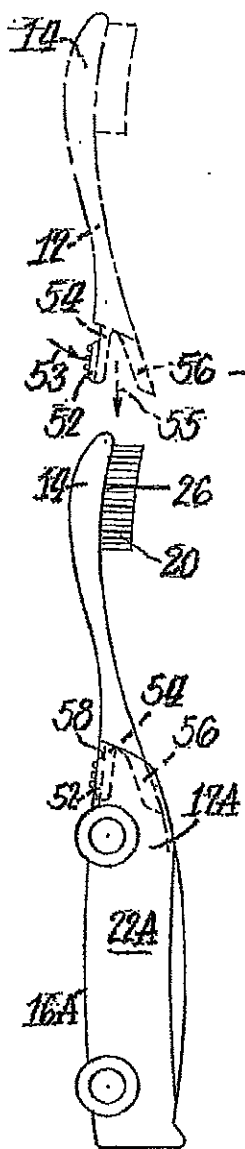


Fig. 14. Fig. 15.

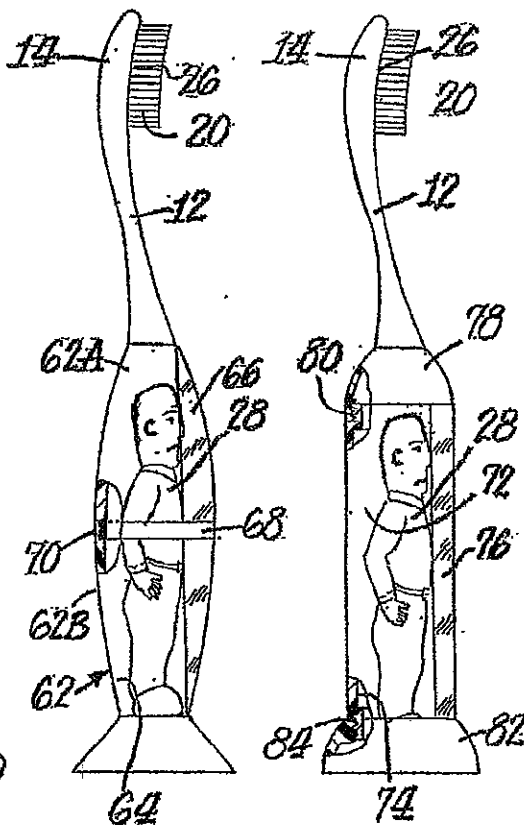


Fig. 12.

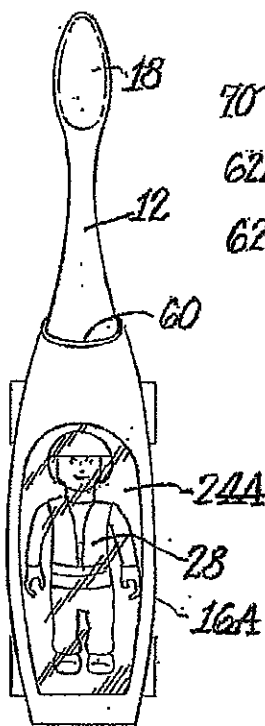
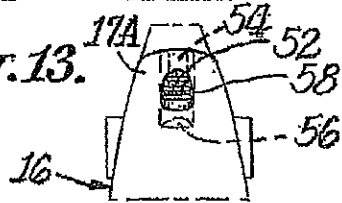


Fig. 13.





US005353464A

# United States Patent [19]

Atkins et al.

[11] Patent Number: 5,353,464

[45] Date of Patent: Oct. 11, 1994

## [54] TOOTHBRUSH CONSTRUCTION

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Rouge, La. 70806

[21] Appl. No.: 2,072

[22] Filed: Jan. 8, 1993

### Related U.S. Application Data

[63] Continuation of Ser. No. 640,989, Jan. 14, 1991, abandoned, which is a continuation-in-part of Ser. No. 519,418, May 4, 1990, Pat. No. 5,187,829.

[51] Int. Cl.<sup>5</sup> ..... A46B 9/04

[52] U.S. Cl. .... 15/167.1; 15/143.1;  
D4/107; D4/125

[58] Field of Search ..... 15/106, 143.1, 145,  
15/160, 167.1, 167.2, 172, 176.1, 176.6; 211/65;  
248/110, 111; D4/107, 124-126; D7/656

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Primary Examiner—David A. Scherbel

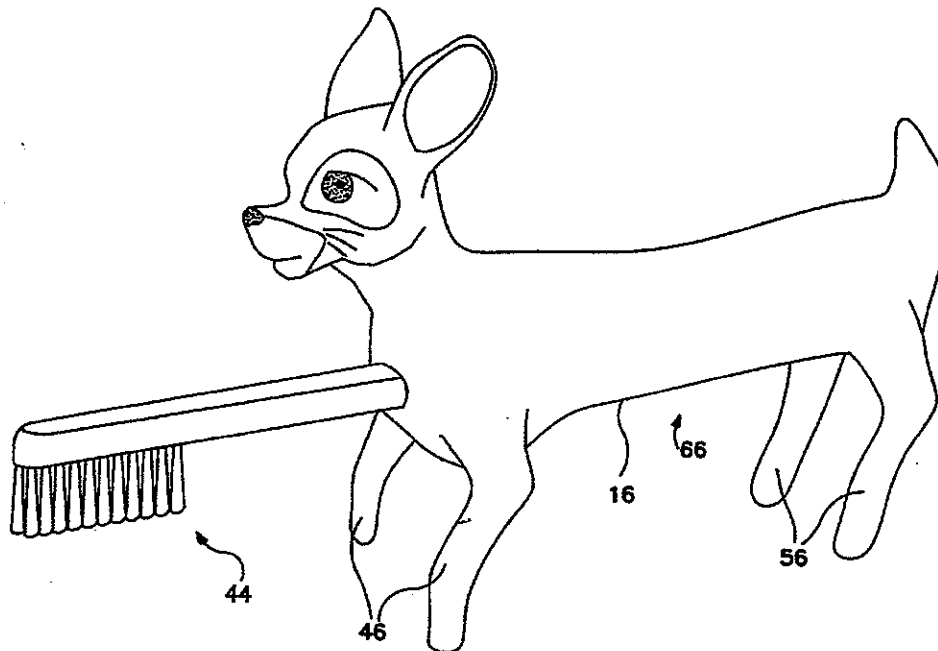
Assistant Examiner—Mark Spisich

Attorney, Agent, or Firm—John F. Sieberth

### [57] ABSTRACT

The handle of the toothbrush is in the general form of an animal (e.g., a quadruped) having its body-supported when not in use in a generally horizontal position. The handle is manually encircled and grasped by the hand with the thumb extending under and around the lower part of the body and with the palm and fingers extending over and around the upper part of the body portion as in a fist. The brush head of the toothbrush extends from an end of the handle. When the brush is not in use, it is adapted to rest on a flat surface with the bristles spaced from such surface. The device is adapted to motivate children to acquire and maintain desirable lifelong habits of good dental hygiene, it is easy for children to use, and it has enhanced sanitary features not found in the common types of toothbrushes presently available in the marketplace. To enhance the utility of the construction, at least an exterior portion of that part of the body portion which is manually encircled and grasped by the the user's hand as in a fist, is fabricated from a cellular material, preferably a closed cell cellular polymer which, most preferably, has a relatively smooth outer finish and is manually compressible but resilient. A preferred cellular polymer is a closed cell foamed or cellular ethylene-vinyl acetate copolymer.

