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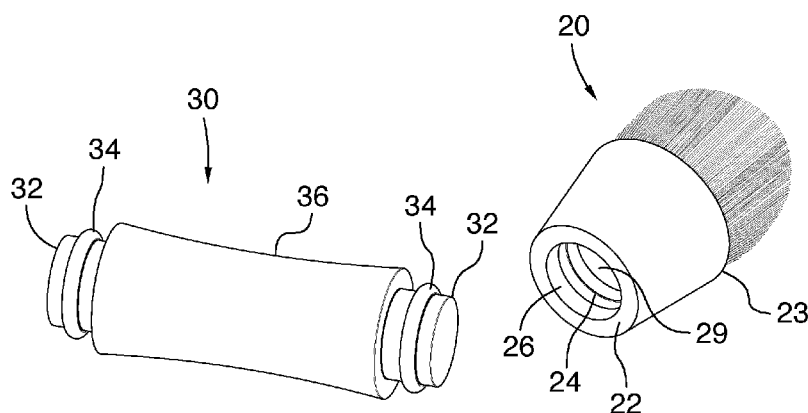


FIG. 3B

(57) Abstract: Disclosed is a makeup applicator with interchangeable brush and sponge heads. An embodiment of the invention may include two heads (*e.g.*, brush, sponge, *etc.*) that are replaceable and/or interchangeable using a reversible connector. The applicator preferably includes a silicone stalk with a connector projecting from each end. Each connector is preferably composed of silicone and includes a rim adapted to securely engage the brush and/or sponge heads. Preferably, the heads are composed of the same material as the stalk. The heads preferably define a hollow base adapted to securely receive the connectors to facilitate the application of makeup. The heads may preferably be removed by a user when desired and replaced with an alternate brush and/or sponge head. The applicator of the present invention may optimize space in a user's makeup case, save costs, and/or be travel friendly. The present invention is preferably for use with cosmetic application, where different brush heads may be required to apply different forms of makeup (*e.g.*,



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AN APPARATUS FOR APPLYING MAKEUP AND USE THEREOF

FIELD OF THE INVENTION

[0001] The present invention relates generally to the beauty and/or grooming industry, and more particularly to an applicator including one or more replaceable and/or
5 interchangeable heads adapted for applying different forms of makeup (e.g., liquid, cream, powder, etc.) and/or personal grooming.

BACKGROUND OF THE INVENTION

[0002] Previously, makeup users may have been required to purchase separate makeup applicators for each type and form of makeup. This may have led to makeup cases
10 overflowing with brushes and applicators, and no space available to store other products and/or accessories (e.g., makeup, skincare products, etc.). Additionally, many prior art makeup brushes may have long brush handles, making it difficult to store in makeup cases and especially challenging to travel with them. These long makeup brushes may typically stick
out of makeup cases as they are too long for standard cases to allow for complete and/or
15 proper closure. Furthermore, makeup users may have no choice but to discard makeup brushes and other applicators after much use and buy new makeup brushes and/or sponges.

[0003] Applicators of the prior art – which may have included the makeup brush kit described in U.S. Patent No. 8,074,666 to Anisa International, Inc. – may have included
interchangeable brush heads and/or a makeup brush kit comprised of a brush head, a ferrule
20 and a handle, relying on multiple magnets to hold the brush head and handle together. The

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use of a magnetic locking system may make the brush heavier and/or uncomfortable for the user to hold during makeup application. In addition, magnetic locking systems may be unreliable. Magnets may not be secure enough for makeup application, as makeup application requires a user to apply force to the applicator tool (causing friction) and magnets may lose
5 their magnetic attraction in this process causing the applicator handle and brush head to detach, potentially making the tool ineffective. Furthermore, if the brush detaches during the makeup application, the metal materials used may be abrasive and potentially cause injury to the user. Lastly, the use of metal components may be subject to rust over time.

[0004] What may be needed is an applicator with interchangeable heads that are
10 securely attached during makeup application without the use of magnets.

