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A46B 9/04 (2006.01)(72) Inventor: **Diane Campbell**, Cumming, GA (US)(52) **U.S. Cl.**
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(57) **ABSTRACT**

An assembly and method for brushing a person's teeth is provided whereby the assembly has a unitary main body having an interior cavity accessible from one side of said assembly, a plurality of tooth brushing bristles, a tab support, and a movement tab, wherein said main body is constructed and arranged to be congruent with the general u-shaped profile of human teeth.

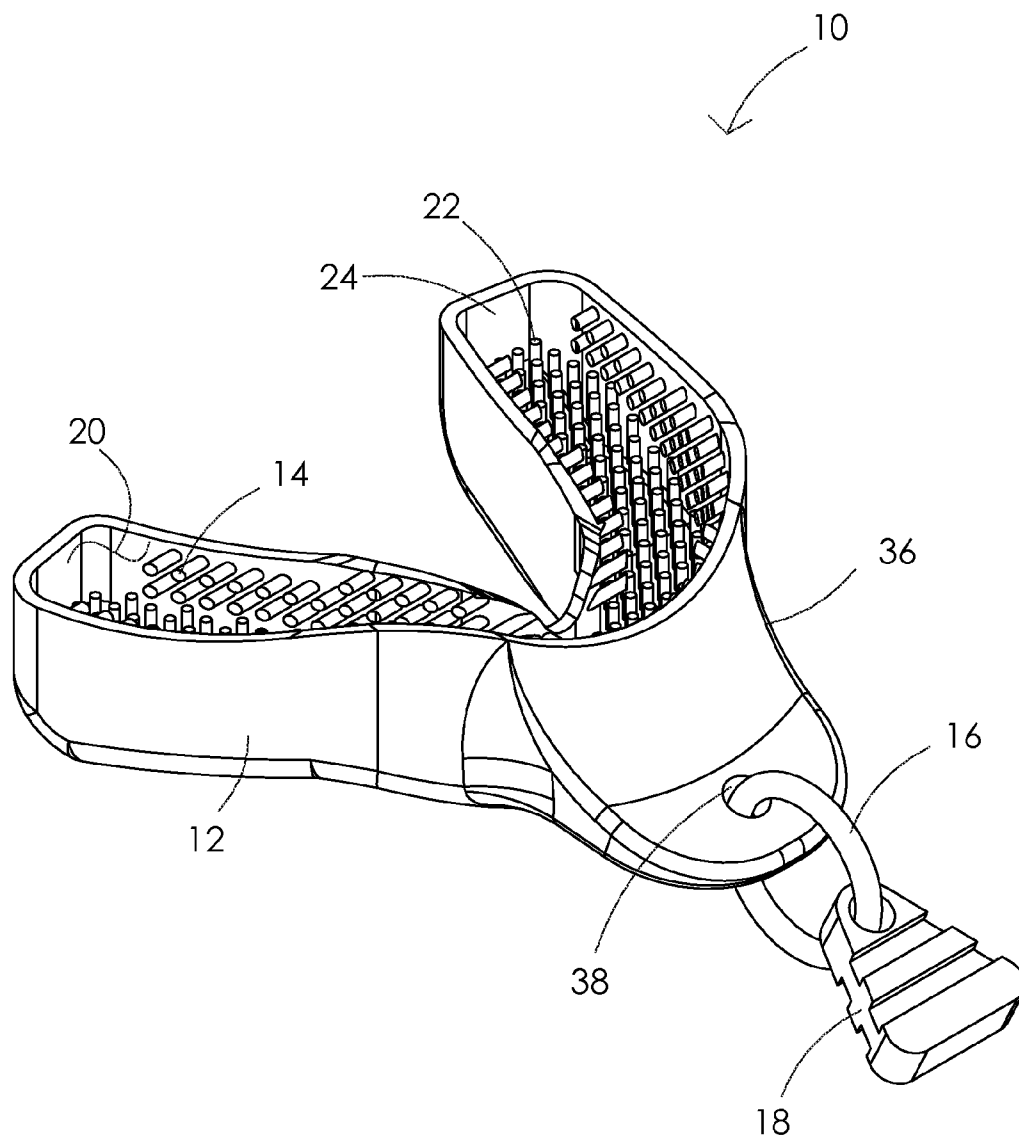


Fig. 1

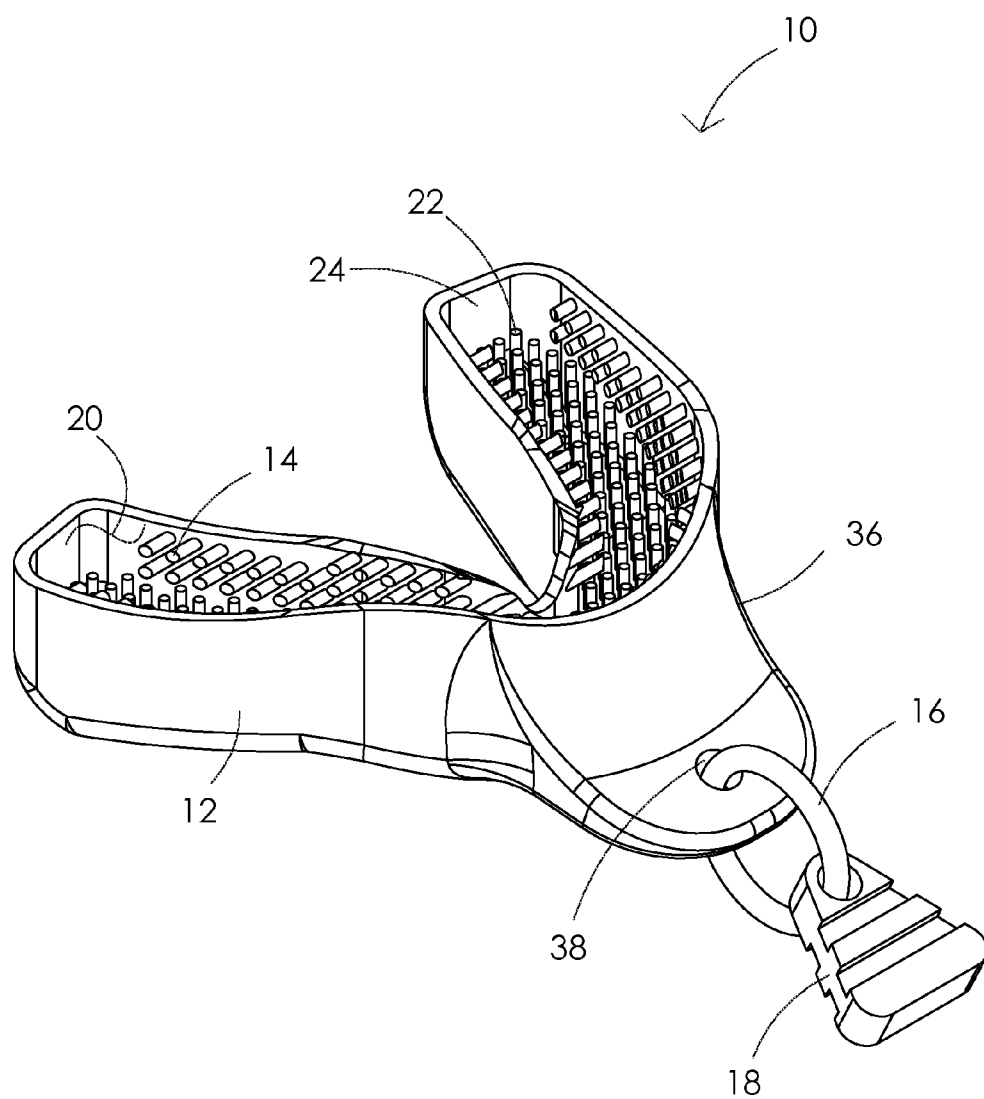