20 Claims, 10 Drawing Sheets



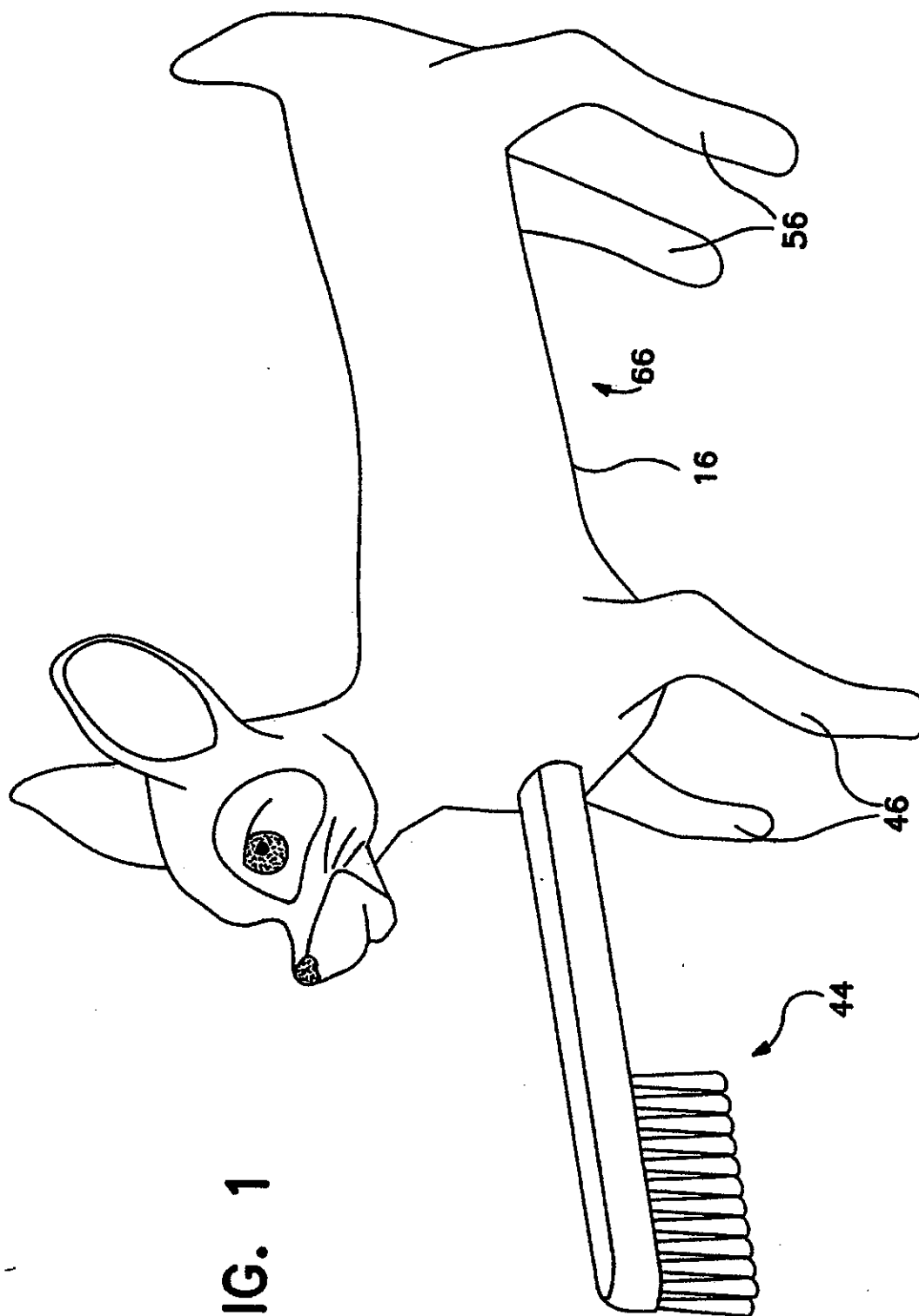


FIG. 1

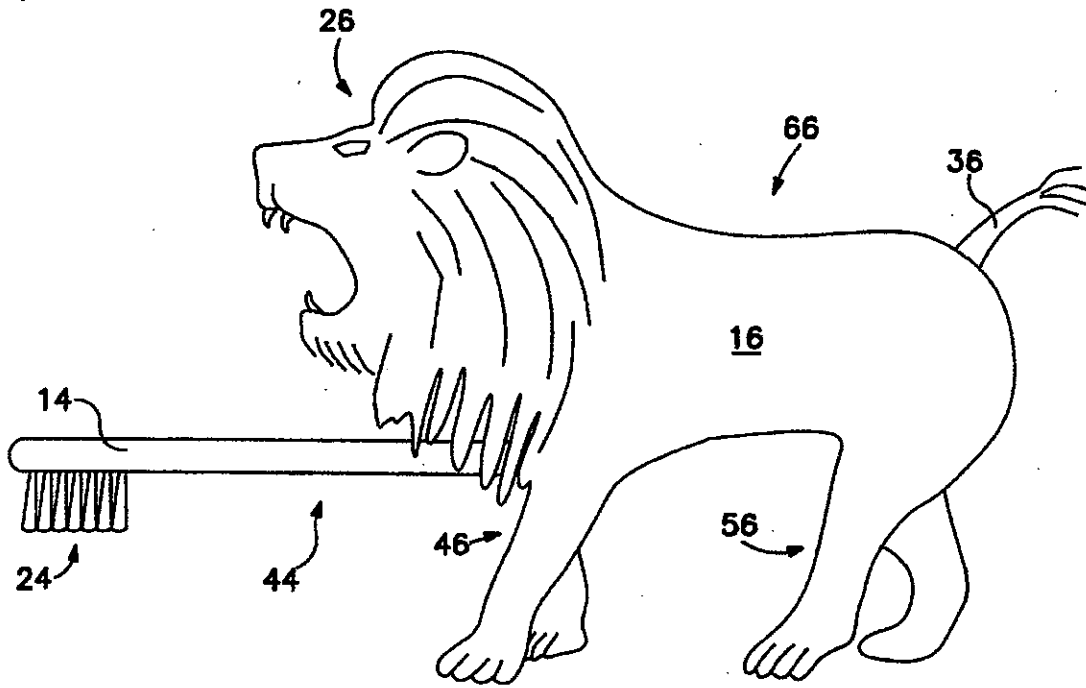


FIG. 2

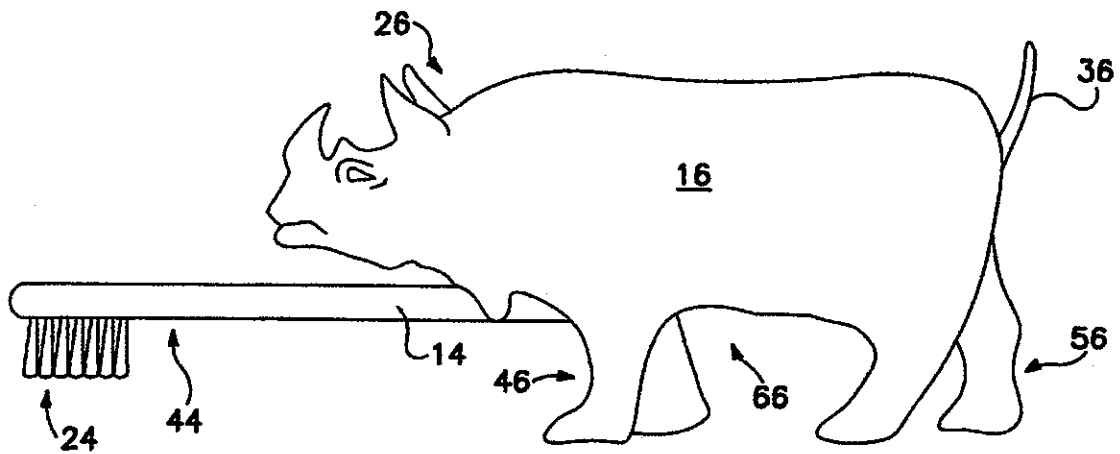


FIG. 3



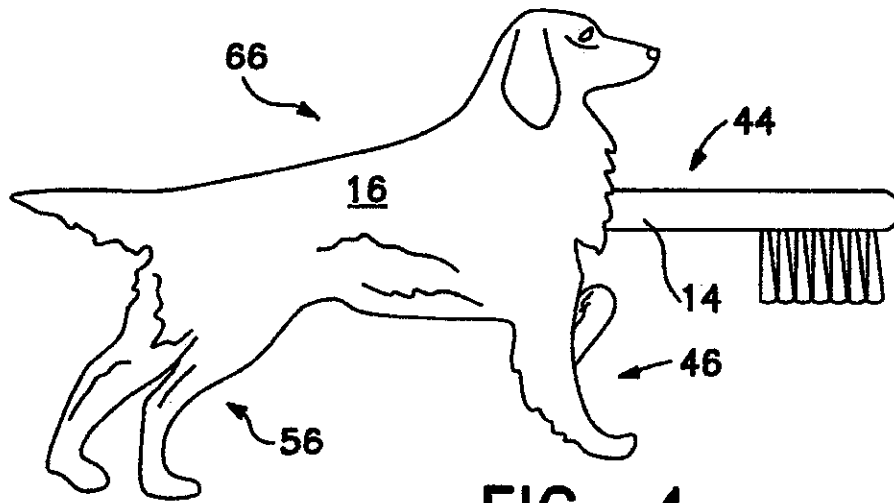


FIG. 4

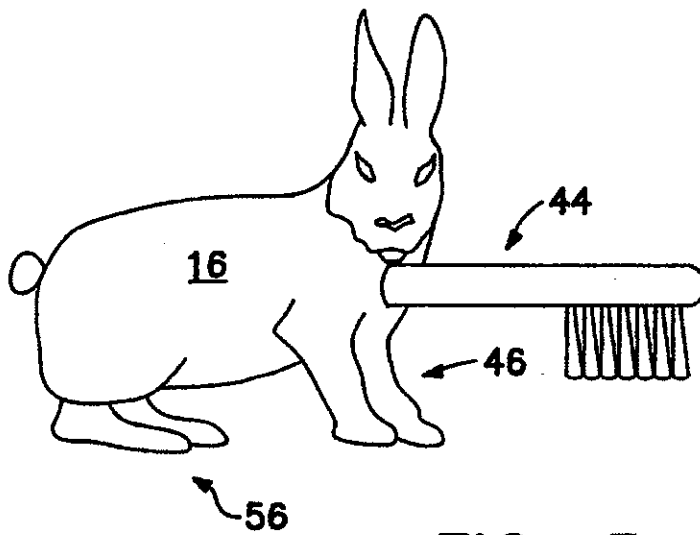


FIG. 5

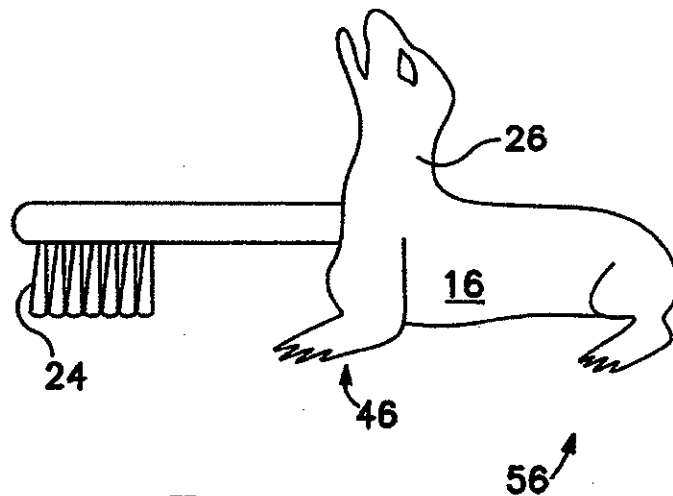


FIG. 6

FIG. 7

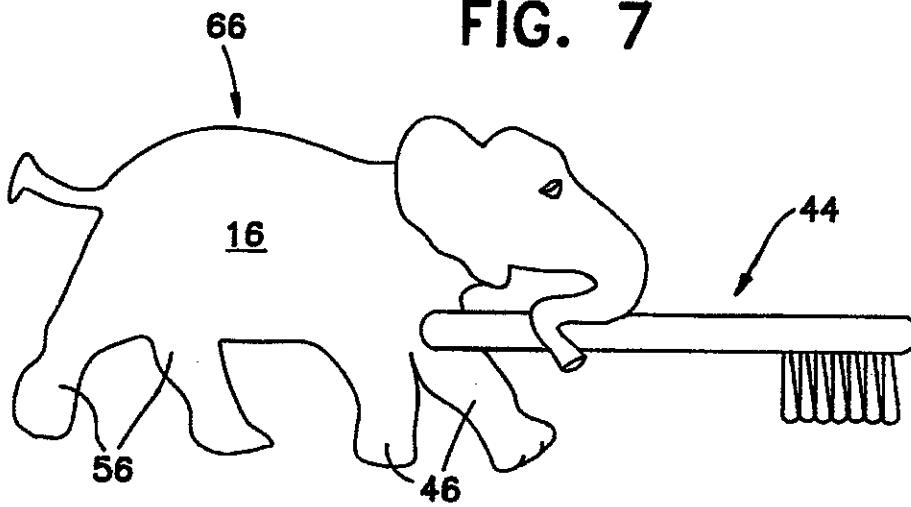


FIG. 8

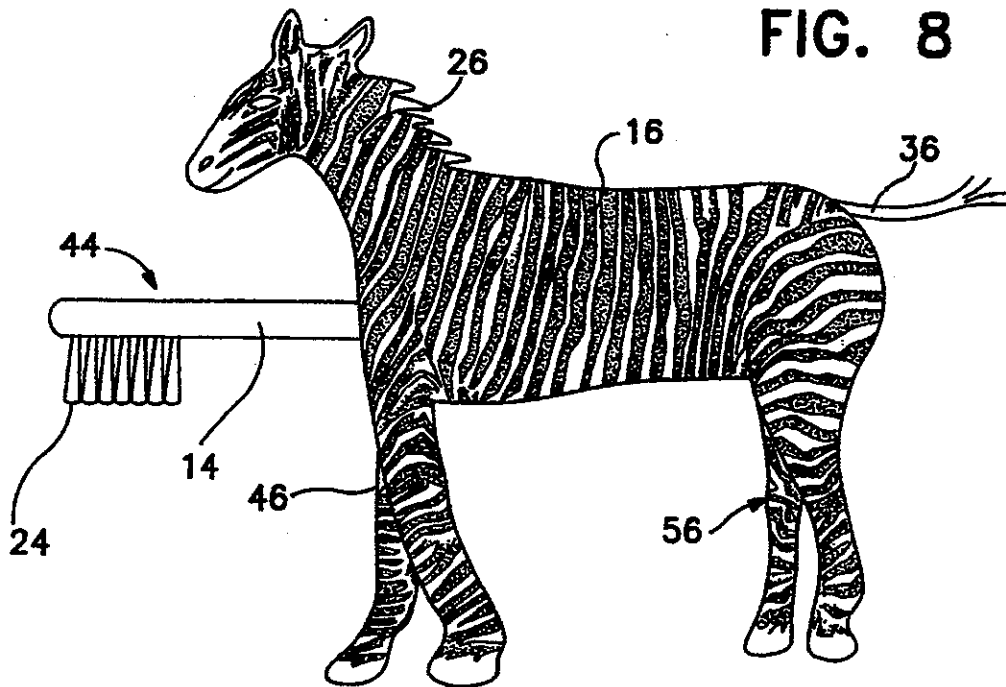
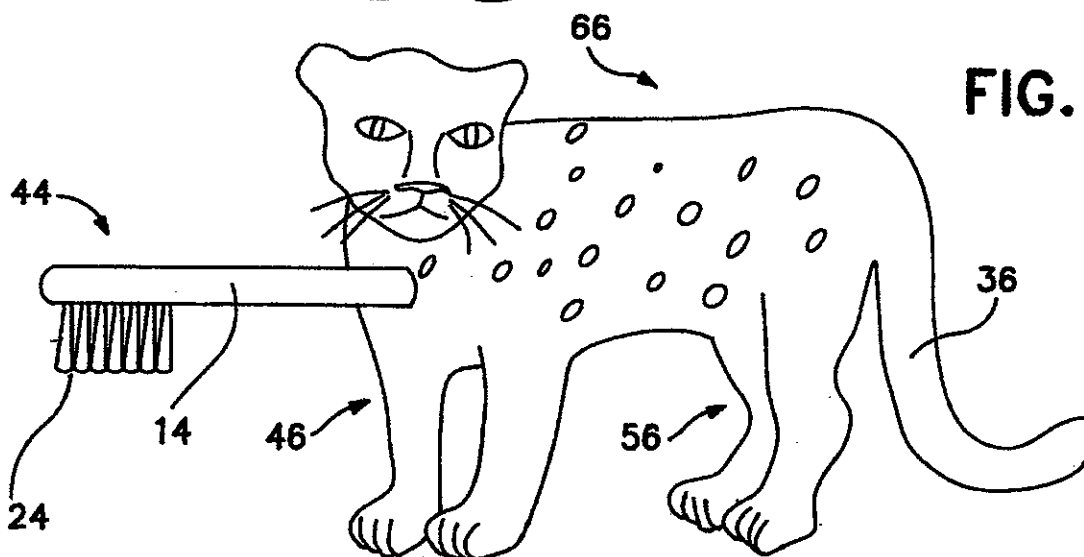