[0005] Accordingly, there is a need for an improved makeup applicator adapted for use with interchangeable heads. What may be needed is an apparatus and/or method that overcomes one or more of the limitations associated with the prior art.

SUMMARY OF THE INVENTION

15 **[0006]** The present invention includes a makeup applicator with at least one head that is replaceable and/or interchangeable using a reversible connector. The applicator preferably includes a stalk with a connector projecting from one or more ends. Preferably, the stalk and connector(s) are formed from a resilient material (e.g., silicone rubber). Each connector may project from the stalk and preferably includes a rim adapted to securely engage the
20 brush and/or sponge heads. The brush and/or sponge heads are preferably composed of a resilient material (e.g., silicone rubber). The heads are preferably adapted to define a hollow

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base, or portion, for securely receiving the connectors. Attachment of the head(s) to the stalk preferably facilitates makeup application. The brush and/or sponge heads are preferably removed by the user when desired and replaced with a different brush head and/or sponge head or placed in storage. Different brush heads may be required to apply
5 different forms of makeup (e.g., liquid, cream, powder, etc.) and/or apply makeup to different areas of the face (e.g., cheeks, eyes, etc.).

[0007] According to an aspect of one preferred embodiment of the invention, the applicator may reduce the number of makeup brush handles (or stalks) of a user which may result, for example, in an increase in space in the user's makeup case. This increase in space
10 may be utilized for other products (i.e., allows a user to have one makeup applicator handle with multiple attachments).

[0008] According to an aspect of one preferred embodiment of the invention, the short length of the applicator may facilitate storage (e.g., makeup cases, small handbags, etc.) and portability.

15 **[0009]** According to an aspect of one preferred embodiment of the invention, old and/or damaged brushes and/or sponges may be replaced without discarding the entire system, which preferably results in cost savings to the user.

[0010] According to an aspect of one preferred embodiment of the invention, detachment and replacement of brush and/or sponge heads facilitates customization of the makeup
20 applicator to suit the needs of the user while optimizing storage space.

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[0011] According to an aspect of one preferred embodiment of the invention, the use of silicone as the resilient material facilitates hygiene and ease of cleaning (e.g., the entire system may be washed as compared to the brush hair and/or sponge tip of prior art applicators).

[0012] According to an aspect of one preferred embodiment of the invention, the use of
5 silicone as the resilient material may reduce harm to the epidermis of the user during use.

[0013] According to an embodiment of the invention, there is provided an applicator for use by a user for applying makeup. The applicator includes a first head having a first attachment end with a first head wall defining a first attachment portion adapted to receive a first tool for makeup application; and a first engagement end having a first engagement wall
10 defining a first receiving portion, the first engagement wall further defining a first channel within the first receiving portion. The applicator also includes a stalk having a first end and a second end. The stalk includes a first connector projecting from the first end of the stalk, the first connector adapted to be reversibly received within the first receiving portion of the first engagement end; and a first rim projecting from a surface of the first connector and
15 adapted to be reversibly received within the first channel to securely attach the first head on the stalk when the applicator is in use by the user.

[0014] In an additional feature, the applicator further includes a second head having a second attachment end with a second head wall defining a second attachment portion adapted to receive a second tool for makeup application; and a second engagement end
20 having a second engagement wall defining a second receiving portion, the second engagement wall further defining a second channel within the second receiving portion. The stalk includes a second connector projecting from the second end of the stalk, the second

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connector adapted to be reversibly received within the second receiving portion of the second engagement end; and a second rim projecting from a surface of the second connector and adapted to be reversibly received within the second channel to securely attach the second head on the stalk when the applicator is in use by the user.

5 **[0015]** In another feature, the tool is a brush or a sponge.

[0016] In yet another feature, the applicator further includes a ferrule associated with an end of the tool, the ferrule adapted to clamp the tool and secure the tool within the attachment portion.

[0017] In still another feature, the ferrule secures the tool within the attachment portion
10 using a friction fit or an adhesive means.