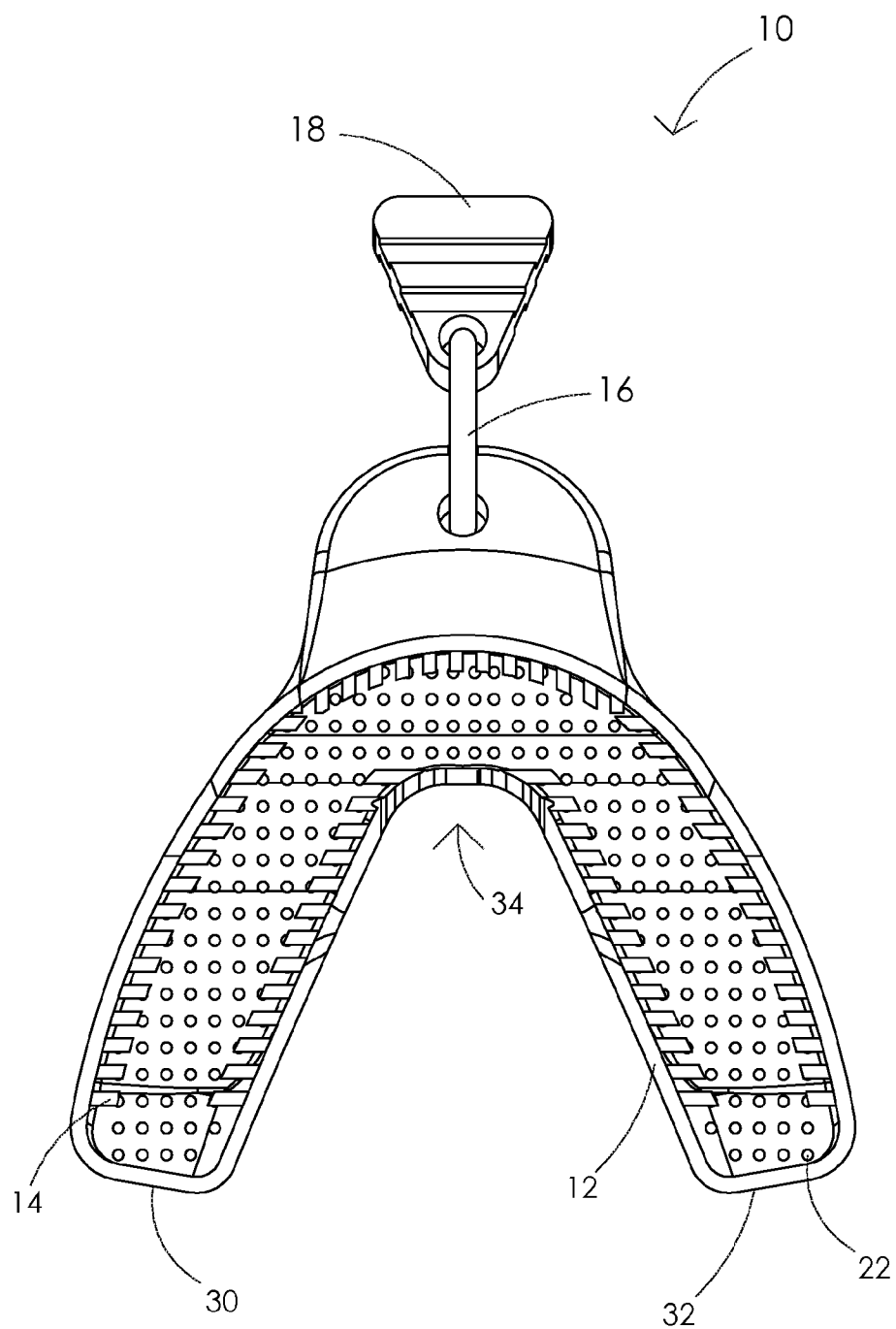


Fig. 2



TOOTH CLEANING DEVICE

INDEX TO RELATED APPLICATIONS

[0001] This application is a non-provisional of, and claims benefit to, U.S. Provisional Patent Application Ser. No. 61/603,804 filed Feb. 27, 2012 the disclosure of which is incorporated herein by reference in its entirety.