FIG. 9



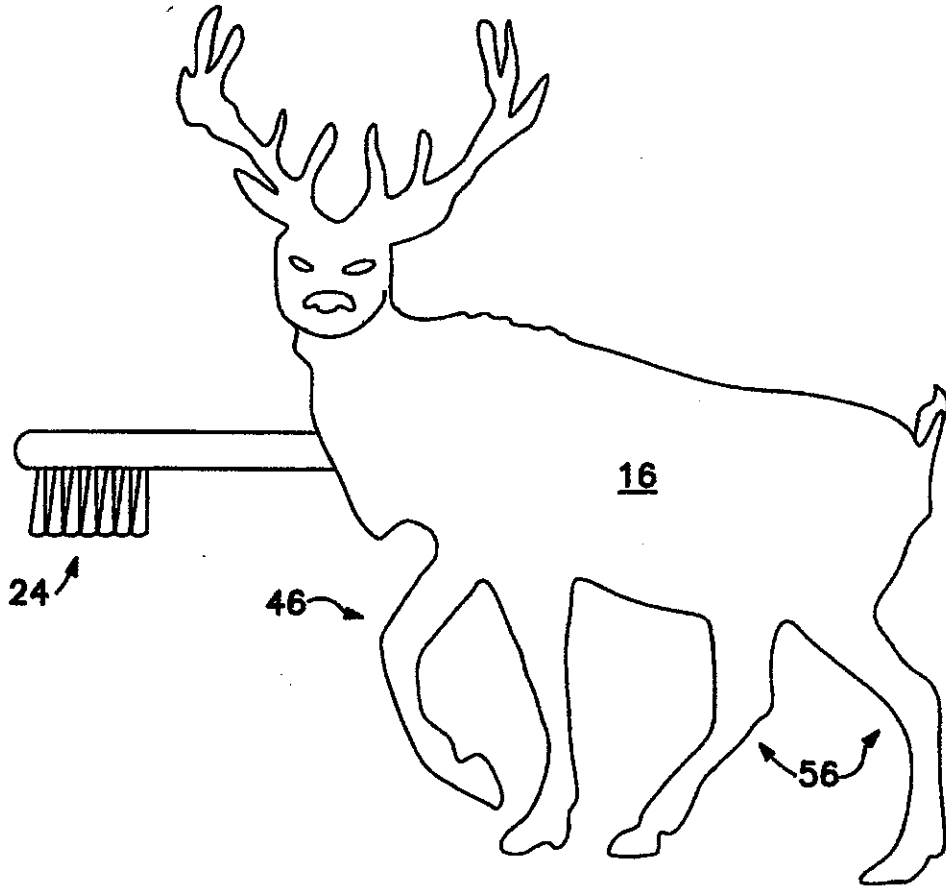


FIG. 10

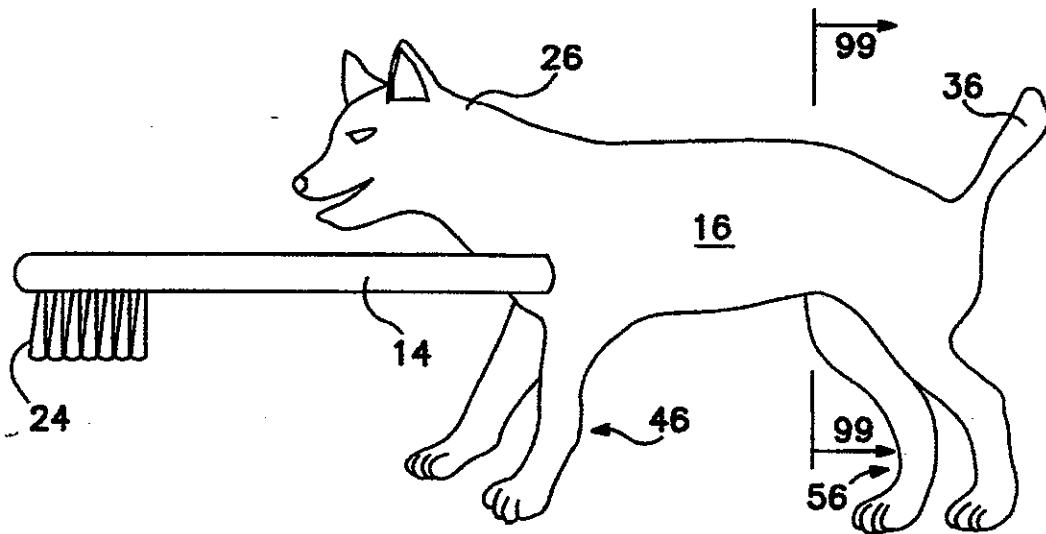


FIG. 11

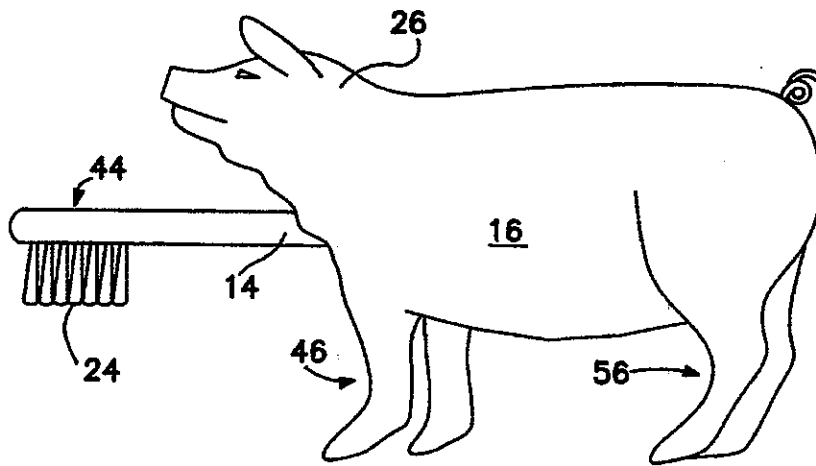


FIG. 12

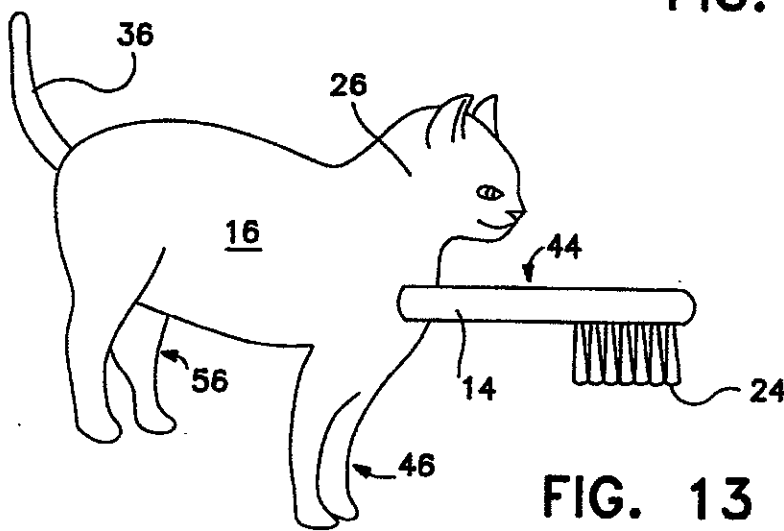


FIG. 13

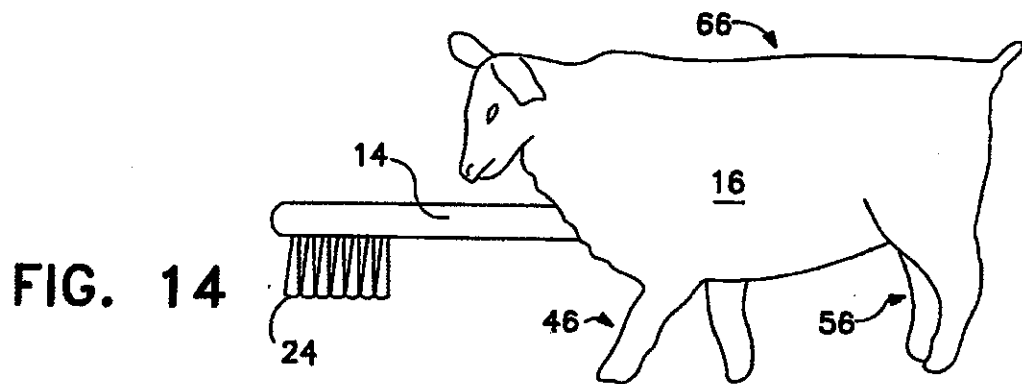


FIG. 14

FIG. 15

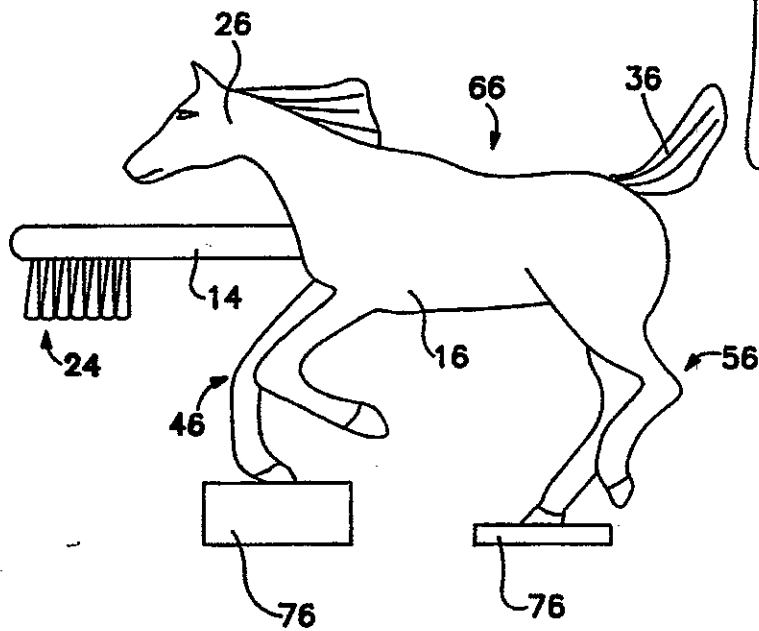
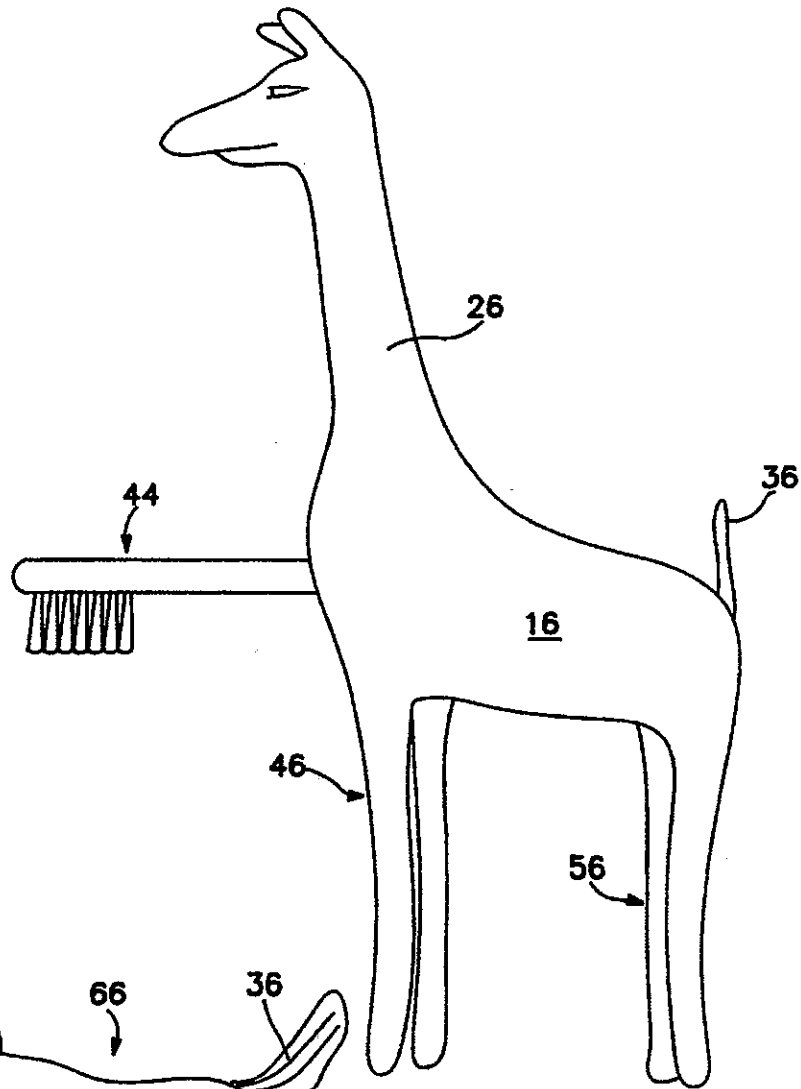


FIG. 16

FIG. 17

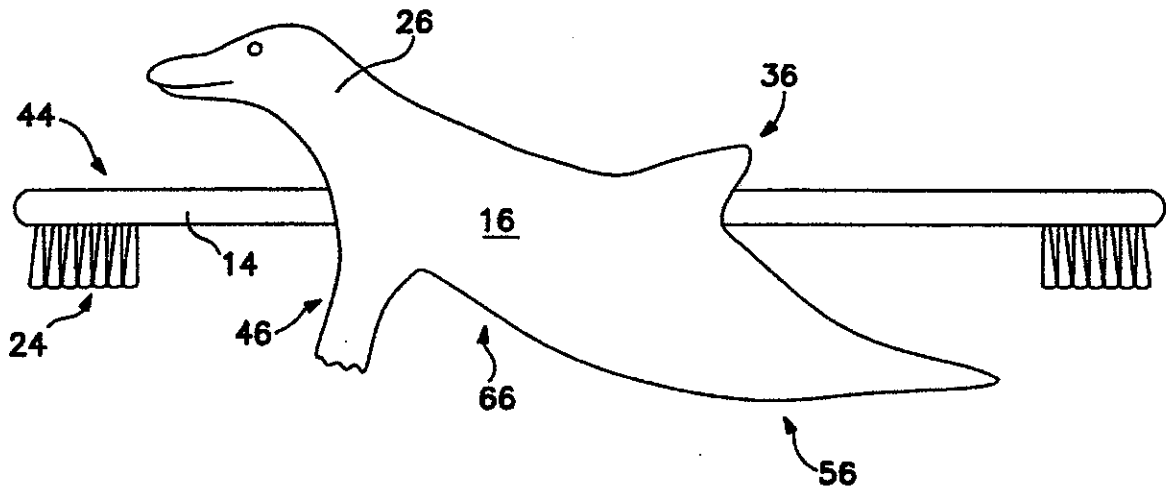
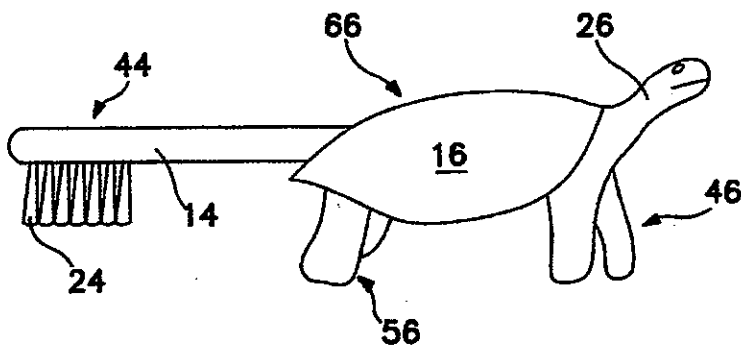


FIG. 18



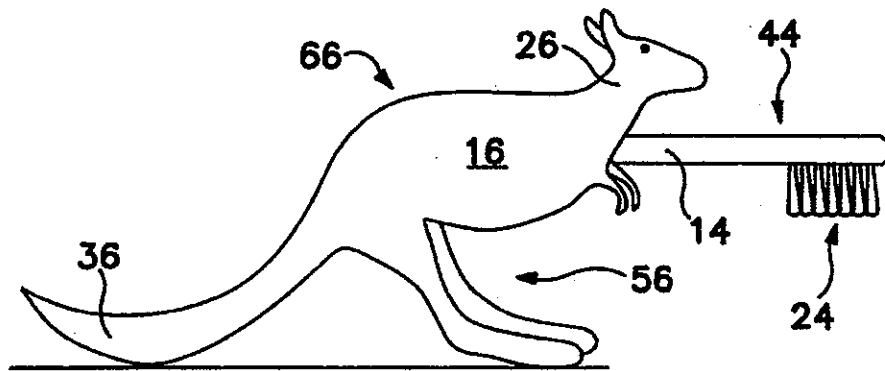


FIG. 19

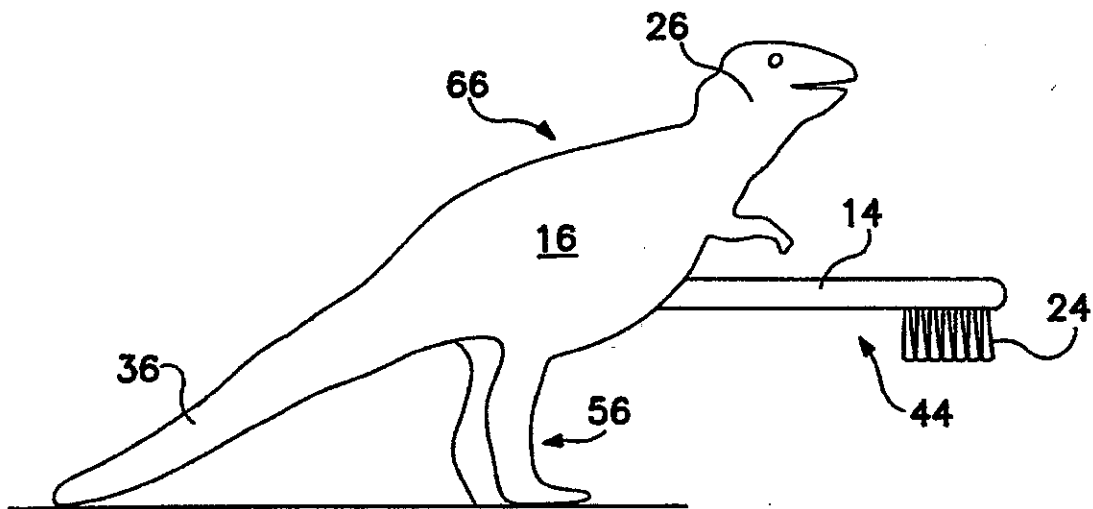


FIG. 20

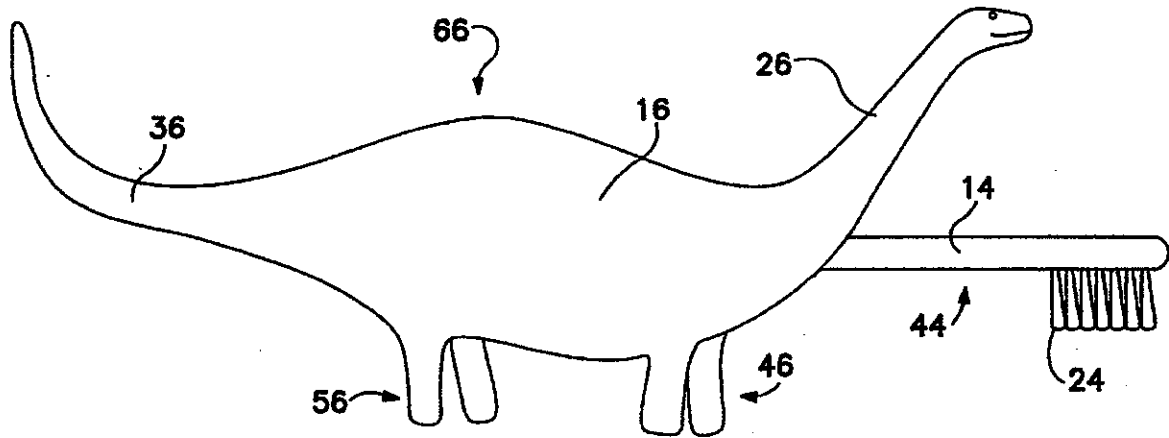


FIG. 21

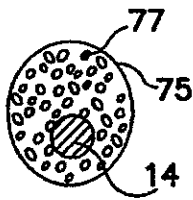


FIG. 24

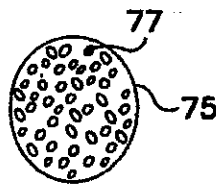


FIG. 25

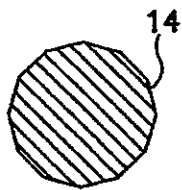


FIG. 22

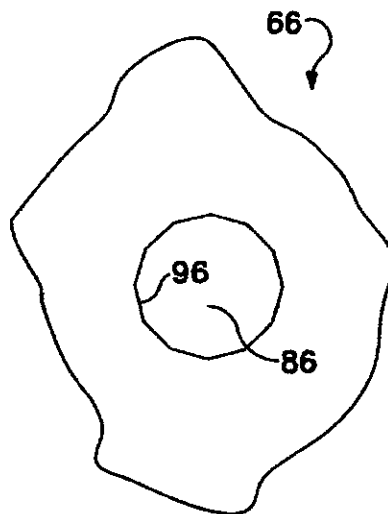


FIG. 23



## TOOTHBRUSH CONSTRUCTION

## REFERENCE TO RELATED APPLICATION

This is a continuation of copending application(s) Ser. No. 07/640,989 filed on Jan. 14, 1991, abandoned, which is a continuation-in-part of prior copending application Ser. No. 519,418 filed May 4, 1990. U.S. Pat. No. 5,187,829.

## TECHNICAL FIELD

This invention relates to improved toothbrush constructions of enhanced utility.

## THE INVENTION

In accordance with this invention a toothbrush construction is provided which possesses a combination of functional and psychological advantages heretofore unavailable in the art. More particularly, this invention provides a toothbrush construction that is especially adapted to motivate children to acquire and maintain desirable lifelong habits of good dental hygiene. At the same time the toothbrush is exceptionally easy for children to use and this, in turn, reinforces its motivational aspects. And in addition to the foregoing combination of features, this invention provides a toothbrush construction having enhanced sanitary features not found in the common types of toothbrushes generally available in the present day marketplace.

Besides being of particular utility for children, the toothbrushes of this invention are especially suitable for use by handicapped persons, particularly persons deficient in manual dexterity.

The above and other advantages of this invention are achieved by providing a toothbrush construction which comprises:

- (a) a handle portion; and
- (b) a brush head portion having bristles extending at an angle therefrom, said toothbrush construction being further characterized in that:
  - (c) said handle portion is in the general form of (i.e., it is in a form simulating) an animal (preferably a quadrupedal animal) and includes
    - (i) a generally horizontal body (trunk) portion—and more preferably, a substantially horizontal body (trunk) portion—adapted to be manually encircled and grasped by the hand with the thumb extending under and around the lower part of the body portion and with the palm and fingers extending over and around the upper part of the body portion as in a fist,
    - (ii) a head/neck portion attached to said body portion,
    - (iii) a front leg portion attached to said body portion,
    - (iv) a rear leg portion attached to said body portion, and
    - (v) optionally, but preferably, a tail portion attached to said body portion;
  - (d) at least one of (ii) and (iii) extends outwardly more or less transversely relative to said body portion to form a first restraining member, and at least one of (iv) and (v) extends outwardly more or less transversely relative to said body portion to form a second restraining member spaced apart from the first restraining member;

(e) said restraining members are disposed on said handle portion such that when said body portion is grasped as in a fist as hereinbefore described, one of said restraining members is adapted to be proximate or adjacent to the thumb and forefinger side of the hand of the user and the other of said restraining members is adapted to be proximate or adjacent to the fourth finger side of the hand of the user;

(f) said brush head portion includes a stem portion which extends substantially longitudinally from an end of said handle portion; and

(g) a portion of said handle portion is adapted to support the toothbrush, when not in use, on a flat supporting surface with the bristles of said brush head portion spaced from such supporting surface.