[0018] In another feature, the stalk further includes a handle to facilitate manipulation of the applicator by the user during use.

[0019] In an additional feature, the first head, second head and stalk are composed of a silicone material.

15 **[0020]** According to a further embodiment, there is also provided a method of using an applicator by a user for makeup application. The method includes: providing a head including an attachment end having a head wall defining an attachment portion adapted to receive a tool for makeup application; and an engagement end having an engagement wall defining a receiving portion, the engagement wall further defining a channel within the
20 receiving portion. A stalk is further provided having a first end and a second end. The stalk includes a connector projecting from the first end of the stalk, the connector adapted to be

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reversibly received within the receiving portion of the engagement end; a rim projecting from a surface of the connector and adapted to be reversibly received within the channel to securely attach the head on the stalk when the applicator is in use by the user. The connector is inserted into the receiving portion until the rim mates with the channel when the applicator is in use and the connector is removed from the receiving portion by un-mating the rim from the channel to disassemble the applicator.

[0021] In a feature, the method includes providing a tool that is a brush or a sponge.

[0022] In another feature, the method includes clamping an end of the tool using a ferrule to secure the tool within the attachment portion.

10 **[0023]** In yet another feature, the method includes a step of using the ferrule to secure the tool within the attachment portion using a friction fit or by applying an adhesive.

[0024] In a further feature, the method includes applying a handle or grip to a surface of the stalk to facilitate manipulation of the applicator by the user during use.

[0025] According to a further embodiment, there is provided an applicator for use by a user for applying makeup. The applicator includes a stalk having a first end and a second end. The stalk includes a first engagement end, at the first end, having a first engagement wall defining a first receiving portion, the first engagement wall further defining a first channel within the first receiving portion. A first head is also included having a first attachment end and a first base, the first attachment end having a first head wall defining a first attachment portion adapted to receive a first tool for makeup application. A first connector projects from the first base, the first connector adapted to be reversibly received

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within the first receiving portion of the first engagement end. A first rim projects from a surface of the first connector and is adapted to be reversibly received within the first channel to securely attach the first head on the stalk when the applicator is in use by the user.

[0026] In yet another feature, the stalk further includes a second engagement end, at the second end, having a second engagement wall defining a second receiving portion, the second engagement wall further defining a second channel within the second receiving portion. A second head is included having a second attachment end and a second base with a second attachment end having a second head wall defining a second attachment portion adapted to receive a second tool for makeup application. A second connector projects from the second base, the second connector adapted to be reversibly received within the second receiving portion of the second engagement end. A second rim projects from a surface of the second connector and is adapted to be reversibly received within the second channel to securely attach the second head on the stalk when the applicator is in use by the user.

[0027] Other advantages, features and characteristics of the present invention, as well as methods of operation and functions of the related elements of the apparatus and method, and the combination of steps, parts and economies of manufacture, will become more apparent upon consideration of the following detailed description and the appended claims with reference to the accompanying drawings, the latter of which are briefly described herein below.

BRIEF DESCRIPTION OF THE DRAWINGS

[0028] The novel features which are believed to be characteristic of the apparatus and method according to the present invention, as to their structure, organization, use, and

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method of operation, together with further objectives and advantages thereof, will be better understood from the following drawings in which presently preferred embodiments of the invention will now be illustrated by way of example. It is expressly understood, however, that the drawings are for the purpose of illustration and description only, and are not intended as a definition of the limits of the invention. In the accompanying drawings:

[0029] FIGS. 1A to 1D are perspective, side, top and cross-sectional views, respectively, of a preferred embodiment of the stalk;

[0030] FIGS. 2A to 2D are perspective view of the head showing the engagement end, plan view of the head showing the engagement end, perspective view of the head showing the attachment end and a cross-sectional view, respectively, of a preferred embodiment of the head;

[0031] FIGS. 3A and 3B are a side view of the applicator with a brush and a sponge in accordance with a preferred embodiment and a perspective view of a stalk with an interchangeable head removed in accordance with a preferred embodiment, respectively;