BACKGROUND OF THE INVENTION

Field of the Invention

[0002] The action of brushing a person's teeth is one in which most persons do not realize the level of complexity. There is a significant amount of precision and dexterity required in positioning the toothbrush over various portions of the dental profile in order to clean each of the individual teeth. Person's having dexterity issues relating any of physical or mental impairments that lead rise to dexterity issues have difficulty with the activity of brushing their teeth. The present invention addresses this by providing an assembly whereby the typical precision and accuracy required to effectively brush a person's teeth is greatly reduced. The assembly provides a curved apparatus with a curvature substantially congruent to the shape of the tooth profile, i.e., somewhat U shaped in order to contact the teeth in a manner that does not require significant physical dexterity.

SUMMARY OF THE INVENTION

[0003] In one embodiment, the present invention is an assembly for brushing a person's teeth, said assembly comprising:

[0004] a unitary main body having an interior cavity accessible from one side of said assembly;

[0005] said cavity having a plurality of tooth brushing bristles disposed therein;

[0006] said assembly having a tab support integral with said main body;

[0007] said tab support constructed and arranged to hold a movement tab;

[0008] wherein said main body is constructed and arranged to be congruent with the general u-shaped profile of human teeth.

[0009] In one embodiment, the plurality of bristles includes bristles disposed in a single direction. In another embodiment, bristles includes bristles disposed in more than one direction including bristles disposed in a horizontal direction and bristles disposed in a vertical direction.

[0010] The bristles, in one embodiment, are formed of different physical characteristics relative to placement of the assembly in the mouth of user. That is to say the different physical characteristics are formed based on bristle position relative to contact with specific types of teeth.

[0011] Also contemplated in the present invention is a method for cleaning teeth said method comprising the steps of:

[0012] providing a user with an assembly according to claim 1;

[0013] placing at least one dental cleaning material in said cavity;

[0014] positioning said assembly in the mouth in a position congruous with the dental profile of said user;

[0015] grasping the movement tab;

[0016] moving the grasped movement tab, the moving providing motion to the assembly positioned in the mouth;

[0017] removing the assembly.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

[0018] FIG. 1 is a side perspective view of the brush assembly of the present invention.

[0019] FIG. 2 is a top view of the brush assembly of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0020] As generally understood, a person will receive assembly 10 constructed and arranged for fitting the profile of their teeth. The generally understood profile or the arrangement of teeth in a person's mouth is substantially a "U" shape. The assembly 10 of the present invention has a first end 30 and a second end 32 formed into substantially a U shape with a main body curve portion 34 constructed therein.

[0021] Assembly 10 has an outer boundary wall 12 and an inner boundary wall 24. Inner boundary wall 24 defines central cavity 20. Central cavity 20 has therein a plurality of bristles or bristle like projections constructed and arranged for cleaning teeth.

[0022] In one embodiment, outer boundary wall 12 and an inner boundary wall 24 are formed of a unitary construction. In another embodiment, each of outer boundary wall 12 and an inner boundary wall 24 are formed separately and have different physical characteristics including, but not limited to hardness, flexibility, pliability, combinations thereof, and the like.

[0023] Cavity 20 has vertical bristles 22 and horizontal bristles 14 disposed therein. Formed integral with assembly 10 is tab support 36 constructed with ring orifice 38 thereon. Ring orifice 38 supports ring 16 that holds movement tab 18 onto assembly 10. A user optionally can fill inner cavity 20 with toothpaste or other appropriate cleaning material in order to assist with the cleaning process. In use, when toothpaste or cleaning material is used, the cleaning material (not shown) is placed into cavity 20 as desired. Assembly 10 is positioned on the profile of a user's teeth and a user utilizes tab 18 in order to move assembly 10 inside the mouth while each of horizontal bristles 14 and vertical bristles 22 are contacting the teeth. When the brushing operation is finished, at a user's discretion, the user will removal assembly 10 and can proceed to rinse their mouth.