It will be seen, therefore, that when the brush is in use, (1) the handle portion is grasped around the body or trunk portion of the animal, (2) either a front leg portion or the head/neck portion, or the combination of both, serves as a lateral restraint for one edge of the clenched hand of the user, and (3) either a rear leg portion or the tail portion (if present), or the combination of both, serves as a lateral restraint for the other edge of the clenched hand of the user.

By "generally horizontal" or "generally horizontally" is meant that the longitudinal axis of the body portion of the handle portion is either horizontal or is inclined from the horizontal by up to about 60 degrees.

By "substantially horizontal" or "substantially horizontally" is meant that the longitudinal axis of the body portion of the handle portion is either horizontal or is inclined from the horizontal by up to about 15 degrees. It will be understood that the word "trunk" is used to denote the major portion of the body or torso of the animal, not the trunk of an elephant.

Preferably, the brush head stem extends substantially longitudinally from the forward body portion of the animal (i.e., the brush head stem extends from the front of the animal's body more or less in parallel with the longitudinal axis of the body). In this case, when the handle portion is grasped by the user's right hand around the body or trunk portion of the animal from the left side of the animal's body (or by the user's left hand grasping the animal's body from the right side of the animal's body), either a front leg portion or the head/neck portion, or the combination of both, serves as a lateral restraint for the thumb-forefinger edge or side of the clenched hand of the user, and either a rear leg portion or the tail portion (if present), or the combination of both, serves as a lateral restraint for the fourth finger edge or side of the clenched hand the user. However, the brush head stem can extend from the rearward portion of the body portion, and in this case, when the handle portion is grasped by the user's right hand around the body or trunk portion of the animal from the right side of the body (or by the user's left hand grasping the animal's body from the left side of the animal's body), either a rear leg portion or the tail portion (if present), or the combination of both, serves as a lateral restraint for the thumb-forefinger edge or side of the clenched hand of the user, and either a front leg portion or the head/neck portion, or the combination of both, serves as a lateral restraint for the fourth finger edge or side of the clenched hand of the user. Thus the user's grip is made much more secure, and the possibility of the user's clenched hand coming in contact with the brush head is greatly reduced.

If desired, the device can be equipped with two brush head portions, the stem of one extending substantially longitudinally from the forward body portion of the animal and the stem of the other brush head portion extending substantially longitudinally from the rearward body portion of the animal.

As noted above, a portion of the handle portion is adapted to support the toothbrush, when not in use, on a flat supporting surface with the bristles of the brush head portion spaced from such supporting surface. For best results, the stem of the brush head portion should extend or project substantially horizontally (as herein defined) from the handle portion, and in addition, should project forwardly and/or rearwardly from the body portion of the animal configuration constituting the handle portion. In this way the bristles are not only kept from any contact with the underlying supporting surface when the brush is not in use, but in addition the user of the brush tends to be more tempted or induced to grasp the handle portion around the body portion rather than reaching for the brush head portion. These features in turn promote better sanitary conditions than often exist with conventional toothbrushes which are often grasped by the brush head in order to remove them from the brush holders which usually position the brush in a substantially upright or vertical position. And when such brush holders are configured in the form of slotted or apertured supports through which the handle of the conventional toothbrush is placed, the back portion of the bristles of the brush head actually rest on such support and this in itself can be an unsanitary condition.

The animal embodied in the handle portion can be configured in a prone position whereby the body of the animal and/or its folded limbs can serve as the portion of the handle adapted to support the toothbrush, when not in use, on a flat supporting surface with the bristles of the brush head portion spaced from such supporting surface. In such a case, the handle portion should include an outwardly (i.e., substantially transversely) extending head/neck portion and an outwardly (i.e., substantially transversely) extending tail portion to serve as the restraints for the thumb-forefinger and fourth finger edges or sides of the hand of the user.

In a preferred embodiment of this invention, the animal embodied in the construction of the handle portion is a quadrupedal animal such that the front leg portion consists of two legs and the rear leg portion consists of two legs. Most preferably, the quadrupedal animal is configured in a standing (or running) position with all four such legs extending in a generally downward direction relative to the body of the animal to thereby serve as the portion of the handle adapted to support the toothbrush, when not in use, on a flat supporting surface with the bristles of said brush head portion spaced from such supporting surface. By causing the leg portions to extend downwardly from the body or trunk of the quadrupedal animal, a space is provided between the body or trunk and the underlying supporting surface thereby making it very easy to grasp the handle portion around the body or trunk of the animal. In other words, a space is provided between the lower part of the body of the simulated animal and the underlying supporting surface, which space is at least large enough for the user to insert the thumb into this space with the fingers of the same hand extending over and around the upper part of the body. Preferably, the space between the underlying supporting surface and the lower part of the simulated

animal is at least about 30 millimeters (mm) high, more preferably in the range of about 35 to about 55 mm, and most preferably in the range of about 45 to about 55 mm. And preferably, the front-to-back distance between the downwardly extending front leg portion and the downwardly extending rear leg portion (as measured horizontally below, but in the vicinity of, the lower part of the simulated animal) is at least about 55 mm, more preferably in the range of about 55 to about 90 mm, and most preferably in the range of about 75 to about 90 mm. On closing the hand as in a fist the body of the simulated animal can be readily encircled in the positive grasp of the user. Fingertip control and mature manual dexterity are thus not required for effecting a secure grip on the body portion of the handle. Thus in these preferred embodiments the leg portions serve both as supports for the overall device when not in use and as lateral restraining or support members on both sides or edges of the hand of the user when the device is in use.

Most preferably, the body portion of the simulated quadrupedal animal is substantially horizontal (as herein defined) when the toothbrush construction is disposed on an underlying horizontal surface and supported in this manner by the downwardly extending leg portions of the simulated quadrupedal animal. This greatly facilitates the grasping of the body portion of the handle, as the user need not rotate the arm and hand to a significantly angular position in order to effect the grasp of the handle—a natural, substantially horizontal thrust of a child's hand and arm toward an attractive object is thus matched by the substantially horizontal disposition of the body portion of the handle. In short, the positioning of the body portion in a substantially horizontal position when on a horizontal supporting surface further minimizes the amount of hand and eye coordination required to grasp and remove the toothbrush construction from its resting position. And by providing a spatial zone under the lower part of the body portion of the simulated animal between the downwardly extending front and back legs of the simulated animal, this positive grasp is facilitated even more. It will also be seen that by disposing the brush head portion so that its stem extends substantially longitudinally from front or rear of the substantially horizontal body portion of the simulated animal, the brush head is spaced remotely from the underlying supporting surface, for example by at least the approximate length of the leg portions of the simulated animal. This in turn tends to reduce the possibility of the brush head coming in contact with the supporting surface when the toothbrush is being picked up.

Preferably, the brush head is at least about 35 mm, more preferably in the range of about 40 to about 75 mm, and most preferably in the range of about 50 to about 75 mm, above the underlying supporting surface when the toothbrush construction is disposed thereon and supported by means of the front leg portion and the rear leg portion of the handle portion.

Thus in this preferred embodiment wherein the handle portion of the toothbrush construction simulates a quadrupedal animal with the body portion of the animal in a substantially horizontal position, and with the four legs extending downwardly to provide a substantial spatial area under the lower portion of the body of the simulated animal in between the front leg portion and the back leg portion, and with the brush head stem extending longitudinally from the forward and/or rear-

ward body portion of the animal, the natural body features of the simulated animal are not only embodied in the toothbrush construction but are converted into utilitarian features of the toothbrush construction. The substantially horizontal body portion serves as an easily grasped and held handle. The leg portions (a) provide support for the entire construction when not in use, (b) elevate the handle and maintain the body portion in such substantially horizontal position to facilitate the grasping and removal of the entire construction from the supporting surface, (c) elevate the brush head so that it is remote from the supporting surface and thus unlikely to come in contact with that surface when the entire construction is picked up, and (d) serve as restraining members which extend downwardly from the body far enough to prevent the hand of the user from sliding over the restraining members while the hand of the user encircles and grasps the body portion of the simulated animal between the restraining members with the thumb of the user's hand extending under and around the lower part of the body portion and the user's palm and fingers extending over and around the upper part of the body portion of the simulated animal, as in a fist. By further including on the simulated animal a head/neck portion outwardly extending at an angle from the body portion, and a tail portion outwardly extending at an angle from the body portion, these additional natural features of the simulated animal are also converted into utilitarian features of the construction, as they serve as additional restraints for the thumb-forefinger and fourth finger edges or sides of the hand of the user.

Additionally, the simulated animal itself serves to motivate small children to make use of the toothbrush, as the overall construction is easy to use and serves in much the same way as an attractive small toy.

It is possible, though less preferred, to have one or even two of the legs of the animal raised from the supporting surface. In this case is desirable to provide a suitably large base below the legs that do rest upon the supporting surface so that when the brush is not in use the overall device is supported by the base with the bristles of said brush head portion remotely spaced from such supporting surface, and preferably with the brush head stem disposed in a substantially horizontal position (as herein defined).

It is also preferred to position the brush head such that when the handle portion is grasped as in a fist as described above, and with the bristles extending toward the user in a tooth brushing position, none of the handle portion (including the leg portions, the head/neck portion, and the tail portion) is close enough to the user to interfere with the tooth brushing motion.

The brush head stem portion can be permanently attached or secured to the handle portion, or the brush head stem portion can be detachably attached or secured to the handle portion. In the latter case the brush head stem can be suitably grooved or otherwise shaped around its perimeter (e.g., as an octagon, a decagon, or etc.) so that it can be fitted tightly as with a snap fit into a matching recess within the handle portion and in a number of different angular orientations so that the orientation of the brush head and bristles can be altered to an optimum position for use by the particular user. In short the angular orientation of the brush head stem in the recess is, in this case, adjustable by the user.

Pursuant to a particularly preferred embodiment of this invention there is provided a toothbrush construction which comprises:

- (a) a handle portion; and
- (b) a brush head portion having bristles extending at an angle therefrom, said toothbrush construction being further characterized in that:
  - (c) said handle portion is in the general form of (i.e., it simulates) a quadrupedal animal and includes
    - (i) a generally horizontal body (trunk) portion adapted to be manually encircled and grasped by the hand with the thumb extending under and around the lower part of the body portion and with the palm and fingers extending over and around the upper part of the body portion as in a fist,
    - (ii) a head/neck portion attached to said body portion with at least a portion of said head/neck portion extending generally upwardly relative to said body portion,
    - (iii) a front leg portion consisting of a pair of legs attached to said body portion with at least a portion of said pair of legs extending generally downwardly relative to said body portion,
    - (iv) rear leg portion consisting of a pair of legs attached to said body portion with at least a portion of said pair of legs extending generally downwardly relative to said body portion, and
    - (v) a tail portion attached to said body portion with at least a portion of said tail portion extending generally upwardly relative to said body portion;
  - (d) said head/neck portion and said front leg portion are disposed on said handle portion such that when said body portion is grasped as in a fist as hereinbefore described, at least part of said head/neck portion and at least part of said front leg portion are adapted to abut or be proximate either to the thumb and forefinger side of the hand of the user or to the fourth finger side of the hand of the user;
  - (e) said tail portion and said rear leg portion are disposed on said handle portion such that when said body portion is grasped as in a fist as hereinbefore described, at least part of said tail portion and at least part of said rear leg portion are adapted to abut or be proximate either to the thumb and forefinger side of the hand of the user or to the fourth finger side of the hand of the user, whichever is not abutted by or proximate to at least part of said head/neck portion and at least part of said front leg portion;
  - (f) said brush head portion includes a stem portion which extends substantially longitudinally from an end of said handle portion; and
  - (g) said front leg portion and said rear leg portion are adapted to support the toothbrush, when not in use, on a flat supporting surface with the bristles of said brush head portion remotely spaced from such supporting surface.

It can thus be seen that the head/neck portion and the front leg portion of this construction serve as first restraining means, and that the tail portion and the rear leg portion of this construction serve as second restraining means. In this construction it is particularly preferred to space the body portion from the flat supporting surface by a sufficient distance to enable the hand of the user to encircle and grasp the body portion between

such first and second restraining means with the thumb of the user extending over and around the upper part of the body portion of the simulated animal and with the palm and fingers of the user extending over and around the upper part of the body portion of the simulated animal. Such spacing can, as noted above, best be effected by extending the leg portions of the animal downwardly in either a standing or running position so that the body is remotely spaced from the underlying supporting surface when the toothbrush construction is not in use.

In the various embodiments of this invention referred to above, it is highly desirable to fabricate at least that part of the body portion of the simulated animal that is adapted to be grasped as aforesaid, and most preferably all of the simulated animal parts (body portion, head/neck portion, front leg portion, rear leg portion, and (when present) tail portion), from a relatively rigid, slightly compressible foam or cellular material, preferably a closed cell plastic foam such as foamed EVA (ethylene-vinyl acetate), or like material. Closed cell foams or cellular materials contain cells or voids that are discrete so that the gas phase within a cell is independent of that of the other cells. Preferred cellular or foamed materials are characterized by having a relatively firm and relatively smooth or textured outer finish (e.g., to simulate an animal's skin or hide), by being manually compressible or squeezable but resilient, and by being pleasant to the touch. Thus even when wet such materials provide the basis for a firm grip with little or no slippage. But at the same time, such materials retain their initial shape and configuration even after long periods of repetitive usage. Moreover, foams or cellular materials of this type can readily be colored so that the simulated animals can be provided in a variety of colors to further enhance their attractiveness.

The technology for producing foamed plastics (also known as cellular polymers, expanded plastics, and plastic foams) is known and reported in the literature. See in this connection such sources as Kirk-Othmer, *Encyclopedia of Chemical Technology*, Wiley-Interscience, Volume 11, pages 82-126, Copyright, 1980, and references cited therein. All disclosures of such pages 82-126 and such cited references are incorporated herein by reference.

The foregoing and other aspects, embodiments and features of this invention will be still further apparent from the ensuing description, appended claims and accompanying Drawings.

### THE DRAWINGS

In the Drawings, in which like numerals represent like functional parts among the several embodiments depicted:

FIG. 1 is a view in perspective of a typical toothbrush of this invention in which the animal is a deer;

FIG. 2 is a side view of a typical toothbrush of this invention in which the animal is a lion;

FIG. 3 is a side view of a typical toothbrush of this invention in which the animal is a rhinoceros;

FIG. 4 is a side view of a typical toothbrush of this invention in which the animal is a dog;

FIG. 5 is a side view of a typical toothbrush of this invention in which the animal is a rabbit;

FIG. 6 is a side view of a typical toothbrush of this invention in which the animal is a seal;

FIG. 7 is a side view of a typical toothbrush of this invention in which the animal is an elephant;

FIG. 8 is a side view of a typical toothbrush of this invention in which the animal is a zebra;

FIG. 9 is a side view of a typical toothbrush of this invention in which the animal is a jaguar;

FIG. 10 is a side view of a typical toothbrush of this invention in which the animal is an elk;

FIG. 11 is a side view of a typical toothbrush of this invention in which the animal is a wolf;

FIG. 12 is a side view of a typical toothbrush of this invention in which the animal is a pig;

FIG. 13 is a side view of a typical toothbrush of this invention in which the animal is a cat;

FIG. 14 is a side view of a typical toothbrush of this invention in which the animal is a sheep;

FIG. 15 is a side view of a typical toothbrush of this invention in which the animal is a giraffe;

FIG. 16 is a side view of a typical toothbrush of this invention in which the animal is a horse;

FIG. 17 is a side view of a typical toothbrush of this invention in which the animal is a dolphin;

FIG. 18 is a side view of a typical toothbrush of this invention in which the animal is a turtle;

FIG. 19 is a side view of a typical toothbrush of this invention in which the animal is a kangaroo;

FIG. 20 is a side view of a typical toothbrush of this invention in which the animal is a dinosaur;

FIG. 21 is a side view of a typical toothbrush of this invention in which the animal is a dinosaur;

FIG. 22 is a cross-section of a preferred stem of the brush head portion of a toothbrush of this invention;

FIG. 23 is a front fragmental view of a preferred handle portion of a toothbrush of this invention; and

FIGS. 24 and 25 are sections taken along line 99,99 of FIG. 11 depicting alternative constructions.