[0032] FIG. 4 is a perspective view of a stalk and interchangeable heads in accordance with a preferred embodiment;

[0033] FIGS. 5A to 5F are front, side, top, bottom, cross-sectional, and perspective views, respectively, of a small ferrule in accordance with a preferred embodiment;

[0034] FIGS. 6A to 6F are front, side, top, bottom, cross-sectional, and perspective views, respectively, of a medium ferrule in accordance with a preferred embodiment;

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[0035] FIGS. 7A to 7F are front, side, top, bottom, cross-sectional, and perspective views, respectively, of a large ferrule in accordance with a preferred embodiment;

[0036] FIGS. 8A to 8F are front, side, top, bottom, cross-sectional, and perspective views, respectively, of a small head in accordance with a preferred embodiment;

5 [0037] FIGS. 9A to 9F are front, side, top, bottom, cross-sectional, and perspective views, respectively, of a medium head in accordance with a preferred embodiment;

[0038] FIGS. 10A to 10F are front, side, top, bottom, cross-sectional, and perspective views, respectively, of a large head in accordance with a preferred embodiment;

10 [0039] FIGS. 11A to 11B are a front view and cross sectional view, respectively, of a small head in accordance with a preferred embodiment;

[0040] FIGS. 12A to 12B are a front view and cross sectional view, respectively, of a medium head in accordance with a preferred embodiment;

[0041] FIGS. 13A to 13B are a front view and cross sectional view, respectively, of a large head in accordance with a preferred embodiment; and

15 [0042] FIGS. 14A to 14C are front views of an applicator, in accordance with a preferred embodiment, with (a) a medium head and a large head connected to the stalk; (b) a large head and a small head connected to the stalk; and (c) a medium head and a small head connected to the stalk.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0043] The description that follows, and the embodiments described therein, is provided by way of illustration of an example, or examples, of particular embodiments of the principles of the present invention. These examples are provided for the purposes of explanation, and not of limitation, of those principles and of the invention. In the description, like parts are marked throughout the specification and the drawings with the same respective reference numerals. The figures are not to scale and some features may be exaggerated or minimized to show details of particular elements while related elements may have been eliminated to prevent obscuring novel aspects. Therefore, specific structural and functional details disclosed herein are not to be interpreted as limiting but merely as a basis for the claims and as a representative basis for teaching one skilled in the art to variously employ the present invention.

[0044] As used herein, a person skilled in the relevant art may generally understand the term "comprising" to generally mean the presence of the stated features, integers, steps, or components as referred to in the claims, but that it does not preclude the presence or addition of one or more other features, integers, steps, components or groups thereof.

[0045] In order that the invention may be more fully understood, it will now be described, by way of example, with reference to the accompanying drawings in which **FIG. 1** through **FIG. 14** illustrate embodiments of the present invention.

[0046] Referring to **FIGS. 1A-D**, there is shown an embodiment of the stalk 30 in a perspective view, side view, top view and cross-sectional view, respectively, according to

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the present invention. As best seen in **FIGS. 1A-C**, the stalk 30 includes a handle portion 36 and a connector 32 projecting from each end of the handle portion 36. In alternate embodiments (not shown), the handle portion 36 only includes a connector 32 projecting from one end of the handle portion 36. The connector 32 is preferably integral with the handle portion 36. In some embodiments, however, the connector 32 is a separate component affixed to the handle portion 36. The connector 32 includes a rim 34 projecting from an outer surface of the connector 32 around a circumference. The handle portion 36 is preferably configured to facilitate use of the applicator by providing a surface for a user to grip and/or manipulate the applicator 10. The handle portion 36 is preferably concave in shape to increase comfort for the user. In alternate embodiments (not shown), the handle portion 36 may be cylindrical (i.e., have no lengthwise curvature) or be configured to have one or more finger grips (i.e., concave depressions for accommodating a finger).

