



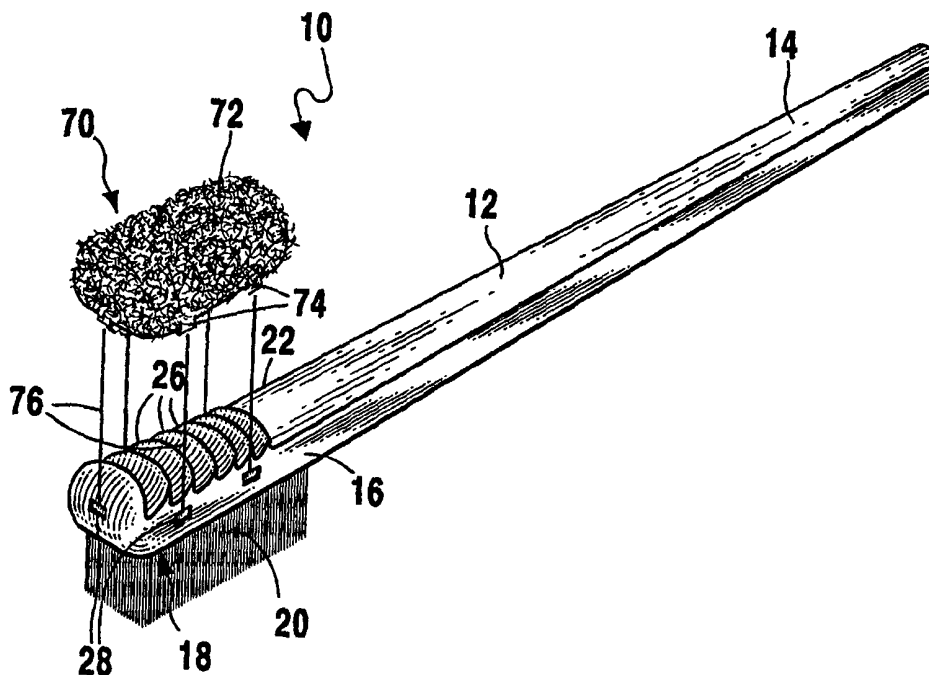
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<p>(21) International Application Number: PCT/US99/28998</p> <p>(22) International Filing Date: 7 December 1999 (07.12.99)</p> <p>(30) Priority Data: 09/211,124 14 December 1998 (14.12.98) US</p> <p>(71)(72) Applicants and Inventors: NOE, Dennis [US/US]; Suite 1907, 1750 Kalakaua Avenue, Honolulu, HI 96826 (US). SOLD, Chris [US/US]; Suite 1907, 1750 Kalakaua Avenue, Honolulu, HI 96826 (US).</p> <p>(74) Agent: KROLL, Michael, I.; 171 Stillwell Lane, Syosset, NY 11791 (US).</p>		<p>(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>With international search report.</i></p>

(54) Title: ALL-SIDED MOUTHBRUSH

(57) Abstract

An all-sided mouthbrush (10) for cleaning a mouth of a user. The all-sided mouthbrush (10) includes a handle (12) having at a second end (16) first (18) and second (22) sides, bristles (20) extending from the first side (18), and an alternate cleaning device (24) connected to the second side (22), wherein the bristles clean teeth of the user and the alternate cleaning device cleans a tongue and inner side of the mouth of the user. The alternate cleaning device may be in the form of one of a plurality of parallel ridges (26), a plurality of columns of tuft-shaped bristles (32), a plurality of spade headed bristles (36), a scouring pad-like surface (72) or a plurality of off set rows of bristle-like structures made of soluble crystals (80) for scraping the tongue and inner side of the mouth of the user.



A plurality of templates each including a respective alternate cleaning surface and a connecting device for connecting one of the plurality of templates to the second side covering said alternate cleaning device may be attached to the all-sided mouthbrush. A resealable packet (94) is provided for each of the templates and for receiving the first end (14) of the handle when not in use for protecting the templates and handle from contamination. A mouth freshening liquid (92) is provided within the pouches for further protecting the templates and handle and provide additional freshening for the mouth of the user.

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ALL-SIDED MOUTHBRUSH

Description

Technical Field

The present invention relates generally to toothbrushes and, more specifically, to a mouthbrush including conventional bristles on one side and an alternate cleaning device positioned on an opposing side of the mouthbrush, wherein a plurality of interchangeable bristle type or rigid structures are adapted to be connected over the alternate cleaning device.

Disclosure of the Invention

The present invention comprises an all-sided mouthbrush for cleaning a mouth of a user. The all-sided mouthbrush includes a handle including a first end having first and second sides, bristles extending from the first side, and an alternate cleaning device connected to the second side, wherein the bristles clean the teeth of the user and the alternate cleaning device cleans the tongue and inner side of the mouth of the user. The alternate cleaning device may be in the form of one or a plurality of parallel ridges, a plurality of columns of tuft-shaped bristles, a plurality of spade headed bristles, a scouring pad-like surface or a plurality of offset rows of bristle-like structures made of soluble crystals for scraping the tongue and inner side of the mouth. A plurality of templates each including a respective alternate cleaning surface and a connecting device for connecting one of the plurality of templates to

the second side covering said alternate cleaning device may be attached to the all-sided mouthbrush. A resealable packet is provided for each of the templates and for receiving the first end of the handle when not in use for protecting the templates and handle from contamination. A mouth freshening liquid is provided within the pouches for further protecting the templates and handle and provide additional freshening for the mouth of the user.

Brief Description of the Drawing Figures

Various other objects, features and attendant advantages of the present invention will become more fully appreciated as the same becomes better understood when considered in conjunction with the accompanying drawings, in which like reference characters designate the same or similar parts throughout the several views.

FIG 1 is a perspective view of the all-sided mouthbrush of the present invention including a ridged surface on a side opposite the bristled surface.

FIG 2 is a perspective view of the all-sided mouthbrush of the present invention including tuft shaped bristles extending from a side opposite the bristled surface.

FIG 3 is a perspective view of the all-sided mouthbrush of the present invention including alternating rows of spade-headed bristles extending from a side opposite the bristled surface.

FIG 4 is a perspective view of the all-sided mouthbrush of the present invention including a scouring pad-like surface on a side opposite the bristled surface.

FIG 5 is a perspective view of the all-sided mouthbrush of the present invention including bristles formed of soluble crystals extending from a side opposite the bristled surface.

FIG 6 is a perspective view of the all-sided mouthbrush of the present invention including a template having a ridged surface being connected thereto.

FIG 7 is a perspective view of the all-sided mouthbrush of the present invention including a template having tuft-shaped bristles being connected thereto.

FIG 8 is a perspective view of the all-sided mouthbrush of the present invention including a template having alternating rows of spade headed bristles being connected thereto.

FIG 9 is a perspective view of the all-sided mouthbrush of the present invention including a template having a scouring pad-like surface being connected thereto.

FIG 10 is a perspective view of the all-sided mouthbrush of the present invention including a template having bristles formed of soluble crystals being connected thereto.

FIG 11 is a front perspective view of a template for attachment to the all-sided mouthbrush of the present invention being removed from a protective packet.

FIG 12 is a front perspective view of the all-sided mouthbrush of the present invention having an end portion thereof positioned within a protective packet, the protective packet including mouthwash therein for application to the bristles on the mouthbrush.