### FURTHER DESCRIPTION

It will be appreciated that the animal utilized in the design of the toothbrush need not be a land animal—it can be a fish or other underwater creature such as a squid or octopus, wherein fins, tentacles, claws or other body appendages serve as the leg and/or tail portions of the handle portion of the toothbrush construction. The seal and the dolphin utilized in the constructions depicted in FIGS. 6 and 17 illustrate such variant. It will also be appreciated that various other animals having a neck portion, leg portions and preferably a tail portion (or their equivalent) can be utilized in the design and construction of the toothbrushes of this invention, the forms depicted in the drawings being but exemplifications of some of the numerous types of animals that can be so utilized. It will also be appreciated that the form, shape, appearance and size of given animals can be stylized, distorted and/or exaggerated to achieve desired visual effects and to suitably arrange and position the functional elements of the device in the proper locations. Thus, for example, the animals can be given humanesque features and/or facial expressions to achieve humorous and/or other appealing characteristics, and the shapes or body portions of the animals can be elongated, shortened, widened, narrowed, etc., as needed to provide the proper hand gripping surface, the proper hand restraining members, the proper underlying support for the brush when not in use, and the proper support section for the brush head.

Among suitable quadrupeds are the following animals: alligator, badger, bear, beaver, buffalo, bull, camel, caribou, cat, cheetah, cow, coyote, crocodile, deer, dog, donkey, elephant, elk, fox, giraffe, goat, ham-

ster, hog, horse, iguana, impala, jaguar, koala, kudu, lemming, lemur, leopard, lion, llama, mongoose, moose, mountain lion, mouse, nutria, otter, ox, panther, pig, platypus, rabbit, raccoon, reindeer, rhinoceros, sheep, shrew, skunk, squirrel, steer, Tasmanian devil, tiger, wapiti, weasel, wolf, wolverine, yak, zebra, and the like, including diminutive forms such as calf, colt, cub, kitten, lamb, pony, puppy, and so on. Also readily utilizable in the practice of this invention are tailed animals having four limbs such as baboons, kangaroos, monkeys, wallabies, and the like. The animals used in designing the handle portion of the toothbrushes of this invention can also comprise prehistoric or extinct animals or reptiles such as the numerous species making up the families of dinosaurs, including for example, brontosaurus, stegosaurus, triceratops, and tyrannosaurus rex, among many others. Use may also be made of land, sea or air creatures having bodily characteristics (fins, tail, wings, etc.) which can be utilized (in exaggerated form when necessary) as restraining members for either side of the clenched hand grasping the handle portion. A few such suitable or amenable creatures include dolphins, pterodactyls, sharks, turtles, threshers, walrus, whales, and many others.

In turning our attention now to the Drawings, it should be kept in mind that the Figures are presented in simple, substantially schematic form to illustrate the principles of this invention.

As can be seen from the Drawings, the toothbrush constructions in the forms depicted comprise a handle portion 66 and a brush head portion 44. Handle portion 66 comprises a body portion 16 of an animal, a head/neck portion 26 of the animal, a tail portion 36 of the animal, a front leg portion 46 of the animal, and a rear leg portion 56 of the animal. The front leg portion 46 and the rear leg portion 56 are each usually (but not necessarily) composed of two laterally disposed limbs or their equivalent such as fins or flippers (note FIGS. 6 and 17). Brush head portion 44 comprises stem 14 and a plurality of bristles 24 (usually but not necessarily arranged in tufts) extending from the head end portion of stem 14 (usually but not necessarily extending at right angles from the stem). The plurality of bristles 24 form the brush for cleaning the teeth.

In use, the device in the form depicted is manually grasped around body portion 16 with the thumb extending under and around the underside of body portion 16 close to or immediately adjacent the back sides of front leg portion 46 and with the palm and four fingers (considered collectively) extending over and around the upper side of body portion 16. When so-grasped, as in a fist, head/neck portion 26 abuts or is close to the index finger side of the hand, whereas tail portion 36 and rear leg portion 56 abut or are close to the fourth finger side of the hand. Thus, front leg portion 46, head/neck portion 26, tail portion 36 and rear leg portion 56 mutually cooperate to restrain, or at least restrict or confine, lateral movement or slippage of the hand either toward or away from brush head portion 44.

It will be seen that stem 14 positions the brush composed of bristles 24 sufficiently remote from the outwardly projecting parts of handle portion 66 (i.e., head/neck portion 26, tail portion 36, front leg portion 46 and rear leg portion 56) such that such outwardly projecting parts do not and cannot interfere with the brushing action.

As FIGS. 4, 10 and 16 illustrate, all four legs of a quadruped need not be used as supports for the brush

when not in use. In the case of FIGS. 4 and 10, three of the four limbs are used as such supports and in this case the overall construction is shaped and its weight is distributed such that the brush is readily balanced in a stable position on the three limbs resting on the underlying surface. The construction illustrated in FIG. 16 involves use of a pair of transversely disposed base plates 76,76 such that one front limb is connected to one base plate and one back limb is connected to the other base plate to thereby provide a stable balanced support for the construction when not in use.

FIGS. 19 and 20 illustrate another variant which can be effectively utilized in the practice of this invention, namely the employment of the tail portion 36 and a leg portion composed of two laterally disposed limbs (usually rear leg portion 56) as the supports for the brush construction when not in use. Such construction serves as a tripod to provide such support for the brush on the underlying support.

FIG. 17 illustrates a brush construction of this invention wherein two brush head portions 44,44 are employed, the stem of one projecting from the front end and the stem of the other projecting from the back end of body portion 16 of the animal embodied in the construction of handle portion 66. In the embodiment depicted in FIG. 18, the stem of brush head portion 44 projects from the back end of body portion 16 whereas in most of the other figures the stem projects from the front end of the body portion.

In preferred form, at least the circumference of body portion 16 is fabricated from a relatively rigid, slightly compressible foam or cellular material, preferably a closed cell plastic foam such as foamed EVA (ethylene-vinyl acetate), or like material characterized by having a relatively firm and relatively smooth outer finish, by being manually compressible or squeezable but resilient, and by being pleasant to the touch. From the production standpoint it is preferable to fabricate most, if not all, of handle portion 66 from such foam or cellular material.

As noted hereinabove, stem 14 of brush head portion 44 can be shaped to snugly fit into a matched recess or socket in handle portion 66 so that the entire brush head portion 44 is detachably attachable to the handle portion. One preferred way of accomplishing this is depicted in FIGS. 22 and 23. In the form depicted, stem 14 in FIG. 22 has a polygonal (in particular, a dodecagonal) shape in cross section. The fragment of handle portion 66 depicted in FIG. 23 has a matching recess or socket 86 defined by wall 96 which is likewise in polygonal form (in this case, dodecagonal form) so that recess 86 is adapted to snugly receive the stem 14. Such construction not only enables replacement of the brush head, but enables the user to orient the direction of the bristles relative to the handle portion by rotating the brush head to the desired orientation before inserting the stem into the matching recess or socket.

It will thus be appreciated that the devices of this invention can be adapted for use by right-handed persons or for left-handed persons simply by suitably altering the orientation of the brush head and bristles relative to the handle portion.

If desired, handle portion 66 can contain a hollowed-out compartment for storage of a detachably attachable brush head portion 44. Such compartment can be fitted with a suitable cover, plug or lid to encase the entire brush head portion within the handle portion. In this way the entire toothbrush can be transported in disas-

sembled form from place to place in a sanitary condition, and with minimal risk that the user (especially a child) will lose the brush head portion during camping trips or like excursions. By fabricating the handle portion from a closed cell foam, by providing such hollowed out compartment encasing the disassembled brush head portion, and by providing a water-tight cover, plug or lid for the compartment, the entire device can be made buoyant enough to float, a feature which can prevent its loss in the event the device is accidentally dropped into a body of water for example during a canoe trip. And at the same time, the sanitary condition of the brush head can be maintained.

From the foregoing it can be seen that the invention can take the form of a considerable number of embodiments. A summary of some of these embodiments is set forth below:

I. A toothbrush construction which comprises:

- (a) a handle portion; and
- (b) a brush head portion having bristles extending at an angle therefrom, said toothbrush construction being further characterized in that:
- (c) said handle portion is in the general form of (i.e., it simulates) an animal and includes
  - (i) a generally horizontal body (trunk) portion (preferably, a substantially horizontal body portion) adapted to be manually encircled and grasped by the hand with the thumb extending under and around the lower part of the body portion and with the palm and fingers extending over and around the upper part of the body portion as in a fist,
  - (ii) a head/neck portion attached to said body portion,
  - (iii) a front leg portion attached to said body portion,
  - (iv) a rear leg portion attached to said body portion, and
  - (v) optionally, a tail portion attached to said body portion;
- (d) at least one of (ii) and (iii) extends outwardly relative to said body portion to form a first restraining member, and at least one of (iv) and (v) extends outwardly relative to said body portion to form a second restraining member spaced apart from the first restraining member;
- (e) said restraining members are disposed on said handle portion such that when said body portion is grasped as in a fist as hereinbefore described, one of said restraining members is adapted to be proximate or adjacent to the thumb and forefinger side of the hand of the user and the other of said restraining members is adapted to be proximate or adjacent to the fourth finger side of the hand of the user;
- (f) said brush head portion includes a stem which extends substantially longitudinally from an end of said handle portion; and
- (g) a portion of said handle portion is adapted to support the toothbrush, when not in use, on a flat supporting surface with the bristles of said brush head portion spaced from such supporting surface.

II. A construction as set forth in I. wherein said handle portion is in the general form of a quadrupedal animal.

III. A construction as set forth in I. wherein said handle portion is in the general form of a quadrupedal animal

and wherein said portion of said handle portion adapted to support the toothbrush, when not in use, on a flat supporting surface is comprised of the four limbs of said quadrupedal animal in a generally downward disposition to thereby provide four individual supports for the construction on such supporting surface.

IV. A construction as set forth in I. wherein said handle portion includes a tail portion.

V. A construction as set forth in I. wherein said handle portion includes a tail portion and wherein said tail portion extends outwardly relative to said body portion to constitute at least one said second restraining member.

VI. A construction as set forth in I. wherein said handle portion is in the general form of a quadrupedal animal; wherein said handle portion includes a tail portion; and wherein said tail portion extends outwardly relative to said body portion to constitute at least one said second restraining member.

VII. A construction as set forth in I. wherein said handle portion is in the general form of a quadrupedal animal; wherein said handle portion includes a tail portion; wherein said tail portion extends outwardly relative to said body portion to constitute one said second restraining member; and wherein said rear leg portion of the quadrupedal animal constitutes another said second restraining member.

VIII. A construction as set forth in I. wherein said handle portion is in the general form of a quadrupedal animal and wherein said head/neck portion of the quadrupedal animal extends outwardly relative to said body portion to constitute at least one said first restraining member.

IX. A construction as set forth in I. wherein said handle portion is in the general form of a quadrupedal animal; wherein said head/neck portion of the quadrupedal animal extends outwardly relative to said body portion to constitute one said first restraining member; and wherein said front leg portion of the quadrupedal animal constitutes another said first restraining member.

X. A construction as set forth in I. wherein said handle portion is in the general form of a quadrupedal animal; wherein said head/neck portion of the quadrupedal animal extends outwardly relative to said body portion to constitute one said first restraining member; wherein said front leg portion of the quadrupedal animal constitutes another said first restraining member; wherein said handle portion includes a tail portion; wherein said tail portion extends outwardly relative to said body portion to constitute one said second restraining member; and wherein said rear leg portion of the quadrupedal animal constitutes another said second restraining member.

XI. A construction as set forth in X wherein said portion of said handle portion adapted to support the toothbrush, when not in use, on a flat supporting surface is comprised of the four limbs of said quadrupedal animal in a generally downward disposition to thereby provide four individual supports for the construction on such supporting surface.

XII. A construction as set forth in I. wherein said handle portion includes a downwardly extending tail portion and wherein said rear leg portion of the animal comprises a laterally disposed downwardly extending pair of limbs such that said portion of said handle portion adapted to support the toothbrush,



when not in use, on a flat supporting surface is comprised of the downwardly extending pair of limbs and the downwardly extending tail portion to thereby provide three individual supports for the construction on such supporting surface, as in a tripod.

- XIII. A construction as set forth in I. wherein the stem of said brush head portion extends substantially longitudinally from the forward end portion of said handle portion.
- XIV. A construction as set forth in I. wherein the stem of said brush head portion extends substantially longitudinally from the rearward end portion of said handle portion.
- XV. A construction as set forth in I. wherein the stem of one said brush head portion extends substantially longitudinally from the forward end portion of said handle portion and wherein the stem of another said brush head portion extends substantially longitudinally from the rearward end portion of said handle portion.
- XVI. A construction as set forth in I. wherein at least one of said leg portions is configured in the form of fins, flippers, tentacles, claws or other body appendages.
- XVII. A construction as set forth in I. wherein the stem of said brush head portion extends substantially horizontally from said handle portion.
- XVIII. A toothbrush construction which comprises:
- (a) a handle portion; and
  - (b) a brush head portion having bristles extending at an angle therefrom, said toothbrush construction being further characterized in that:
  - (c) said handle portion is in the general form of (i.e., it simulates) a quadrupedal animal and includes
    - (i) a generally horizontal body (trunk) portion adapted to be manually encircled and grasped by the hand with the thumb extending under and around the lower part of the body portion and with the palm and fingers extending over and around the upper part of the body portion as in a fist,
    - (ii) a head/neck portion attached to said body portion with at least a portion of said head/neck portion extending generally upwardly relative to said body portion,
    - (iii) a front leg portion consisting of a pair of legs attached to said body portion with at least a portion of said pair of legs extending generally downwardly relative to said body portion,
    - (iv) a rear leg portion consisting of a pair of legs attached to said body portion with at least a portion of said pair of legs extending generally downwardly relative to said body portion, and
    - (v) a tail portion attached to said body portion with at least a portion of said tail portion extending generally upwardly relative to said body portion;
  - (d) said head/neck portion and said front leg portion are disposed on said handle portion such that when said body portion is grasped as in a fist as hereinbefore described, at least part of said head/neck portion and at least part of said front leg portion are adapted to abut or be proximate either to the thumb and forefinger side of the hand of the user or to the fourth finger side of the hand of the user;
  - (e) said tail portion and said rear leg portion are disposed on said handle portion such that when said

body portion is grasped as in a fist as hereinbefore described, at least part of said tail portion and at least part of said rear leg portion are adapted to abut or be proximate either to the thumb and forefinger side of the hand of the user or to the fourth finger side of the hand of the user, whichever is not abutted by or proximate to at least part of said head/neck portion and at least part of said front leg portion;

- (f) said brush head portion includes a stem which extends substantially longitudinally from an end of said handle portion; and
  - (g) said front leg portion and said rear leg portion are adapted to support the toothbrush, when not in use, on a flat supporting surface with the bristles of said brush head portion spaced from such supporting surface.
- XIX. A construction as set forth in XVIII. wherein the stem of said brush head portion extends substantially horizontally from said handle portion.
- XX. A construction as set forth in XVIII. wherein said brush head portion includes a stem and said handle portion includes a matching recess therein into which said stem can snugly fit such that said stem can be detachably attached to said handle portion with the brush head in a selected orientation relative to said handle portion.
- XXI. A construction as set forth in any of I. through XX. inclusive wherein at least an exterior portion of that part of said body portion adapted to be manually encircled and grasped by the hand of the user with the thumb extending under and around the lower part of the body portion and with the palm and fingers extending over and around the upper part of the body portion as in a fist, is fabricated from a cellular material, preferably from a closed cell cellular polymer characterized by having a relatively firm and relatively smooth outer finish, by being manually squeezable but resilient, and by being pleasant to the touch, and most preferably, from a closed cell foamed or cellular ethylene-vinyl acetate copolymer.
- XXII. A construction as set forth in any of I. through XX. inclusive wherein most, if not all, of the handle portion of the construction (including said body portion adapted to be manually encircled and grasped by the hand of the user with the thumb extending under and around the lower part of the body portion and with the palm and fingers extending over and around the upper part of the body portion as in a fist) is fabricated from a cellular material, preferably from a closed cell cellular polymer characterized by having a relatively firm and relatively smooth outer finish and by being manually compressible or squeezable but resilient, and most preferably, from a closed cell ethylene-vinyl acetate copolymer.
- XXIII. A construction as set forth in any of I. through XX. inclusive wherein the entire handle portion of the construction (including said body portion adapted to be manually encircled and grasped by the hand of the user with the thumb extending under and around the lower part of the body portion and with the palm and fingers extending over and around the upper part of the body portion as in a fist) is fabricated from a cellular material, preferably from a closed cell cellular polymer characterized by having a relatively firm and relatively smooth or a textured outer finish (e.g., simulating an animal's hide) and by being manually

compressible but resilient, and most preferably, from a closed cell ethylene-vinyl acetate copolymer.