[0047] **FIG. 1D** depicts the cross-sectional view of the stalk 30 along a longitudinal axis “A” and shows the connector 32, rim 34, and handle portion 36 formed as an integral piece.

[0048] Referring to **FIGS. 2A-D**, there is shown an embodiment of an interchangeable head 20 in a perspective view of the head 20 showing the engagement end 22, a plan view of the head 20 depicting the engagement end 22, a perspective view of the head 20 showing the attachment end 23, and a cross-sectional view respectively according to the present invention. As best seen in **FIG. 2A**, in a preferred embodiment, the engagement end 22 is formed by an engagement wall 26 that also defines a receiving portion and is adapted to reversibly receive the connector 32. As best shown in **FIGS. 2A** and **2D**, an interior surface

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of the engagement wall 26 further defines a channel 24 configured to receive the rim 34.

FIG. 2C depicts the head 20 including a head wall 28 that defines an attachment portion configured to securely attach a brush or sponge, as an example. As shown in **FIG. 2D**, a

head partition 29 is positioned between the engagement wall 26 and the head wall 28 (i.e., at

an interface of the receiving portion and the attachment portion). In preferable
embodiments, as shown in **FIGS. 2A, 2C, 2D, 3A, 3B** and **4**, the head 20 is configured to

have a smaller circumference at the end proximal to the stalk 30 (i.e., the engagement wall
end) and a larger circumference at the end distal to the stalk 30 (i.e., the head wall end). In a

preferred embodiment, as shown in **FIGS. 2A, 2C, 2D, 3A, 3B** and **4**, the head 20 is

provided in a conical frustum (or flared) shape.

[0049] During operation of the applicator 10, the interchangeable head 20 may
preferably be attached to the stalk 30 by positioning the connector 32 within the receiving
portion of the base 22 such that the rim 34 is received within the channel 24, as best shown
in **FIG. 3A**. To change the head 20 (i.e., disassemble the applicator 10), the interchangeable

head 20 is pulled away from the connector 32 such that the rim 34 is removed from the
channel 24, as best shown in **FIG. 3B**. In this configuration, the applicator 10 may

preferably include three components, including, two interchangeable heads 20 and a stalk
30. The heads 20 and the stalk 30 are assembled into the applicator 10 when a user desires

to apply makeup and disassembled into the component pieces when not in use (e.g., for

storage) or to change the heads 20 (e.g., changing size or type of brush / sponge head or
changing the brush for a sponge or vice versa).

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[0050] As shown in **FIG. 1B**, in a preferred embodiment, the length of the stalk 30 is defined by S_A ; the width of the stalk 30 is defined by S_B ; the radius of the connector 32 is defined by C_A ; and the radius of the rim 34, as measured from the midpoint of the stalk 30 (defined by longitudinal line “A”), is defined by C_B .

5 [0051] In a preferable embodiment, the value of S_A is about 55.4 mm, the value of S_B is about 16.6 mm, the value of C_A is about 6.2 mm and the value of C_B is about 7.0 mm.

[0052] As shown in **FIG. 2D**, the radius of the head partition 29 on the surface adjacent the head wall 28, from longitudinal axis “B”, is defined by R_A ; and the radius of the head wall 28 at a position distal from the head partition 29 is defined by R_B . In addition, the
10 depth of the head wall 28 (i.e., from the head partition 29 to the end of head wall 28) is defined by H_A . In preferable embodiments, as best shown in **FIG. 2D**, a first predetermined depth of the inner surface of the head wall 28 is configured to be substantially parallel to the engagement wall 26 defining the receiving portion and a second predetermined depth of the inner surface of the head wall 28 is configured to flare outwards at a predetermined angle
15 “ Θ ” (i.e., to a predetermined value of R_B). The depth of the straight portion is defined by H_B . The depth of the flared portion is defined by H_C . The dimensions of the receiving portion defined by the engagement wall 26 and the channel 24, preferably complement the dimensions of the connector 32 and rim 34.