The reference numbers utilized in the drawing figures are defined as follows.

- 10 all-sided mouthbrush of the present invention
- 12 handle of mouthbrush
- 14 first end of handle
- 16 second end of handle
- 18 first side of second end
- 20 bristles extending from first side of second end
- 22 second side of second end
- 24 cleaning device on second end of second side
- 26 plurality of parallel ridges forming cleaning device
- 28 device for selectively securing template to second side of second end
- 30 first alternate cleaning surface

- 32 plurality of columns of tuft-shaped bristles
- 34 second alternate cleaning surface
- 36 plurality of off set rows of spade headed bristles
- 38 third alternate cleaning surface
- 40 fourth alternate cleaning surface
- 42 plurality of rows of bristle-like structures
- 44 first template
- 46 plurality of parallel ridges forming first template
- 48 top side of first template
- 50 clips extending from first template
- 52 arrows indicating alignment of clips of first template with connection device
- 54 second template
- 56 columns of tuft-shaped bristles forming second template
- 58 clips extending from second template

- 60 arrows indicating alignment of clips of second template with connection device
- 61 third template
- 62 off set rows of spade-headed bristles forming third template
- 64 top side of third template
- 66 clips extending from third template
- 68 arrows indicating alignment of clips of third template with connection device
- 70 fourth template
- 72 scouring pad-like surface forming fourth template
- 74 clips extending from fourth template
- 76 arrows indicating alignment of clips of fourth template with connection device
- 78 fifth template
- 80 rows of bristle-like structures made of soluble crystals forming fifth template
- 82 top side of fifth template

- 84 clips extending from fifth template
- 86 arrows indicating alignment of clips of fifth template with connection device
- 88 packet for retaining cleaning surface
- 90 template
- 92 mouthwash
- 94 resealable packet
- 96 first end of resealable packet
- 98 locking mechanism on first end of resealable packet
- 100 mouthwash

Detailed Description of the Preferred Embodiment

Turning now descriptively to the drawings, in which similar reference characters denote similar elements throughout the several views, FIGs 1 through 12 illustrate the all-sided mouthbrush of the present invention indicated generally by the numeral 10.

The all-sided mouthbrush **10** is shown in FIG 1 including a handle **12** having a first end **14** for grasping by a user and a second end **16** for insertion into the mouth of the user. Extending from a first side **18** of the second end **16** are bristles **20** for use in brushing the teeth of the user. The bristles **20** are similar to those found on conventional toothbrushes. On a second side **22** of the second end **16** opposite the bristles **20** is a cleaning device **24** for use in scraping, scrubbing brushing and/or massaging the tongue and inner surface of the mouth of the user. The cleaning device **24** extends around the surface of the second end **16** not covered by the bristles **20** to create an all around surface for cleaning the tongue user. The cleaning device **24** shown in FIG 1 is a series of parallel ridges **26**.

Alternate cleaning devices may be positioned to extend from the second side **22** instead of the cleaning device **24** of FIG 1. Examples of such alternate cleaning devices are illustrated in FIGs 2-5. A first alternate cleaning device **30** is illustrated in FIG 2 and is formed by a bristle surface having a plurality of columns of tuft-shaped bristles **32** connected to the second side **22** of the handle **12**. The plurality of columns of tuft-shaped bristles **32** face opposite the conventional toothbrush bristles **20** and are useful in scrubbing the tongue and inner side of the mouth of the user. The plurality of tuft-shaped bristles **32** extend all around the surfaces of the second end **16** not covered by the bristles **20** in a manner similar to the cleaning device **24** to create an all around surface for cleaning the tongue and inner surface of the mouth of a user. FIG 3 illustrates a second alternate cleaning device **34** having a bristle surface formed of a plurality of off set rows of spade headed bristles **36**. The spade headed bristles **36** act to scrape the tongue and other skin surfaces within the mouth of the user. The spade headed bristles **36** extend from all around the surfaces of the second end **16** not covered by the bristles **20** in a manner similar to the cleaning device **24** and tuft-shaped bristles **32** to create an all around surface for cleaning the tongue and inner surface of the mouth of a user. A third alternate cleaning surface is illustrated in FIG 4 and is formed of a scouring pad-like surface **38** connected to the second side

22 of the handle 12. The scouring pad-like surface 38 faces in a direction opposite the conventional toothbrush bristles 20 and is useful in scrubbing the tongue and inner side of the mouth of the user. The scouring pad-like surface 38 extends from all around the surfaces of the second end 16 not covered by the bristles 20 in a manner similar to the cleaning device 24, tuft-shaped bristles 32 and spade headed bristles 36 of FIGs 1-3 to create an all around surface for cleaning the tongue and inner surface of the mouth of a user. FIG 5 illustrates a fourth alternate cleaning surface 40 formed of a bristle surface having of a plurality of rows of bristle-like structures 42 formed of soluble crystals. The plurality of rows of bristle-like structures 42 act to freshen and refresh the tongue and other skin surfaces within the mouth of the user. The plurality of rows of bristle-like structures 42 extend from all around the surfaces of the second end 16 not covered by the bristles 20 in a manner similar to the cleaning device 24, tuft-shaped bristles 32 and scouring pad-like surface 38 of FIGs 1-4 to create an all around surface for cleaning the tongue and inner surface of the mouth of a user.

The all-sided mouthbrush 10 including the cleaning surface 24 is illustrated in FIG 6 including a first template 44 for attachment over the cleaning surface 24. The first template 44 includes a plurality of parallel ridges 46 extending along a top side 48 thereof. The bottom side of the first template 44 forms a pool for receiving the cleaning device 24 therein. A connection device 28 is positioned on the second end of the handle 12 between the bristles 12 and the cleaning device on the second side 22. The connection device 28 is preferably formed of a plurality of recesses extending into the second end 16 of the handle 12 for receiving the clips 50 of the first template 44. A plurality of clips 50 extend from the side of the first template 44 for releasably connecting with the connection device 28. The arrows labeled with the number 52 illustrate the direction in which a force is applied to the first template 44 and the alignment of the recesses forming the connection device 24 with the clips 50.

The all-sided mouthbrush **10** including the cleaning surface **24** is illustrated in FIG 7 including a second template **54** for attachment over the cleaning surface **24**. The second template **54** includes a plurality of columns of tuft-shaped bristles **56** extending along a top side thereof. The bottom side of the second template **54** forms a pool for receiving the cleaning device **24** therein. A plurality of clips **56** extend from the side of the second template **44** for releasably connecting with the connection device **28**. The connection device **28** is preferably formed of a plurality of recesses extending into the second end **16** of the handle **12** for receiving the clips **56** of the second template **54**. The arrows labeled with the number **58** illustrate the direction in which a force is applied to the second template **54** and the alignment of the recesses forming the connection device **28** with the clips **56**.

The all-sided mouthbrush **10** having the cleaning surface **24** is illustrated in FIG 8 including a third template **60** for attachment over the cleaning surface **24**. The third template **60** includes a plurality of rows of off set spade-headed bristles **62** extending along a top side **64** thereof. The bottom side of the third template **60** forms a pool for receiving the cleaning device **24** therein. A plurality of clips **66** extend from the side of the third template **60** for releasably connecting with the connection device **28**. The connection device **28** is preferably formed of a plurality of recesses extending into the second end **16** of the handle **12** for receiving the clips **66** of the third template **60**. The arrows labeled with the number **68** illustrate the direction in which a force is applied to the third template **60** and the alignment of the recesses forming the connection device **28** with the clips **66**.