FIGS. 24 and 25 illustrate toothbrush constructions of this invention in which cellular material is used. FIG. 24 illustrates a body portion 16 in which cellular material 77 is disposed around the core of stem 14 (which may itself be fabricated from a solid plastic material) to form at least a substantial part of the body portion. Thus in FIG. 24, stem 14 extends deeply into body portion 16 and constitutes a core or reinforcement surrounded by cellular material of the type described above. In FIG. 25 body portion 16 is composed in cross section along a substantial part of its length entirely of cellular material 77. In this case stem 14 extends less deeply into body portion 16 than in FIG. 24. In FIGS. 24 and 25 the outer surface 75 of cellular material 77 is either smooth or textured, e.g., to simulate the skin or hide of the animal embodied in handle portion 66.

This invention is susceptible to considerable variation in its practice within the spirit and scope of the appended claims. Thus this invention is not intended to be limited by the specific exemplifications described hereinabove.

What is claimed is:

1. A toothbrush construction which comprises:

- (a) a handle portion; and
- (b) a brush head portion having bristles extending at an angle therefrom, said toothbrush construction being further characterized in that:
- (c) said handle portion is in the form simulating an animal and includes
  - (i) body (trunk) portion which includes a lower part and an upper part, said body portion being sized and shaped to be manually encircled and grasped by the hand with the thumb extending under and around the lower part of the body portion and with the palm and fingers extending over and around the upper part of the body portion as in a fist,
  - (ii) a head/neck portion attached to a first part of said body portion,
  - (iii) a front leg portion attached to a second part of said body portion, and
  - (iv) a rear leg portion attached to a third part of said body portion;
- (d) said brush head portion is connected to and extends outwardly from a further part of said body portion;
- (e) at least one of (ii) and (iii) extends outwardly generally transversely relative to said body portion to form a first restraining member, and (iv) extends outwardly generally transversely relative to said body portion to form a second restraining member spaced apart from the first restraining member;
- (f) said front leg portion and said rear leg portion terminate below said respective second and third parts of said body portion from which said front leg portion and said rear leg portion extend, at a distance greater than any distance by which the lowest portion of said brush head portion may extend below said body portion;
- (g) said restraining members are disposed on said handle portion such that when said body portion is grasped as in a fist as hereinbefore described, one of said restraining members is in a position to be proximate or adjacent to the thumb and forefinger side of the hand of the user and the other of said re-

straining members is in a position to be proximate or adjacent to the fourth finger side of the hand of the user;

- (h) said brush head portion includes a stem which extends substantially longitudinally from an end of said handle portion;
  - (i) said front leg portion and said rear leg portion are shaped, sized and attached to said body portion so that so that said leg portions can support the toothbrush, when not in use, and when on a flat horizontal supporting surface with the bristles of said brush head portion remotely spaced from such supporting surface, with said body portion in a substantially horizontal position, and with said body portion spaced from said flat supporting surface by a sufficient distance to enable the hand of the user to encircle and grasp said body portion between said restraining members with the thumb of said hand extending under and around the lower part of said body portion and with the palm and fingers of said hand extending over and around the upper part of said body portion as in a fist; and
  - (j) said first restraining member and said second restraining member each extends outwardly generally transversely relative to said body portion a sufficient distance to restrain the hand of the user against sliding over either of said restraining members while the hand of the user encircles and grasps said body portion between said restraining members with the thumb of said hand extending under and around the lower part of said body portion and with the palm and fingers of said hand extending over and around the upper part of said body portion as in a fist.
2. A construction as claimed in claim 1 wherein said front leg portion and said rear leg portion are both sized, shaped and positioned such that when the toothbrush is not in use, (i) said front leg portion and said rear leg portion elevate said body portion above said flat supporting surface to maintain said sufficient distance to enable the hand of the user to encircle and grasp said body portion between said restraining members with the thumb of said hand extending under and around the lower part of said body portion and with the palm and fingers of said hand extending over and around the upper part of said body portion as in a fist, and (ii) said front leg portion and said rear leg portion concurrently provide transverse support to restrain the toothbrush against lateral tipping or rolling as said body portion is being so encircled and grasped by said hand of the user; and wherein at least an exterior portion of that part of said body portion that is sized and shaped to be so manually encircled and grasped by said hand of the user is fabricated from a cellular material such that said exterior portion of said body portion and said first and second restraining members cooperate in restraining said hand of the user against sliding over either of said restraining members while the hand of the user so encircles and grasps said part of said body portion.
3. A construction as claimed in claim 2 wherein said cellular material is a closed cell cellular polymer.
4. A construction as claimed in claim 3 wherein said closed cell cellular polymer is characterized by having a relatively smooth outer finish and by being manually compressible but resilient.
5. A construction as claimed in claim 3 wherein said closed cell cellular polymer is selected the group con-



sisting of a closed cell foamed and cellular ethylene-vinyl acetate copolymer.

6. A construction as claimed in claim 1 wherein said handle portion is in the general form of a quadrupedal animal; wherein said front leg portion and said rear leg portion are both sized, shaped and positioned such that when the toothbrush is not in use, (i) said front leg portion and said rear leg portion elevate said body portion above said flat supporting surface to maintain said sufficient distance to enable the hand of the user to encircle and grasp said body portion between said restraining members with the thumb of said hand extending under and around the lower part of said body portion and with the palm and fingers of said hand extending over and around the upper part of said body portion as in a fist, and (ii) said front leg portion and said rear leg portion concurrently provide transverse support to restrain the toothbrush against lateral tipping or rolling as said body portion is being so encircled and grasped by said hand of the user; and wherein at least an exterior portion of that part of said body portion that is sized and shaped to be so manually encircled and grasped by said hand of the user is fabricated from a cellular material having a relatively smooth outer finish such that said exterior portion of said body portion and said first and second restraining members cooperate in restraining said hand of the user against sliding over either of said restraining members while the hand of the user so encircles and grasps said part of said body portion.

7. A construction as claimed in claim 6 wherein said cellular material is a closed cell cellular polymer.

8. A construction as claimed in claim 7 wherein said closed cell cellular polymer is characterized by being manually compressible but resilient.

9. A construction as claimed in claim 7 wherein said closed cell cellular polymer is selected from the group consisting of a closed cell foamed and cellular ethylene-vinyl acetate copolymer.

10. A construction as claimed in claim 1 wherein said handle portion is in the general form of a quadrupedal animal; wherein said portion of said handle portion that is shaped, sized and in a location on said handle so that it can support the toothbrush, when not in use, on a flat supporting surface is comprised of the four limbs of said quadrupedal animal in a generally downward disposition to thereby (i) provide four individual supports for the construction on such supporting surface, (ii) constitute four said restraining members and (iii) define a space between such supporting surface and said lower part of said body portion; wherein the height of the space between such supporting surface and the lower part of the simulated animal is at least about 30 millimeters; wherein at least an exterior portion of that part of said body portion that is sized and shaped to be manually encircled and grasped by the hand of the user with the thumb extending under and around the lower part of the body portion and with the palm and fingers extending over and around the upper part of the body portion as in a fist, is fabricated from a closed cell cellular material; wherein said four individual supports are disposed laterally by a sufficient distance to restrain the toothbrush against lateral tipping or rolling as said body portion is being so encircled and grasped by said hand of the user; and wherein said four individual supports and said cellular material cooperate in restraining said hand of the user against inadvertently contacting said brush head portion, and in restraining said hand of the user against moving past any of said four individual

supports while the hand of the user so encircles and grasps said body portion.

11. A construction as claimed in claim 10 wherein said handle portion includes a tail portion and wherein said tail portion extends outwardly generally transversely relative to said body portion to constitute another restraining member.

12. A construction as claimed in claim 10 wherein said head/neck portion of the quadrupedal animal extends outwardly generally transversely relative to said body portion to constitute at least one said first restraining member.

13. A construction as claimed in claim 10 wherein said head/neck portion of the quadrupedal animal extends outwardly generally transversely relative to said body portion to constitute one said first restraining member; and wherein said front leg portion of the quadrupedal animal constitutes another said first restraining member.

14. A construction as claimed in claim 10 wherein said head/neck portion of the quadrupedal animal extends outwardly generally transversely relative to said body portion to constitute one said first restraining member; wherein said front leg portion of the quadrupedal animal constitutes another said first restraining member; wherein said handle portion includes a tail portion; wherein said tail portion extends outwardly generally transversely relative to said body portion to constitute another restraining member;

15. A construction as claimed in claim 10 wherein said brush head portion extends substantially longitudinally from the forward end portion of said handle portion.

16. A construction as claimed in claim 10 wherein one said brush head portion extends substantially longitudinally from the forward end portion of said handle portion and wherein another said brush head portion extends substantially longitudinally from the rearward end portion of said handle portion.

17. A construction as claimed in claim 1 further comprising a tail portion attached to another part of said body portion and wherein said tail portion extends outwardly generally transversely relative to said body portion to form another restraining member spaced apart from the first restraining member.

18. A toothbrush construction which comprises:

- (a) a handle portion; and
- (b) a brush head portion having bristles extending at an angle therefrom, said toothbrush construction being further characterized in that:
- (c) said handle portion is in the form simulating an animal and includes
  - (i) a substantially horizontal body (trunk) portion which includes a lower part and an upper part, said body portion being sized and shaped to be manually encircled and grasped by the hand with the thumb extending under and around the lower part of the body portion and with the palm and fingers extending over and around the upper part of the body portion as in a fist,
  - (ii) a head/neck portion attached to a first part of said body portion with at least a portion of said head/neck portion extending generally upwardly relative to said body portion,
  - (iii) a front leg portion consisting of a pair of legs attached to a second part of said body portion with at least a portion of said pair of legs extend-

- ing generally downwardly relative to said body portion,
- (iv) a rear leg portion consisting of a pair of legs attached to a third part of said body portion with at least a portion of said pair of legs extending generally downwardly relative to said body portion, and
- (v) a tail portion attached to a fourth part of said body portion with at least a portion of said tail portion extending generally upwardly relative to said body portion;
- (d) said head/neck portion and said front leg portion are disposed on said handle portion such that when said body portion is grasped as in a fist as hereinbefore described, at least part of said head/neck portion and at least part of said front leg portion are in position to abut or be proximate either to the thumb and forefinger side of the hand of the user or to the fourth finger side of the hand of the user;
- (e) said tail portion and said rear leg portion are disposed on said handle portion such that when said body portion is grasped as in a fist as hereinbefore described, at least part of said tail portion and at least part of said rear leg portion are in position to abut or be proximate either to the thumb and forefinger side of the hand of the user or to the fourth finger side of the hand of the user, whichever is not abutted by or proximate to at least part of said head/neck portion and at least part of said front leg portion;
- (f) said brush head portion includes a stem which extends substantially longitudinally from a further part of said body portion;
- (g) said front leg portion and said rear leg portion terminate below said respective parts of said body portion from which said front leg portion and said rear leg portion extend, at a distance greater than any distance by which the lowest portion of said brush head portion may extend below said body portion;
- (h) said front leg portion and said rear leg portion are shaped, sized and in spaced apart locations on said handle portion so that said front leg portion and said rear leg portion can support the toothbrush,

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- when not in use, on a flat supporting surface such that (i) there is a space between such supporting surface and the lower part of said body portion of at least about 30 millimeters in height to enable the user to insert the thumb into this space with the fingers of the same hand extending over and around the upper part of the body, and (ii) the bristles of said brush head portion are spaced from such supporting surface by a distance of at least about 35 millimeters;
  - (i) said head/neck portion is peripherally between said upper part of said body portion and said brush head portion to restrain the user's hand against sliding from said upper part of said body portion and inadvertently contacting said brush head portion;
  - (j) at least an exterior portion of that part of said body portion that is sized and shaped to be grasped as in a fist as hereinbefore described, is fabricated from a compressible, resilient closed cell cellular polymeric material such that (i) said exterior portion of said body portion, (ii) at least one of said front leg portion and said rear leg portion and (iii) said head/neck portion mutually cooperate in preventing the user's hand from sliding from said body portion and inadvertently contacting said brush head portion at any time while the body portion is so grasped.
19. A construction as claimed in claim 18 wherein said front leg portion and said rear leg portion are sized, shaped and positioned to support the toothbrush, when not in use on a flat supporting surface such that said stem is substantially horizontal and said brush head portion is spaced from the underlying supporting surface by a distance in the range of about 40 to about 75 millimeters; and wherein said cellular material is a closed cell ethylene-vinyl acetate foam.
20. A construction as claimed in claim 19 wherein said handle portion includes a matching recess therein into which said stem can snugly fit such that said stem can be detachably attached to said handle portion with the brush head and bristles in a selected orientation relative to said handle portion.

\* \* \* \* \*

# PATENT SPECIFICATION

809,385



Date of Application and filing Complete

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No. 36750/56.

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Application made in South Africa on March 13, 1956.

Complete Specification Published: Feb. 25, 1959.

Index at acceptance:—Classes 18, A(5D:8B); and 131, D4.

International Classification:—A47k, B65d.

## COMPLETE SPECIFICATION

### Improvements relating to Dental Cleansing Outfits

I, RICHARD DEREK LAMPORT, of "Falcons", P.O. Box 180, Tzaneen, Transvaal Province, Union of South Africa, hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to dental cleansing outfits of compact and hygienic form. A dental cleansing outfit embodying the invention is of especial use to travellers who are constantly moving about and have to lunch away from the conveniences of home. The outfit is of simple construction and may be easily carried in a pocket or handbag.

An object of the invention is to provide a dental cleansing outfit adapted to hold a toothbrush and a liquid dental cleansing medium which can be applied to the brush, more especially, but not exclusively, where the liquid cleansing medium can be used without requiring the use of another wetting agent.

According to the invention a dental cleansing outfit comprises a tubular or like main container, and a closure cap therefor, said main container being longitudinally partitioned so as to provide on one side of the partition a compartment for a toothbrush or its handle, and on the other side a compartment constituting a liquid container or accommodating a removable liquid container, the latter container in both cases having an elastically-deformable wall adapted to be depressed for easy discharge of the liquid at an outlet.

The closure cap is preferably of hard plastic or like material adapted to accommodate the brush head and is screwed or otherwise fitted to the main container, and is provided with an inner flange, collar or the like for sealing the outlet of the liquid container when the device is not in use. Alternatively, the outlet for the liquid may have a separate closure member, in which case the inner

flange, collar or the like of the cap may be omitted.

The main container is preferably of cylindrical form, made in a single unit of elastically-deformable material such as polythene or any other suitable plastic or like material. However, it may also be made mainly of stiff or rigid material, subject to the liquid container having a deformable wall to facilitate discharge of its contents.

The partition may be edgewise sealed to, or integral with, side and end walls of the main container.

An end wall of the main container may be provided with openings both for entry of the brush handle and for the discharge of liquid from the liquid container.

The brush may be removed and the brush head appropriately positioned in relation to the discharge outlet for receiving the charge by squeezing the tubular deformable wall of the liquid container. Alternatively the latter may be constructed with its discharge outlet, e.g. in the form of a series of small orifices, directed towards the brush head when the brush is in position in the main container, in which case a charge may be delivered on to the brush head before the brush is removed, the outlet being provided in a projecting nozzle closed by a closure member. Alternatively, the outlet may comprise a series of marginal holes in a disc-like end member of the tube adapted to be sealed off by the inner collar or like of the cap.

The outfit may be made as a liquid dispenser to be discarded as such when its charge has been exhausted, in which case the liquid containing compartment may be permanently sealed save for the discharge outlet, but such compartment may also be provided at either end with a filling opening normally closed by a removable plug cap or other closure.

In one form of the invention the outfit is provided with a point at one end and with

vanes at the opposite end, whereby it has the appearance of a rocket missile, so that it can be used as a child's toy after the liquid has been dispensed.

5 In order that the invention may be more clearly understood and carried into effect, reference will now be made to the accompanying drawings in which like reference numerals refer to like parts throughout the several views.

In the drawings:—

Fig. 1 is a vertical cross-sectional elevation of one form of the main container constructed according to the invention and showing a toothbrush in position therein;

Fig. 2 is a part sectional plan view taken along the line II—II of Fig. 1;

Fig. 3 is a cross-sectional elevation of a cap closure for the main container shown in Fig. 1;

Fig. 4 is a vertical cross-sectional elevation of an alternative form of construction of the main container;

Fig. 5 is a full plan view of Fig. 4;

Fig. 6 is a cross-sectional elevation of a cap closure for the main container shown in Fig. 4; and

Fig. 7 is an elevation of the outfit adapted for use as a toy.