[0024] Assembly 10 of the present invention represents a significant improved device for persons having various dexterity issues with the operational aspects of brushing their teeth. There is a significant amount of dexterity and precision required in the tooth brushing activity with a conventional toothbrush. By providing an assembly such as that of the present invention the issues relating to dexterity are significantly reduced.

[0025] As generally understood assembly 10 being intended to be used as a dental cleaning device is constructed and arranged of materials appropriate for the desired environment of use. For example, outer boundary wall 12 and inner boundary wall 24 are constructed of suitable material with appropriate rigidity and durability to function as a dental cleaning device. Materials include, but are not limited to rubber, plastics, polymers, composites, combinations

thereof, and the like. Additionally, it is contemplated that although outer boundary wall **12** and inner boundary wall **24** are integral one with another; they may be constructed and arranged with differences in physical characteristics, as discussed above.

[0026] Furthermore, although horizontal bristles **14** and vertical bristles **22** are demonstrated, the present invention is not intended to be limited to these two particular bristle arrangements. Other angular bristle arrangements inside cavity **20** are contemplated. Additionally, horizontal bristles **14** and vertical bristles **22** are intended to be constructed and arranged utilizing the same bristle material or different bristle materials as desired. Furthermore, bristles within the arrangement can have varying hardness, shape, thickness and other characteristics. As one non-limiting example, vertical bristles **22** that are closer to each of first end **30** and second end **32** could have a different physical characteristic than those bristles closer to main body curve **34**. Main body curve **34** is constructed to provide bristles in this area of assembly **10** in order to clean upper and lower incisors. Whereas along each of the two branches of assembly **10**, as you approach each first end **30** and second end **32** bristles, are constructed and arranged to clean cuspids, bicuspid and molars.

[0027] Because different regions of assembly **10** are intended to clean different types of teeth at varying positions in the oral cavity, bristles can be constructed and arranged both by their physical position and compositional characteristics based on the intended position in the oral cavity and characteristics of particularized teeth relative to the tooth position when using assembly **10**.

[0028] In one embodiment, assembly **10** of the present invention is constructed and arranged to clean either upper teeth or lower teeth. It is further contemplated that an assembly be provided whereby a pair of assemblies according to the present invention are interconnected and will simultaneously clean upper and lower teeth.

[0029] While the invention has been described in its preferred form or embodiment with some degree of particularity, it is understood that this description has been given only by way of example and that numerous changes in the details of

construction, fabrication, and use, including the combination and arrangement of parts, may be made without departing from the spirit and scope of the invention.

I claim:

1. An assembly for brushing a person's teeth, said assembly comprising:

a unitary main body having an interior cavity accessible from one side of said assembly;

said cavity having a plurality of tooth brushing bristles disposed therein;

said assembly having a tab support integral with said main body;

said tab support constructed and arranged to hold a movement tab;

wherein said main body is constructed and arranged to be congruent with the general u-shaped profile of human teeth.

2. The assembly of claim **1** wherein said plurality of bristles includes bristles disposed in a single direction.

3. The assembly of claim **1** wherein said plurality of bristles includes bristles disposed in more than one direction.

4. The assembly of claim **1** wherein said bristles include a plurality of bristles disposed in a horizontal direction and a plurality of bristles disposed in a vertical direction.

5. The assembly of claim **1** wherein said bristles are formed of different physical characteristics relative to placement of the assembly in the mouth of user and said different physical characteristics are formed based on bristle position relative to contact with specific types of teeth.

6. A method for cleaning teeth said method comprising the steps of:

providing a user with an assembly according to claim **1**;

placing at least one dental cleaning material in said cavity;

positioning said assembly in the mouth in a position congruous with the dental profile of said user;

grasping the movement tab;

moving the grasped movement tab, the moving providing

motion to the assembly positioned in the mouth;

removing the assembly.

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