The all-sided mouthbrush **10** including the cleaning surface **24** is illustrated in FIG 9 including a fourth template **70** for attachment over the cleaning surface **24**. The fourth template **70** includes a scouring pad-like surface **72** extending along a top side thereof. The bottom side of the fourth template **70** forms a pool for receiving the cleaning device **24** therein. A plurality of clips **74** extend from the side of the fourth

template 70 for releasably connecting with the connection device 28. The connection device 28 is preferably formed of a plurality of recesses extending into the second end 16 of the handle 12 for receiving the clips 74 of the fourth template 70. The arrows labeled with the number 76 illustrate the direction in which a force is applied to the fourth template 70 and the alignment of the recesses forming the connection device 28 with the clips 74.

The all-sided mouthbrush 10 including the cleaning surface 24 is illustrated in FIG 10 including a fifth template 78 for attachment over the cleaning surface 24. The fifth template 78 includes a plurality of rows of bristle-like structures made of soluble crystals 80 extending along a top side 82 thereof. The bottom side of the fifth template 78 forms a pool for receiving the cleaning device 24 therein. A plurality of clips 84 extend from the side of the fifth template 78 for releasably connecting with the connection device 28. The connection device 28 is preferably formed of a plurality of recesses extending into the second end 16 of the handle 12 for receiving the clips 84 of the fifth template 78. The arrows labeled with the number 86 illustrate the direction in which a force is applied to the fifth template 78 and the alignment of the recesses forming the connection device 28 with the clips 84.

FIG 11 illustrates a sealed packet 88 in which a template 90 is positioned. The template 90 is similar to the templates illustrated in FIGs 6-10 and is for connection with the all-sided mouthbrush of the present invention. The sealed packet 88 may include mouthwash 92 or some other similar mouth cleansing liquid which may be used to rinse the mouth of the user after using the all-sided mouthbrush.

FIG 12 illustrates a resealable packet 94 in which the all-sided mouthbrush 10 may be placed when not in use. The resealable packet 94 includes a first end 96 including a resealable locking mechanism 98 through which the second end 16 of the handle 12 will be inserted into the packet 94. The packet 94 will protect the second

end 16, the bristles 20 and the alternate cleaning surface 38 when the all-sided mouthbrush 10 is not being used. Mouthwash 100 or some other similar mouth cleansing liquid which may be used to rinse the mouth of the user after using the all-sided mouthbrush may be poured into the packet 94 with the second end 16 of the handle 12.

The operation of the all-sided mouthbrush 10 will now be described with reference to the figures. In operation, the all-sided mouthbrush 10 is contained within a resealable packet 94 from which it must be removed. The packet 94 may contain mouthwash 100 for covering the bristles and aiding in freshening the mouth of the user during and after use. The templates are also each contained in resealable packets 88 from which they must be removed. The packets 88 may contain mouthwash 100 for covering the cleaning surface thereof and aiding in freshening the mouth of the user during and after use. The user will decide which cleaning surface is desired to be used and remove the appropriate template from its packet 88.

The user will now releasably secure the template to the second side 22 of the handle 12 opposite the conventional bristles 20. This is performed by applying a force on the template towards the second side 22 until the clips extending from the template engage the connection device 28 on the handle 12. The all-sided mouthbrush 10 is now ready for use.

The user will brush the teeth in the usual manner using the conventional toothbrush bristles. Once completed, the user will then use the alternate cleaning surface provided by the template and using a back and forth or side to side motion will scrub the alternate cleaning surface against the tongue and inner side of the mouth. This scrubbing will act to clean the tongue and inner side of the mouth of the user. The user may then rinse the mouth with any mouthwash in the packets 88 and 94.

Once finished the user will remove the template by applying a force in a direction opposite the connection force to disengage the clips from the connection device. The template will then be placed within its packet 88 and the packet 88 will be resealed. The second end 16 of the all-sided mouthbrush 10 will then be inserted into its packet 94 and the packet 94 will be resealed. The all-sided mouthbrush 10 and template will then be put away for use in the future.

The all-sided mouthbrush includes a handle having conventional toothbrush bristles extending from a side of one end thereof and a connection device for selectively receiving one of a plurality of templates on a side opposite the conventional toothbrush bristles, the plurality of templates including a template having a ridged surface for scraping the tongue and inner surfaces of the mouth, a template having bristles forming tufts for scraping the tongue and inner surfaces of the mouth, a template having spade shaped bristles for scraping the tongue and inner surfaces of the mouth and a template having a scouring-like pad for scrubbing the tongue and inner surfaces of the mouth. The all-sided mouthbrush may also include bristles which include an upper surface formed of a soluble crystal substance able to freshen the mouth of the user while brushing the teeth. The all-sided mouthbrush is able to be used as a platform for attaching various pads thereto which can scrape, clean and massage the tongue, gums and interior surfaces of the mouth with ointments, mouthwash and antiseptics such as hydrogen peroxide. The all-sided mouthbrush may also include a plurality of non-abrasive pads for massaging the tongue, gums and interior surfaces of the mouth of the user. Furthermore, the all-sided mouthbrush of the present invention is simple and easy to use and economical in cost to manufacture.

Claims

1. An all-sided mouthbrush for cleaning a mouth of a user, said all-sided mouthbrush comprising:

a) a handle including a first end having first and second sides;

b) bristles extending from said first side; and

c) an alternate cleaning device connected to said second side, wherein said bristles clean teeth of the user and when said alternate cleaning device is scrubbed against a tongue and inner side of the mouth thereby cleaning the tongue and inner side of the mouth of the user.

2. The all-sided mouthbrush as recited in Claim 1, wherein said alternate cleaning device includes a plurality of parallel ridges extending from all sides of said first end not occupied by said bristles for scraping the tongue and inner side of the mouth of the user.

3. The all-sided mouthbrush as recited in Claim 1, wherein said alternate cleaning device includes a plurality of columns of tuft-shaped bristles extending from all sides of said first end not occupied by said bristles for scraping the tongue and inner side of the mouth of the user.

4. The all-sided mouthbrush as recited in Claim 1, wherein said alternate cleaning device includes a plurality of spade headed bristles extending from all sides of said first end not occupied by said bristles for scraping the tongue and inner side of the mouth of the user.

5. The all-sided mouthbrush as recited in Claim 1, wherein said alternate cleaning device includes a scouring pad-like surface extending from all sides of said first end not occupied by said bristles for scraping the tongue and inner side of the mouth of the user.

6. The all-sided mouthbrush as recited in Claim 1, wherein said alternate cleaning device includes a plurality of off set rows of bristle-like structures extending from all sides of said first end not occupied by said bristles for scraping the tongue and inner side of the mouth of the user.

7. The all-sided mouthbrush as recited in Claim 6, wherein said bristle-like structures are made of soluble crystals.

8. The all-sided mouthbrush as recited in Claim 1, further comprising a resealable packet for receiving said first end of said handle when not in use.

9. The all-sided mouthbrush as recited in Claim 8, further comprising a freshening liquid positioned within said resealable packet for freshening said bristles and alternate cleaning device when positioned within said resealable packet.

10. The all-sided mouthbrush as recited in Claim 1, further comprising a plurality of templates each including a respective alternate cleaning surface and means for connecting one of said plurality of templates to said second side covering said alternate cleaning device.