Referring to the drawings, Figs. 1 to 3, the outfit comprises a tubular main container 1 partitioned off longitudinally into two compartments adapted to receive a toothbrush A and toothspray liquid B respectively, and provided with a cap closure for keeping it in a hygienic condition.

More particularly, the outfit consists of a tubular main container 1 of flexible, resilient material flat at either end and of sufficient length to easily accommodate the handle of an ordinary sized toothbrush A. The main container 1 is partitioned segmentally by a dividing wall 2 so as to leave just sufficient space 3 on the one side to receive the toothbrush handle. The remaining or larger section 4 provides a container for the liquid B and is completely enclosed with the exception of a number of small marginal holes 5 at the top end forming the liquid outlet. The upper, outer portion of the main container 1 is also threaded as at 6 to receive a covering cap 7.

The cap 7 is of similar sectional form to the rest of the main container 1 and is of sufficient length to accommodate the head of a toothbrush. It is threaded at its lower internal edge for fitting over the screw top 6 of the main container 1, and is fitted with an internal annular flange 8 above the innermost thread. This flange 8, when the cap 7 is screwed home, fits over the spray outlet holes 5 to prevent any leakage therefrom when not in use.

In its final assembled form the outfit is a cylindrical tube with flat ends, but if desired,

the ends may also be hemispherical or of any other convenient form.

When the outfit is required for use the cap 7 is unscrewed, and the liquid B applied on the bristles of the brush before or after the latter is removed for use. The container is of flexible form so that the spray may be forced out at the top with the aid of finger pressure on the container.

In an alternative form of construction as shown in Figs. 4 to 6 of the drawings the liquid container 9 is of elastic tubular form separate from the main container 1a and adapted to be securely retained therewith. In this case the main container 1a may be of rigid or resilient material, and is provided with a partition wall 10 of arcuate form so as to reduce the space 11 required for the toothbrush handle and leave a maximum amount of space for the liquid container.

The container 9 is secured to the main container 1a by means of upper and lower bands 12 and 13 respectively, disposed towards its end regions. These bands form continuations of the main container perimeter, thereby providing it with marginal end regions of circular plan form. The upper band 12 is open at its top and bottom for receiving the upper part of the container 9 and together with the upper end of the main container is screw threaded as at 14 to receive the coacting cap closure 15.

The bottom part 16 of the lower band 13 is closed off integrally with the main container 1a to form a smooth, continuous flat base to the outfit, so as to further ensure the container 9 being supported safely in position in the main container. In this case the liquid container 9 is provided with its own closure member 17, and once the liquid has been used up all that is required is to obtain a new container 9, it being unnecessary to dispense with the main container as in the previous construction. The cap 15 is only required to keep the brush clean and does not require an inner flange, although one may be provided without affecting the working of the outfit.

In order to adapt the outfit for use as a toy, as shown in Fig. 7, the cap 18 is of streamlined form terminating in a point while the opposite end 19 of the device is provided with vanes 20 integral with the main container. Alternatively, the vanes may be supplied as separate attachable members and a separate pointed cap provided.

Any suitable type of toothspray liquid may be used. Once the top is screwed on, apart from the liquid being sealed off, the brush is kept hygienically clean and cannot come into contact with any outside substances.

WHAT I CLAIM IS:—

1. A dental cleansing outfit comprising a tubular or like main container and a closure cap therefor, said main container being lon-

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- itudinally partitioned so as to provide on one side of the partition a compartment for a toothbrush or its handle and on the other side a compartment constituting a liquid container or accommodating a removable liquid container, the latter container in both cases having an elastically deformable wall adapted to be depressed for easy discharge of the liquid at an outlet.
- 10 2. A dental cleansing outfit according to Claim 1 wherein the closure cap is adapted to accommodate the brush head and is screwed or otherwise fitted to the main container, and is provided with an inner flange, 15 collar or the like for sealing the outlet of the liquid container when the device is not in use.
3. A dental cleansing outfit according to Claim 1 wherein the liquid container is provided with a separate closure member.
4. A dental cleansing outfit according to Claim 1 or Claim 2 or Claim 3 wherein the partition is edgewise sealed to or integral with side and end walls of the main container. 25
5. A dental cleansing outfit according to any of the preceding claims wherein an end wall of the main container is provided with openings both for entry of the brush handle and for the discharge of liquid from the liquid container. 30
6. A dental cleansing outfit according to Claim 1 wherein the liquid container is removable from the main container and is secured thereto by means of upper and lower 35 bands disposed towards the end regions of the main container and forming continuations of its perimeter, the lower band having its bottom lower edge connected to the base of the main container to form a socket for 40 the liquid container.
7. A dental cleansing outfit according to any of the preceding claims which is provided with a point at one end and with vanes at the opposite end, whereby the outfit has 45 the appearance of a rocket missile.
8. A dental cleansing outfit according to any of the preceding claims wherein the outlet of the liquid container is disposed so as to deliver a charge of liquid on to the brush 50 while the brush is still in position in the main container.
9. A dental cleansing outfit substantially as hereinbefore described with reference to Figs. 1 to 3 or Figs. 4 to 6 or Fig. 7 of the 55 accompanying drawings.

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Agents for the Applicant.

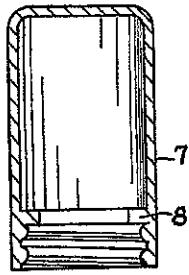


FIG. 3.

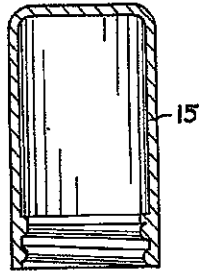


FIG. 6.

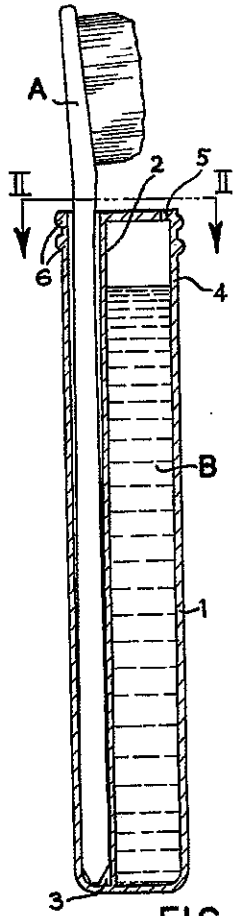


FIG. 1.

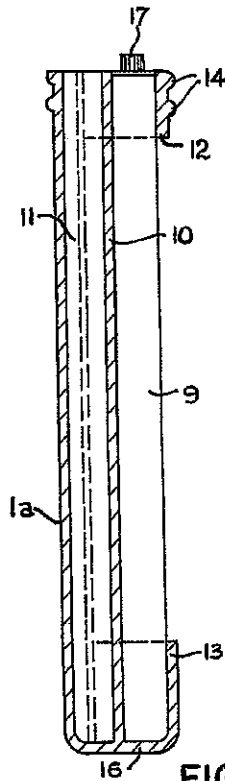


FIG. 4.

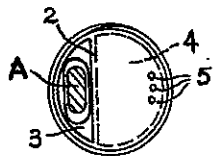


FIG. 2.

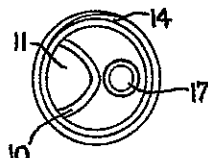


FIG. 5.

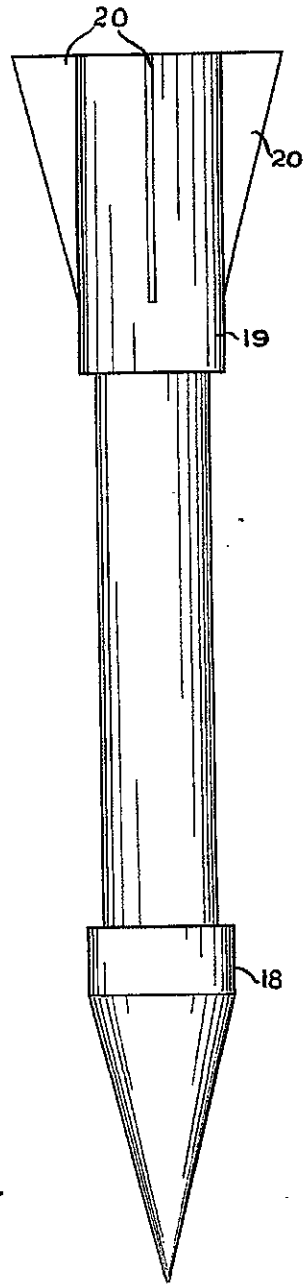


FIG. 7.



US005590436A

**United States Patent** [19]  
**Wright et al.**

[11] **Patent Number:** **5,590,436**  
[45] **Date of Patent:** **Jan. 7, 1997**

[54] **TOOTHBRUSH**  
[75] Inventors: **John R. Wright**, Morpeth, United Kingdom; **David Balkwill**, Nantes, France

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[73] Assignee: **Prelude UK Limited**, Newcastle upon Tyne, United Kingdom

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[21] Appl. No.: **450,954**

[22] Filed: **May 23, 1995**

[30] **Foreign Application Priority Data**

Apr. 7, 1995 [GB] United Kingdom ..... 9507295

[51] Int. Cl.<sup>6</sup> ..... **A46B 5/02**; A46B 9/04

[52] U.S. Cl. .... **15/105**; 15/143.1; 15/167.1;  
15/246; 446/73; D4/107

[58] Field of Search ..... 15/105, 143.1,  
15/167.1; 248/110, 111; 446/73, 97; D4/107,  
124, 125, 126, 138

*Primary Examiner*—David Scherbel  
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*Attorney, Agent, or Firm*—Leydig, Voit & Mayer

[57] **ABSTRACT**

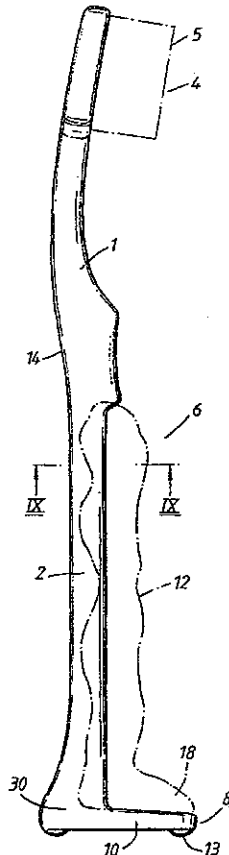
A toothbrush having a handle which carries a figurine formed separately from but attached to the handle. The figurine can be attached directly to the handle of the toothbrush or can be attached first to a carrier which is then attached to the handle. The toothbrush is also capable of being supported at an angle to a surface by supporting means provided on the handle.

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**14 Claims, 4 Drawing Sheets**



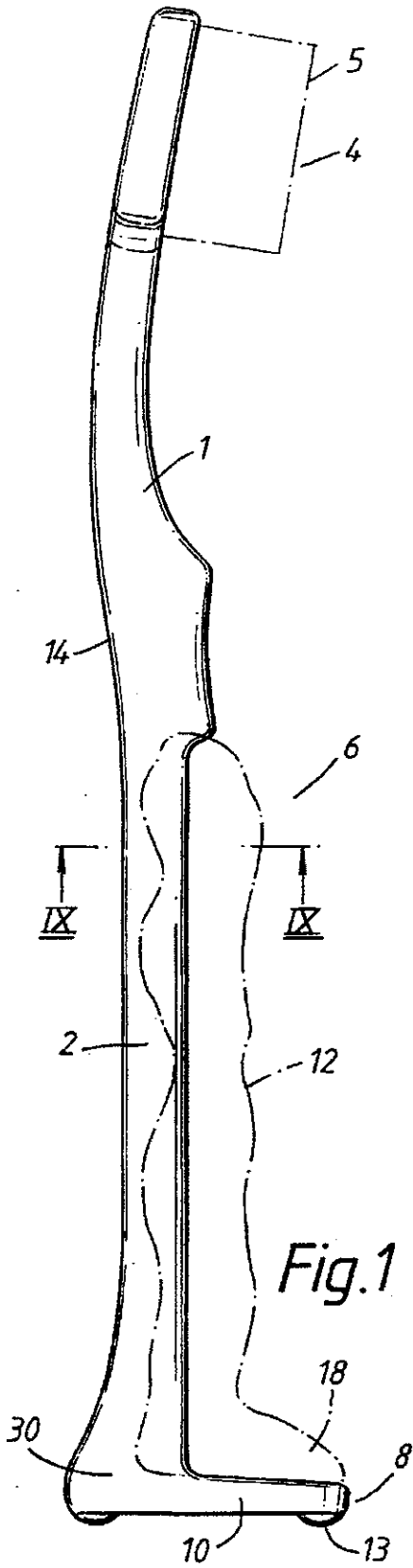


Fig. 1

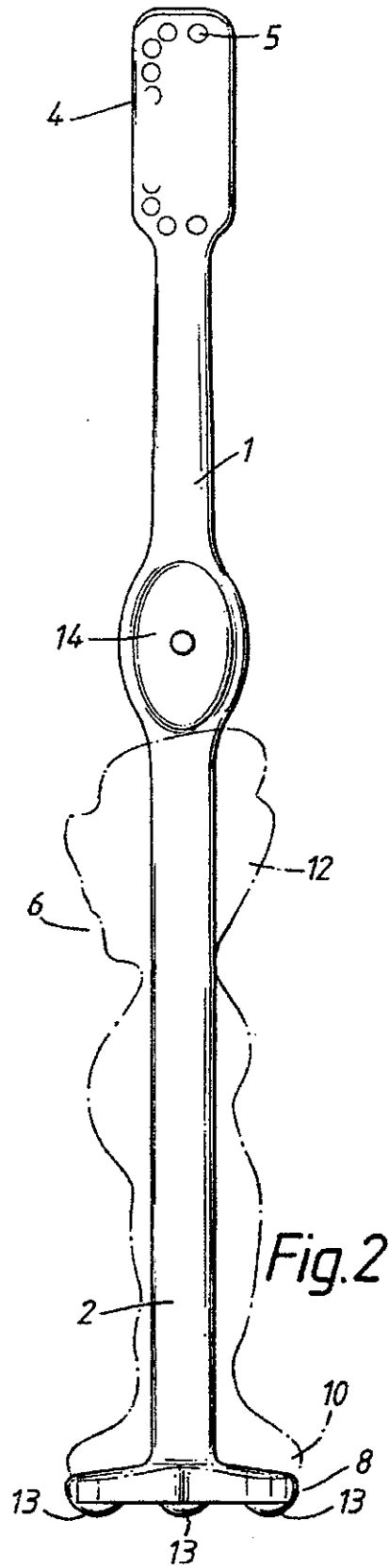
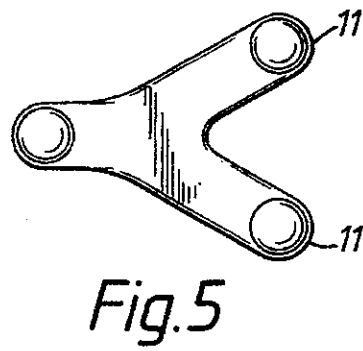
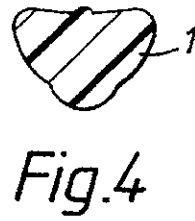
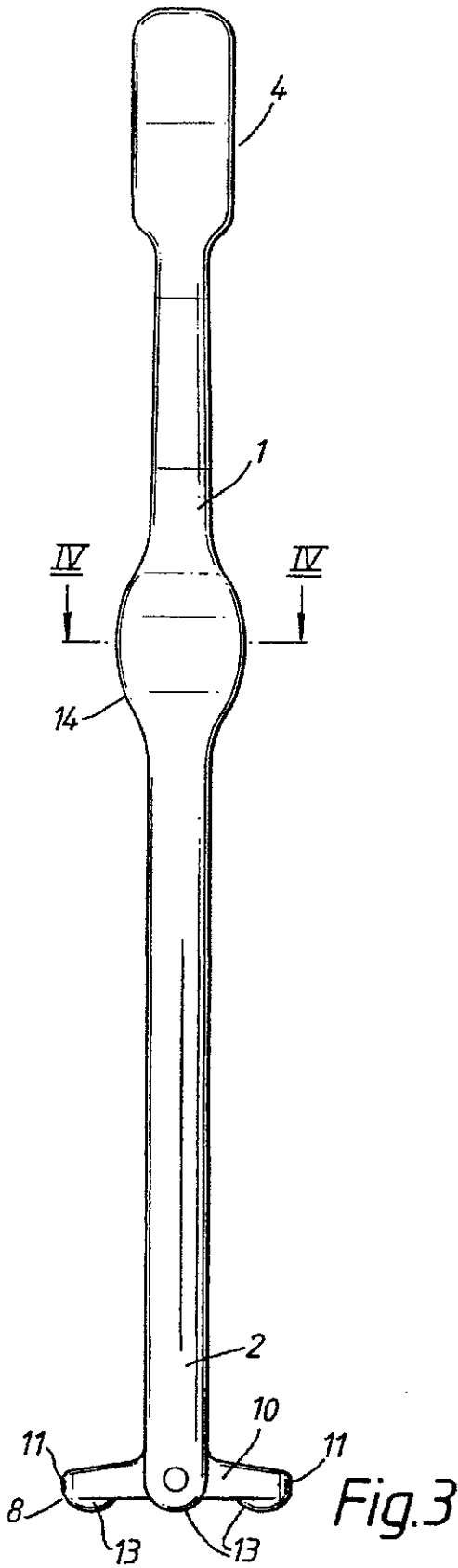


Fig. 2





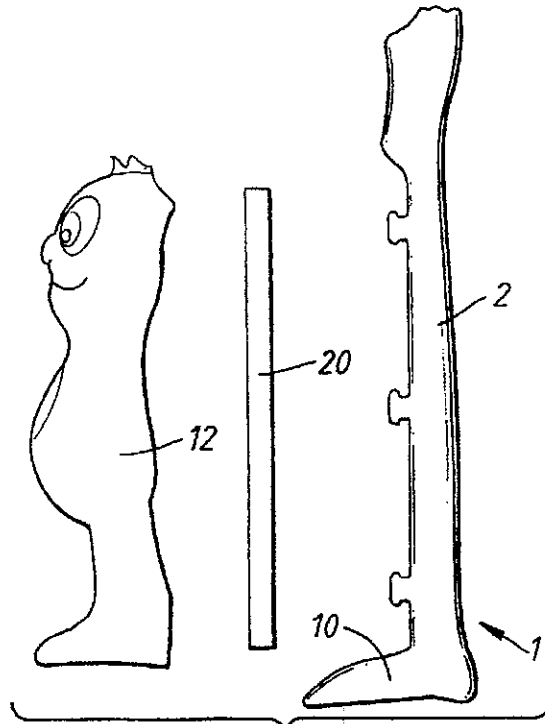


Fig. 6

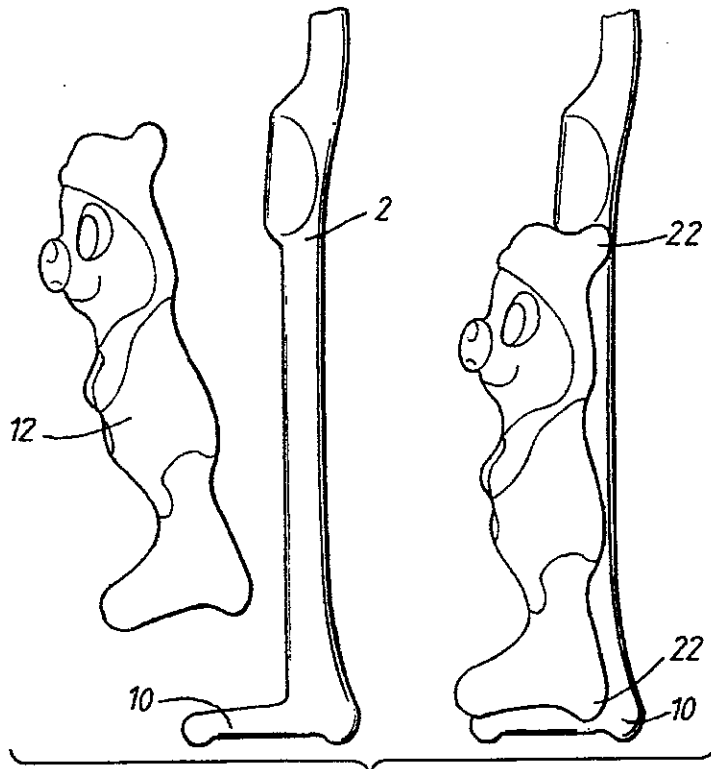


Fig. 7

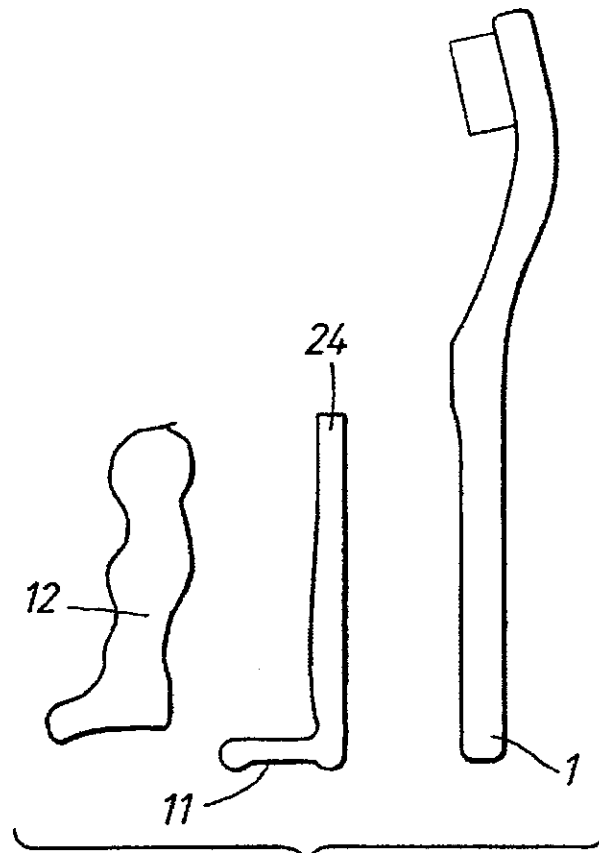


Fig. 8

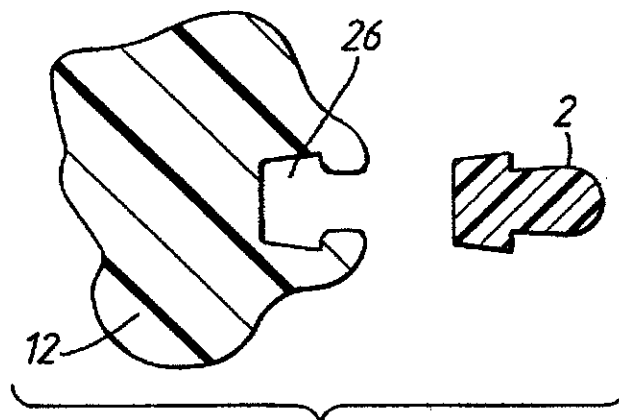


Fig. 9

# 1

## TOOTHBRUSH

### BACKGROUND OF THE INVENTION

The invention relates generally to toothbrushes.

### SUMMARY OF THE INVENTION

According to the invention there is provided a toothbrush comprising a head portion, a handle portion and a base portion in which the handle portion carries a figurine which is formed separately from the handle and is attached thereto.

According to the invention there is also provided a toothbrush comprising a head portion, and a handle portion in which the handle portion is provided with means for supporting the toothbrush on a surface so that the toothbrush extends at an angle to said surface.

According to the invention there is further provided a toothbrush comprising a longitudinally extending handle portion with two ends and two elongate sides, one end provided with an arcuately curved, integrally formed head portion on the first side of the handle and the other end provided with integrally formed means for supporting the toothbrush on a surface with the handle extending away from the surface at an angle to the surface, the handle portion carrying a figurine which is formed separately from the handle and is attached on the first side of the handle.

### DESCRIPTION OF THE DRAWINGS

Exemplary embodiments of a toothbrush in accordance with the present invention will now be described, by way of example only, with reference to the accompanying diagrammatic drawings in which:

FIG. 1 is a side elevation of a toothbrush in accordance with the invention;

FIG. 2 is a front elevation of the toothbrush of FIG. 1;

FIG. 3 is a rear elevation of the toothbrush of FIGS. 1 and 2;

FIG. 4 is a cross-sectional view taken on the line IV—IV in FIG. 3;

FIG. 5 is a plan view of the base of the toothbrush of FIGS. 1 to 4;

FIG. 6 is a side elevation of a second form of toothbrush;

FIG. 7 is a side elevation of a third form of toothbrush;

FIG. 8 is a side elevation of a fourth form of toothbrush; and

FIG. 9 is a cross-sectional view of a fifth form of toothbrush; the position of the section on this toothbrush is indicated by the lines IX—IX in FIG. 1 (although the section is different from the section on this line in FIG. 1).

### DESCRIPTION OF PREFERRED EMBODIMENTS

The toothbrush 1 of FIGS. 1 to 5 comprises a handle 2 which, towards one end, is arcuately curved. A profiled head portion 4 is carried at the end of the curved portion. Conventional toothbrush bristles (outlined at 5) are mounted on the head portion 4 in a standard layout as represented in FIG. 2.

The other end of the handle is provided with a Y-shaped stand 10 lying in a plane generally normal to the length of the handle. The stand 10 is formed by a widened foot 30 at the end of the handle 2 and two limbs 11 extending from an end of the foot on the same side of the handle 2 as the bristles

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5. The limbs 11 are co-planar and the angle between these limbs 11 is about 60°. The end of the handle 2 and the ends 13 of the limbs 11 project beyond the plane of the limbs 11 to provide a tripod-like support on which the toothbrush 1 can stand on a surface with the handle 2 generally normal to the plane of the surface. The central part of the handle 2 is profiled to form a mounting for figurine 12. The term "figurine" is intended to include representations of both real or imaginary figures and inanimate objects. The figurine 12, as shown in FIGS. 1 to 3, is provided with a head portion and feet 18. The figurine 12 is glued to the handle 2. However, the body 2 may be provided with a hemispherically shaped recess 14 into which the head of the figurine 12 may be secured, for example, by a snap fit. It will be appreciated that the head may be fixed by any other suitable means. The body 2 of the toothbrush 1 may be appropriately shaped to snap-fit around the remainder of the figurine 12 or alternatively the figurine 12 may be appropriately shaped to snap-fit around the body 2 of the toothbrush 1. The feet 18 of the figurine 12 may rest on the limbs 11.

It will be appreciated that the angle between the limbs 11 need not be 60° and can be varied. Also the stand 10 need not be Y-shaped and need not be situated at the end of the handle 2 furthest from the bristles 5. For example, the stand may be wedge shaped and situated between the bristles 5 and the handle end 2 on the side of the handle opposite the character 12. In this way, the toothbrush would be supported by the stand with the handle inclined at an acute angle relative to a supporting surface, with the head 4 uppermost and the figurine 12 facing upwardly.

Further embodiments of the invention are shown in FIGS. 6, 7, 8 and 9 in which parts corresponding to parts in FIGS. 1 to 5 are correspondingly numbered and are not described in detail. FIG. 6 shows a modified method of attaching the figurine 12 to the body 2. The figurine 12 is first attached to a carrier 20 which is elongate and of generally rectangular cross-section and which in turn is attached to the body 2 of the toothbrush 1. The figurine 12 may be adhesively fixed to the carrier 20 and then the carrier 20 mechanically fixed to the body 2, as shown, by a series of integrally formed pegs and sockets. There are many other methods of attaching the figurine 12 to the carrier 20 and the carrier 20 to the body 2. For example, one or more co-operating snap-fit pegs and sockets may be used or one or more screws may be used. The figurine 12 may be provided with integrally formed sockets to snap-fit with the pegs.

FIG. 7 shows a further arrangement for fixing the figurine 12 to the body 2 of the toothbrush 1. In this example, features 22 of the figurine 12, such as the ears, hat or feet, are formed so as to snap-fit onto shaped parts of the body 2 of the toothbrush 1. In this example, the hat has ears than snap-fit on either side of a shaped part of the handle and the feet have lugs that fit onto the base 10.

FIG. 8 shows another arrangement similar to that of FIG. 6. In this case, however, a carrier 24 is provided with the stand 10 including the limbs 11, which enable the toothbrush 1 to stand. The carrier 24 can then be fitted to a more conventionally shaped toothbrush by adhesive or other methods.

FIG. 9 shows a further method of attaching the figurine 12 to the body 2 of the toothbrush 1 in which the figurine 12 is provided with a shaped slot 26 along its length to slidably receive a corresponding shaped portion of the length of the handle 2.

It will be appreciated that there are many other methods of attaching the figurine 12 to the body 2 of the toothbrush 1.

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The outwardly extending limbs 11 of the base portion 8 may be omitted and the feet 18 of the figurine 12 may form the stand 10 for the toothbrush 1.

The toothbrush 1 may be formed from resilient material such as a plastics material manufactured by, for example, an injection moulding technique.

What is claimed is:

1. A toothbrush comprising a handle having
  - a first end;
  - a second end;
  - a central portion extending from said second end towards said first end to provide a manual grip in use of the toothbrush;
  - a further portion extending between said central portion and said first end;
  - a head portion carried at said first end of the handle; bristles provided on said head portion;
  - mounting means provided on said central portion;
  - a separately formed figurine carried by said mounting means and extending from adjacent said second end and along said central portion; and
  - a stand portion extending from said handle to provide means for supporting the toothbrush on a surface so that the handle extends in a substantially upright orientation relative to said surface, the stand portion comprising a plurality of co-planar, outwardly extending limbs.
2. The toothbrush according to claim 1, wherein the limbs are arranged in a Y-shape.
3. The toothbrush according to claim 1 wherein the angle between two of the limbs is 60°.
4. The toothbrush according to claim 1 wherein the figurine is a releasable snap-fit onto the handle.
5. The toothbrush according to claim 1 wherein the figurine is fixedly attached to the handle.
6. The toothbrush according to claim 5 wherein the figurine is attached by an adhesive.
7. The toothbrush according to claim 1 wherein the mounting means includes a carrier and the carrier is connected to the handle.
8. A toothbrush comprising a handle having
  - a first end;
  - a second end;
  - a central portion extending from said second end towards said first end to provide a manual grip in use of the toothbrush;
  - a further portion extending between said central portion and said first end;
  - a head portion carried at said first end of the handle; bristles provided on said head portion;
  - mounting means provided on said central portion;
  - a separately formed figurine carried by said mounting means and extending from adjacent said second end and along said central portion, and co-planar outwardly

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excluding feet formed on the figurine and providing a stand portion for supporting the toothbrush in a substantially upright orientation relative to a surface.

9. The toothbrush according to claim 8 wherein the figurine is a releasable snap-fit onto the handle.

10. The toothbrush according to claim 8 wherein the figurine is fixedly attached to the handle.

11. The toothbrush according to claim 10 wherein the figurine is attached is by an adhesive.

12. The toothbrush according to claim 8 wherein the mounting means includes is mounted on a carrier and the carrier is connected to the handle.

13. A toothbrush comprising a handle oriented substantially upright and having

- a first end;
- a second end;
- a central portion extending from said second end towards said first end to provide a manual grip in use of the toothbrush;
- a further portion extending between said central portion and said first end;
- a head portion carried at said first end of the handle; bristles provided on said head portion;
- mounting means provided on said central portion, said mounting means including
- a shaped portion provided on said handle;
- a separately formed figurine carried by said mounting means, said figurine provided with a slot and which is a sliding fit around the shaped portion whereby the figurine extends from adjacent said second end and along said central portion.

14. A toothbrush comprising;

- a handle having;
  - a first end;
  - a second end;
  - a central portion extending from said second end towards said first end to provide a manual grip in use of the toothbrush, the central portion being provided with mounting means;
  - a further portion extending between said central portion and said first end;
  - a head portion carried at said first end of the handle; bristles provided on said head portion;
  - a stand portion extending from said handle to provide means for supporting the toothbrush in a substantially upright orientation relative to a surface so that the handle extends at an angle to said surface;
  - a separately formed figurine carried by said mounting means and extending from adjacent said second end and along said central portion, wherein the mounting means includes a slot in the figurine and the handle is provided with a shaped portion which is a sliding fit in the slot.

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