11. The all-sided mouthbrush as recited in Claim 10, wherein said cleaning surface on each of said plurality of templates is one of a plurality of parallel ridges, a plurality of columns of tuft-shaped bristles, a plurality of spade headed bristles, a scouring pad-like surface and a plurality of off set rows of bristle-like structures made of soluble crystals.

12. The all-sided mouthbrush as recited in Claim 11, wherein each of said plurality of templates includes at least one clip extending therefrom and said connecting device includes at least one recess extending into said first end of said handle for receiving said at least one clip of a respective one of said plurality of templates.

13. The all-sided mouthbrush as recited in Claim 10, further comprising a resealable packet for receiving said first end of said handle when not in use.

14. The all-sided mouthbrush as recited in Claim 13, further comprising a freshening liquid positioned within said resealable packet for freshening said bristles and alternate cleaning device when positioned within said resealable packet.

15. The all-sided mouthbrush as recited in Claim 10, further comprising a plurality of pouches, each pouch receiving a respective one of said plurality of templates when not secured to said second side.

16. The all-sided mouthbrush as recited in Claim 15, further comprising a freshening liquid positioned within each of said plurality of pouches for freshening said bristles and alternate cleaning device when positioned within said resealable packet.

17. The all-sided mouthbrush as recited in Claim 13, further comprising a plurality of pouches, each pouch receiving a respective one of said plurality of templates when not secured to said second side.

18. The all-sided mouthbrush as recited in Claim 17, further comprising a freshening liquid positioned within each of said plurality of pouches for freshening said bristles and alternate cleaning device when positioned within said resealable packet.

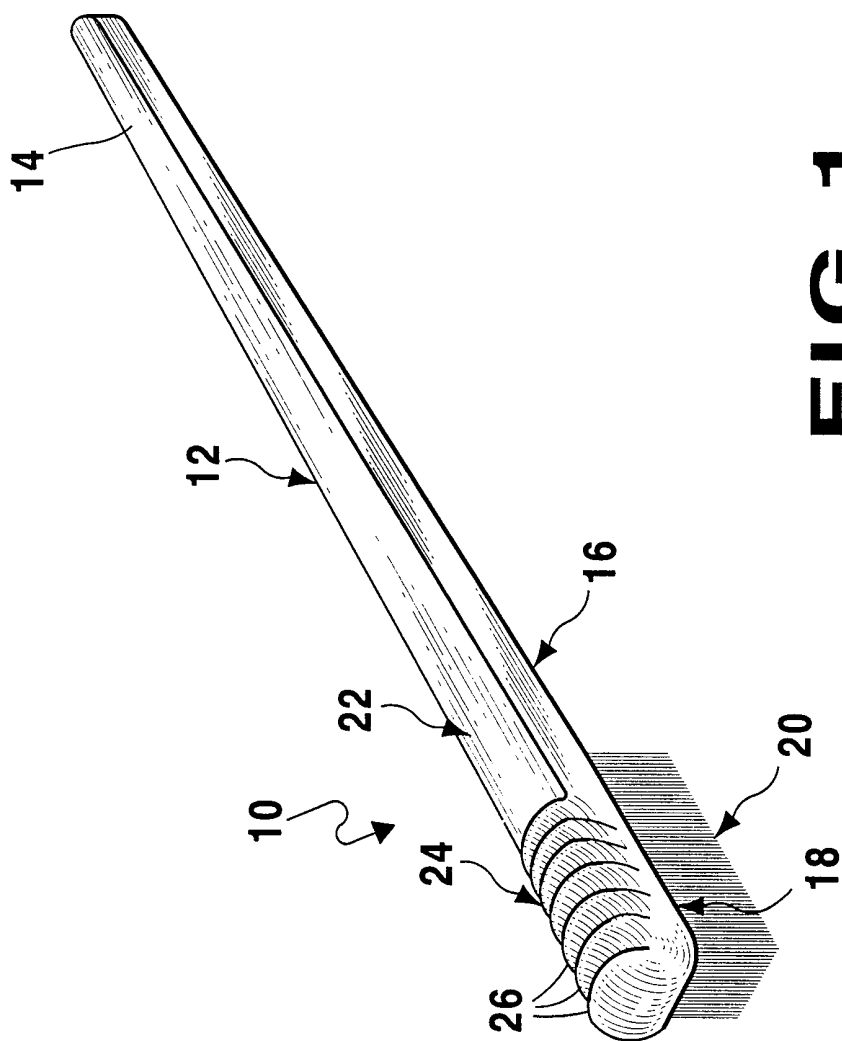


FIG 1

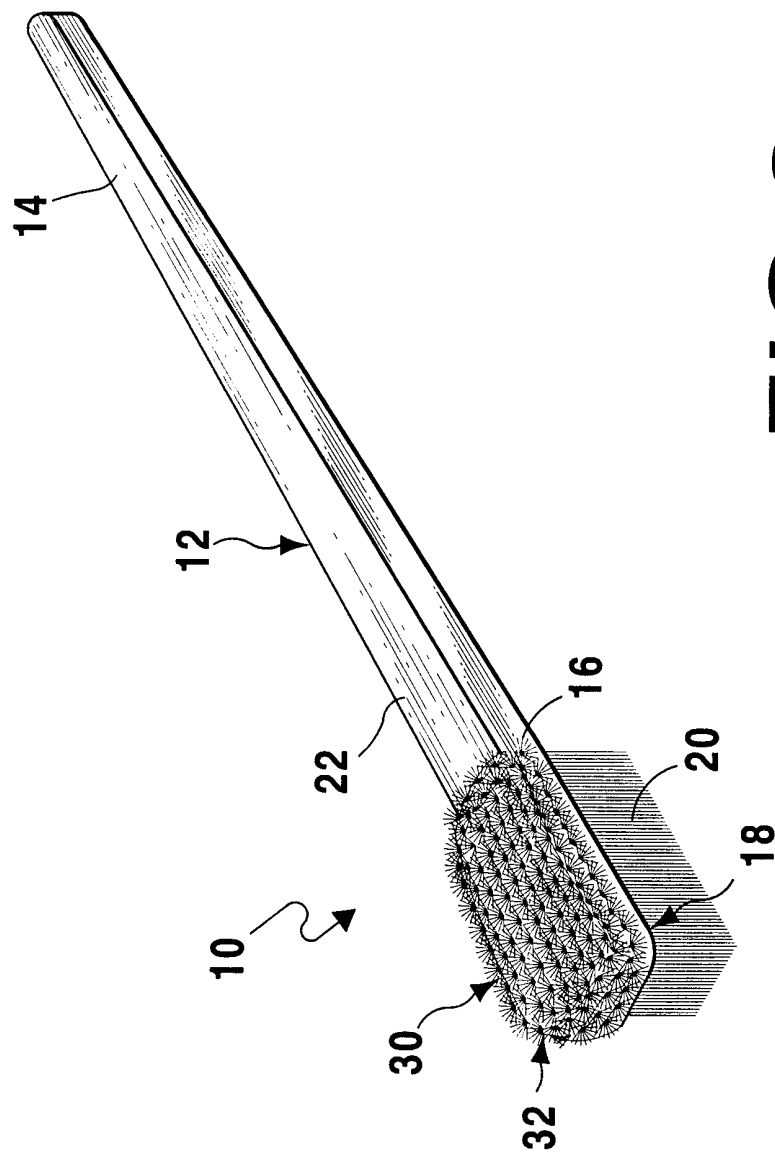


FIG 2

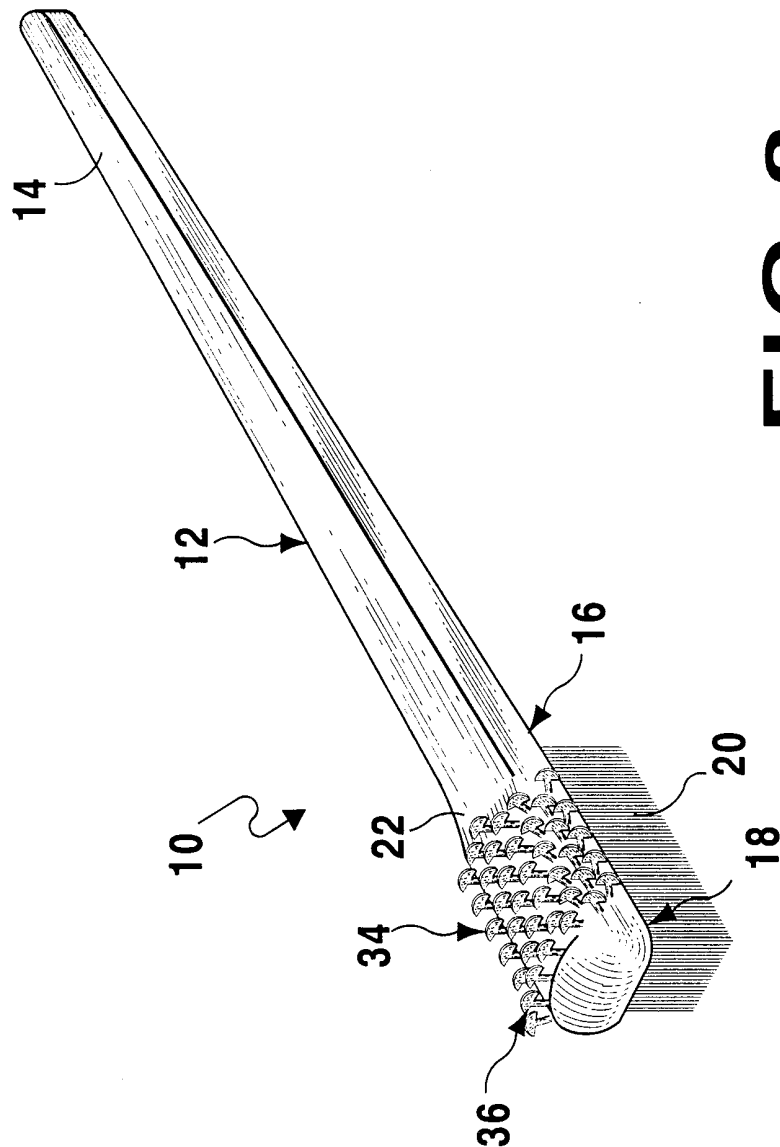


FIG 3

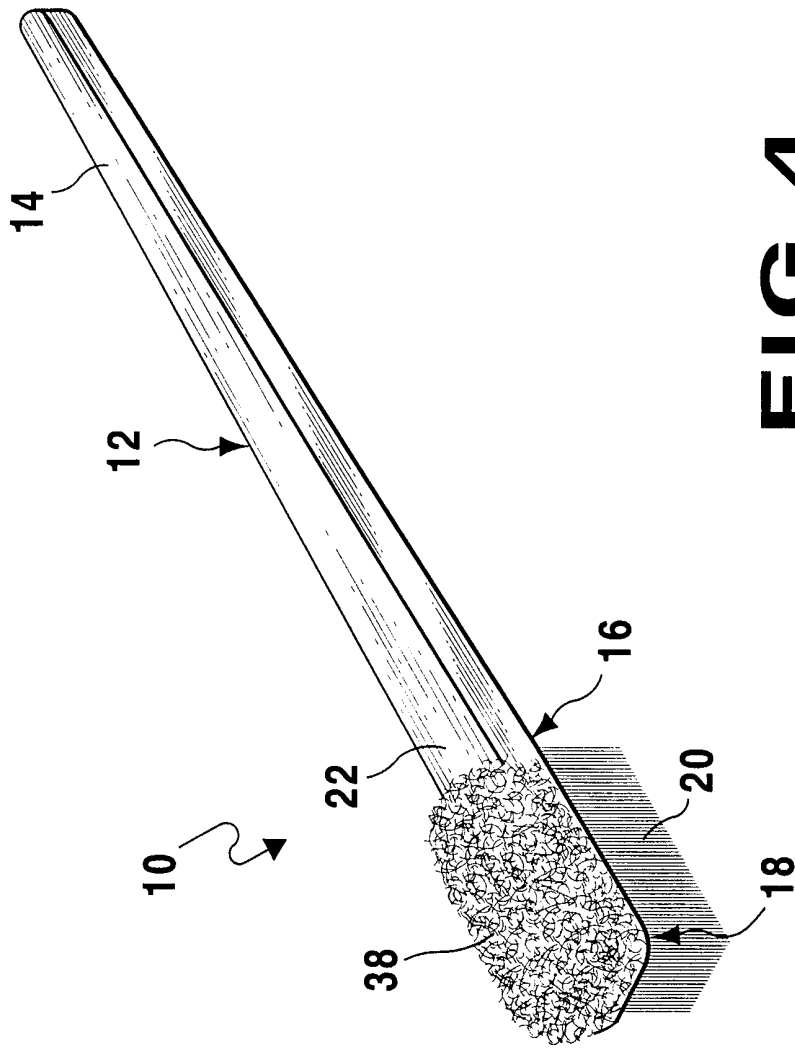


FIG 4

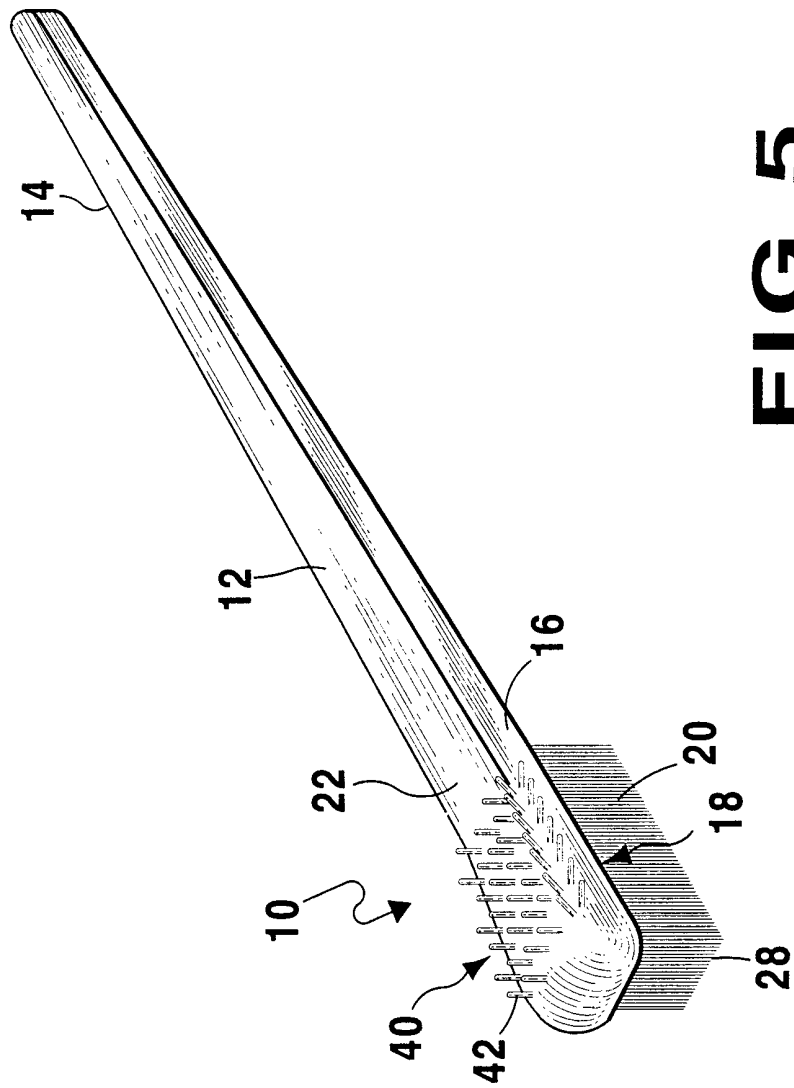


FIG 5

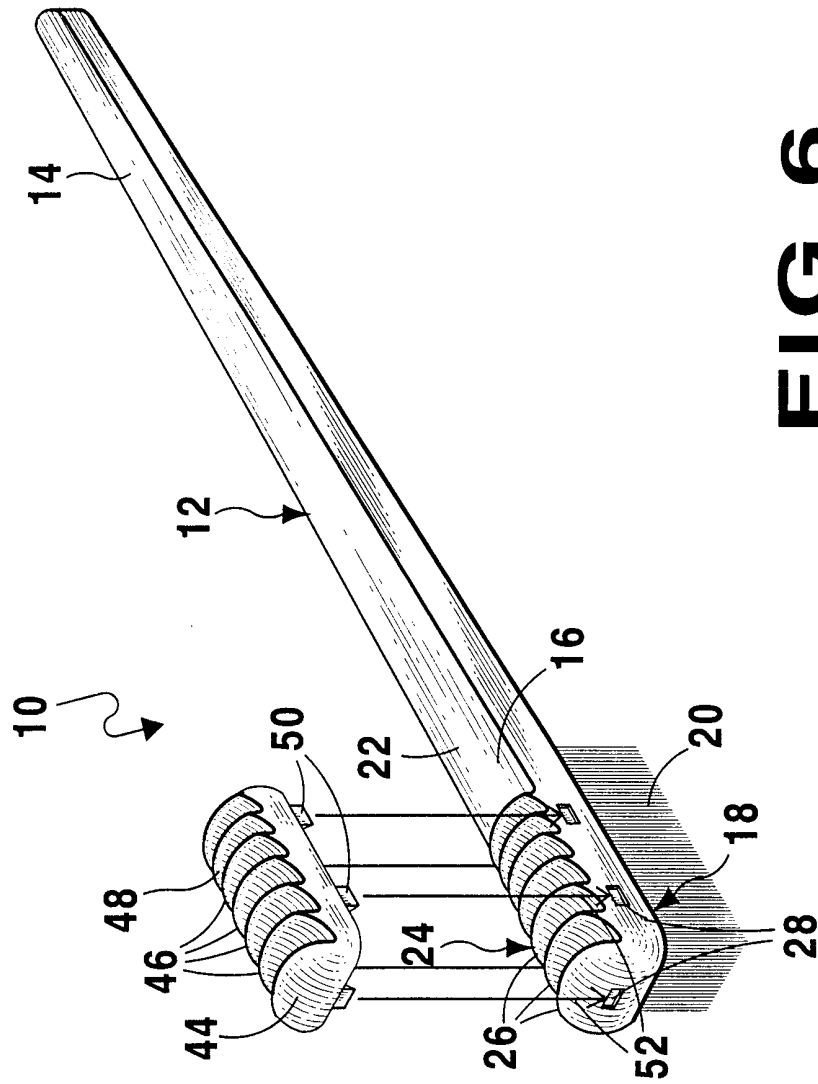


FIG 6

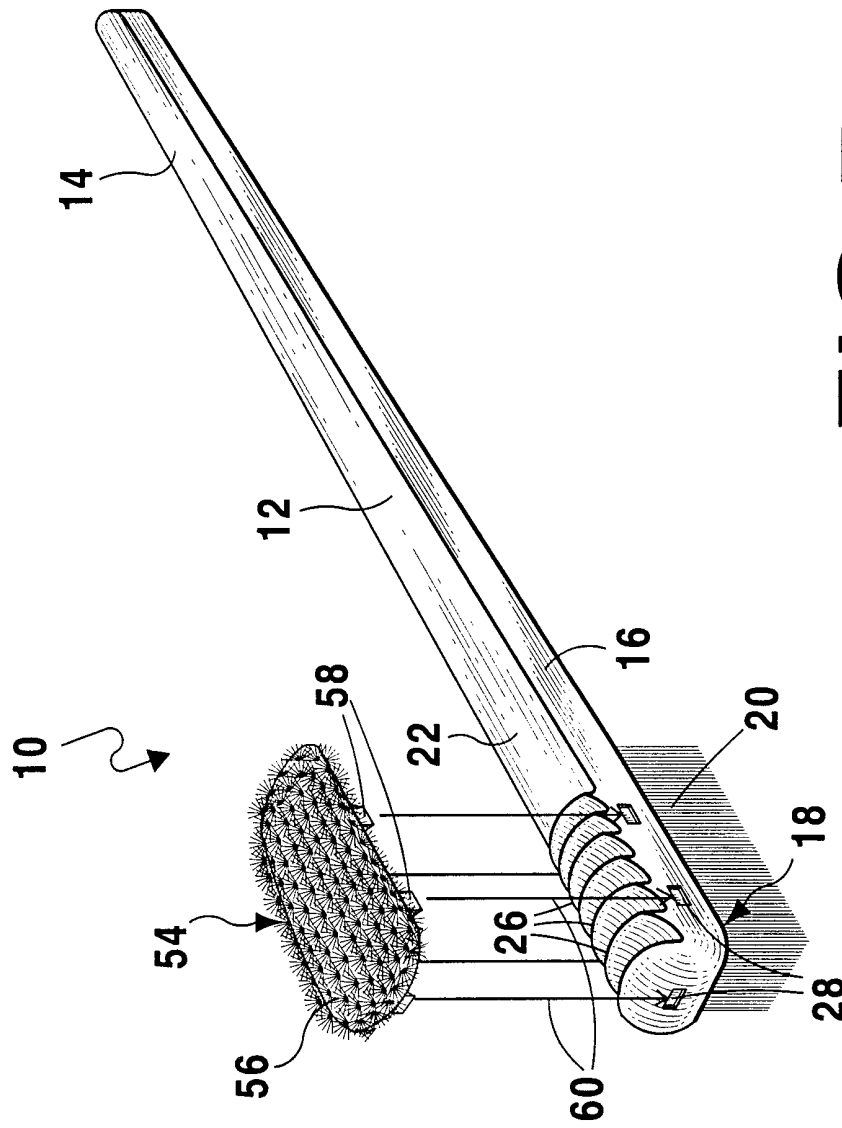


FIG 7

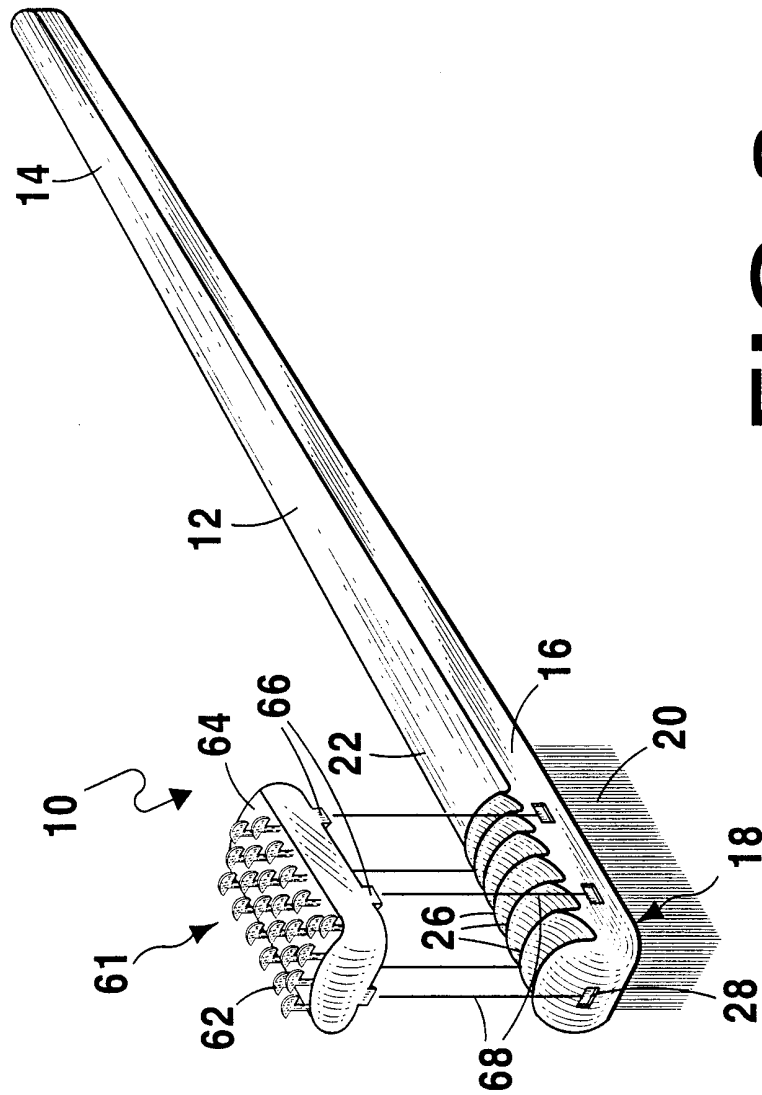


FIG 8

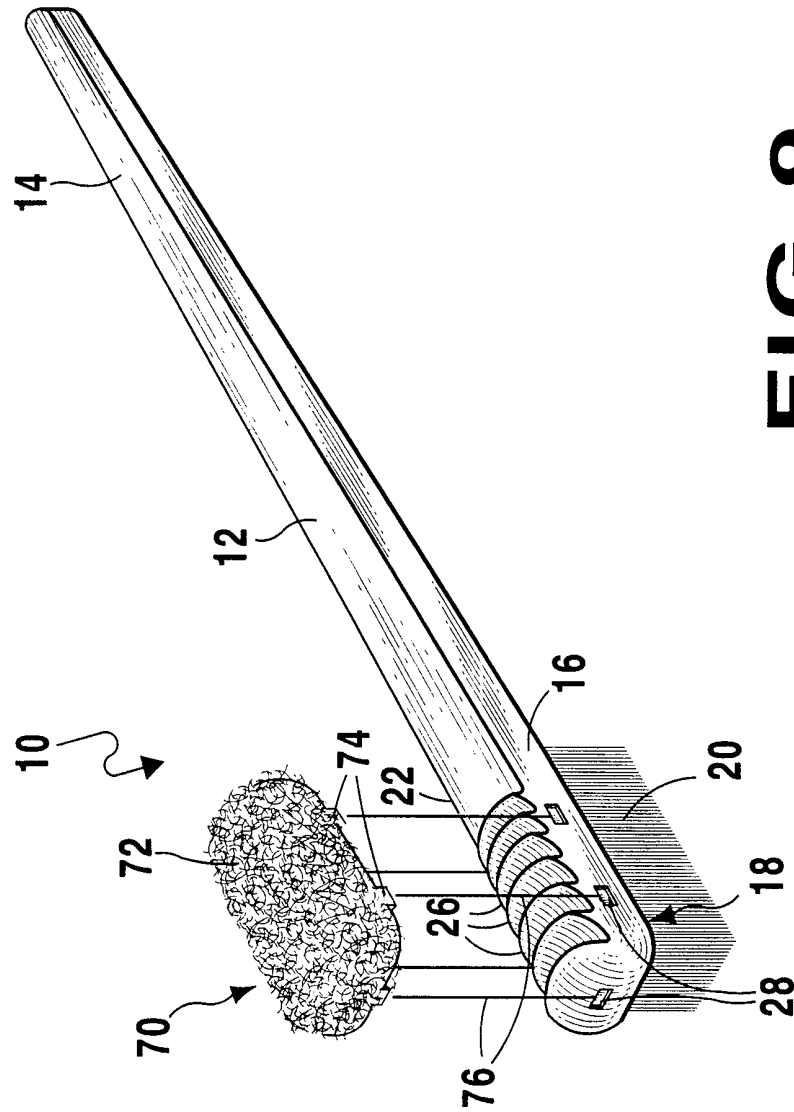


FIG 9

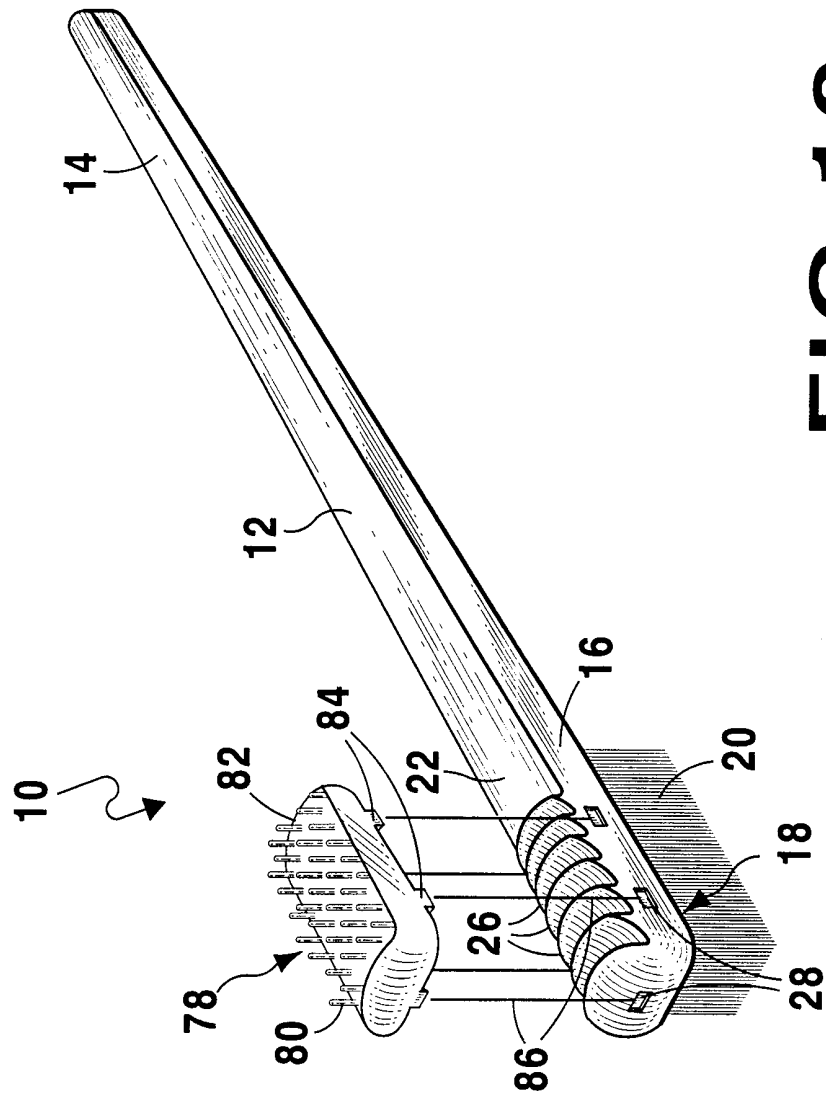


FIG 10

11/12

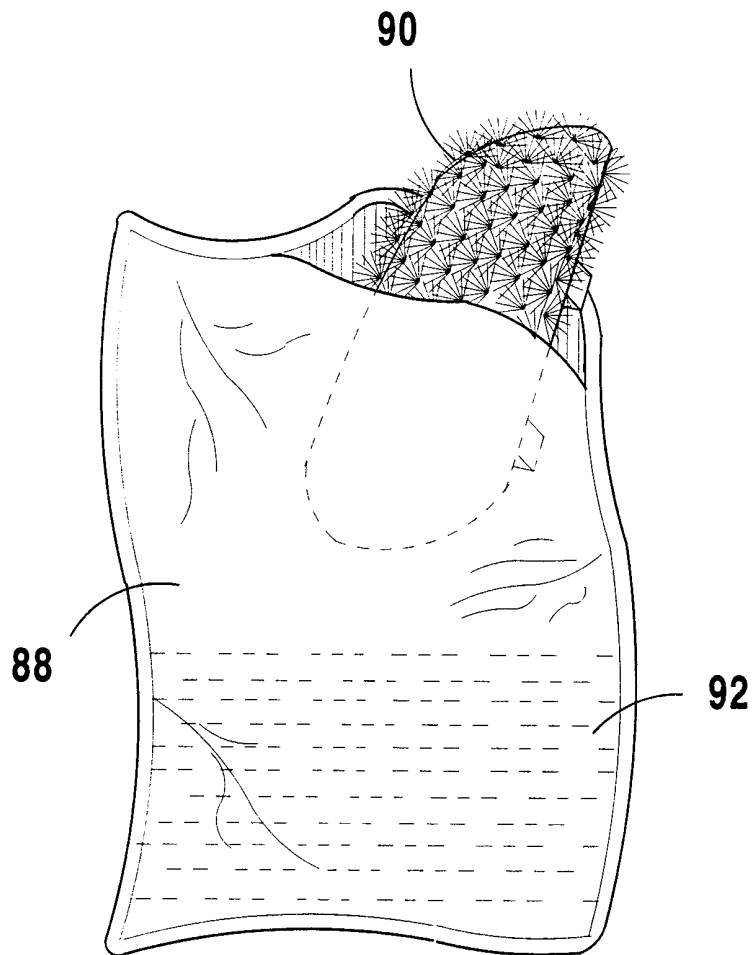


FIG 11

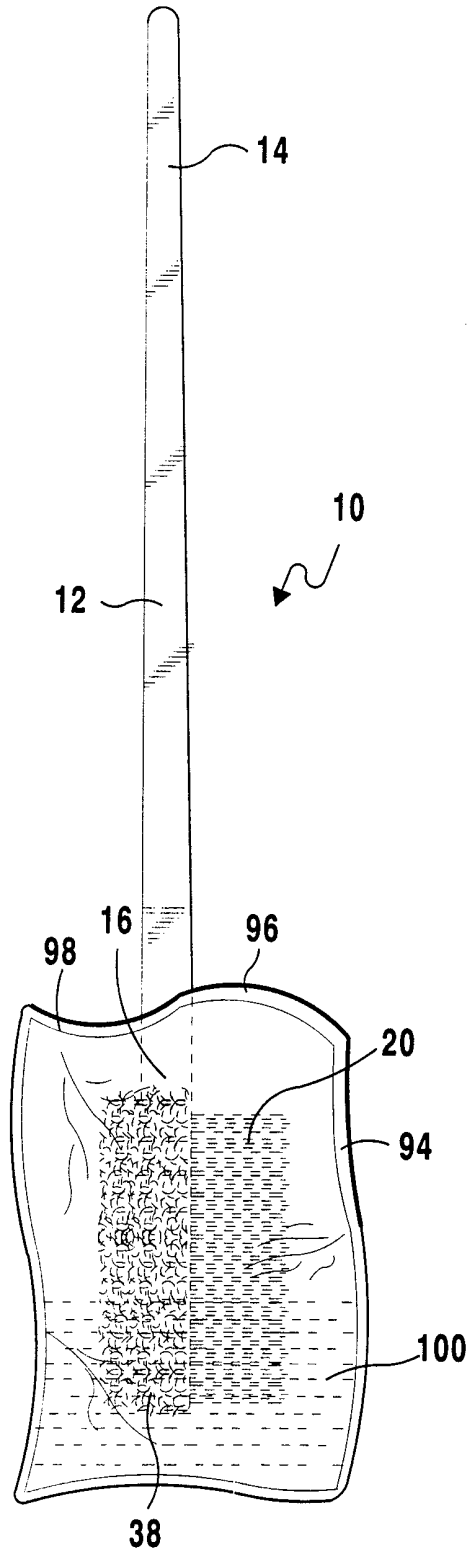


FIG 12

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/28998

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :A46B 9/04

US CL :15/106, 110, 111, 167.1, 176.1, 176.6

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 15/106, 110, 111, 167.1, 176.1, 176.6

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

NONE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ----- Y	US 5,544,383 A (GAMBLE) 13 August 1996, see entire document.	1, 3, 6 ----- 8, 9
X ----- Y	US 3,337,893 A (FINE et al.) 29 August 1967, see entire document.	1, 5 ----- 8, 9
X ----- Y	SU 1,708,283 A (IVANOV) 30 January 1992, see entire document.	1, 2 ----- 8, 9
Y	US 4,585,119 A (BOYINGTON) 29 April 1986, see entire document.	8, 9

 Further documents are listed in the continuation of Box C. See patent family annex.

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O document referring to an oral disclosure, use, exhibition or other means	
P document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International application No.
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4,167,794 A (POMEROY) 18 Spetember 1979, see entire document.	1-18
A	US 5,005,246 A (YEN-HUI) 09 April 1991, see entire document.	1-18
A	US 5,224,234 A (AESENAULT et al.) 06 July 1993, see entire document.	1-18