[0053] In a preferable embodiment, the value of R_A is about 7.3 mm, the value of R_B is
20 about 10.8 mm, the value of H_A is about 9.0 mm, the value of H_B is about 5.5 mm, and the value of H_C is about 4.5 mm.

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[0054] In a preferred embodiment, H_A may differ depending on whether the head 20 is configured to attach a brush or a sponge, as well as with the size and/or shape and type of brush or sponge. As best shown in **FIG. 4**, the value of H_A may be greater when the head 20 attaches a brush and smaller when the head 20 attaches a sponge. In some embodiments, the value of H_C is greater when the head 20 attaches a brush (i.e., a larger flared portion). In general, regardless of the size and/or circumference of the attachment end 23 (i.e., the value of R_B for example), the size and/or circumference of the engagement end 22 is adapted to receive the connector 32 of the stalk 30 such that all of the brushes and sponges intended for use on the face can connect to the same stalk 30. In alternate embodiments, a stalk 30 adapted for use as a hair brush or an eye brush may be provided. Persons skilled in the art will appreciate that stalks intended for use as a hair brush or as an eye brush may have different dimensions as compared to a stalk for applying makeup to the face.

[0055] In a preferred embodiment, sponges are affixed to the interchangeable head 20 by, for example, an adhesive applied between a surface of the sponge and a surface of the engagement wall 26 and/or head partition 29. Although persons skilled in the art will appreciate that a number of different types of adhesives may be used, the adhesive should securely attach the sponge to the head 20 and preferably be non-toxic to the skin.

[0056] Persons skilled in the art will appreciate that ferrules are generally used for fastening, joining, sealing or reinforcing objects. Ferrules may be narrow circular rings composed of metal or plastic. Ferrules may also be referred to as eyelets or grommets. Ferrules may preferably consist of a circular clamp used to hold together and attach fibers, wires, or posts, generally by crimping, swaging, or otherwise deforming the ferrule to

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permanently tighten it onto the parts that it holds (e.g., a metal band that binds the bristles or hair of a brush).

[0057] In a preferred embodiment, a ferrule 40 is applied around the end of the brush and/or sponge that is housed within the interchangeable head 20 and adapted to ensure that the hairs of the brush remain in place within the head 20 and do not fall out during use (e.g., application of makeup). In addition, the ferrule 40 is preferably adapted to ensure that the sponge remains in place within the head 20 and does not fall out during use. As shown in **FIGS. 5A-F, 6A-F and 7A-F**, the ferrule 40 (or “collar 40”) may be provided in different dimensions such as, small 40a, medium 40b and large 40c, respectively, to accommodate brushes of different sizes and for different applications.

[0058] **FIGS. 5A-F** depict an embodiment of a small ferrule 40a, such as may be used to accommodate, for example, a narrow brush. **FIG. 5A** is a front view of the small ferrule 40a having a modified frustoconical shape with an elliptical shaped first end 42a and a circular shaped second end 44a. The first end 42a is adapted to be proximal to the attachment end 23a of the head 20a (as shown in **FIG. 11B**). The height of the small ferrule 40a is defined by SF_H , the width of the first end 42a is defined by SF_{W1} , and the width of the second end 44a is defined by SF_{W2} . In preferable embodiments, the values of SF_H , SF_{W1} , and SF_{W2} are about 15 mm, about 20.3 mm, and about 17.3 mm respectively. **FIGS. 5B, 5C and 5D** depict the side, top and bottom views of the small ferrule 40a respectively. **FIG. 5E** shows a cross-sectional view of the small ferrule 40a of **FIG. 5A** along cross-section line 5E-5E showing the inner diameter of the first end 42a defined by SF_{DI} , and the outer diameter of the first end 42a defined by SF_{DO} . The thickness of the small ferrule 40a is

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preferably about 0.5 mm. In preferable embodiments, the small ferrule 40a is composed of aluminium or plastic. In preferable embodiments, the values of SF_{DI} and SF_{DO} are about 7.4 mm and about 8.4 mm respectively. **FIG. 5F** depicts a perspective view of the small ferrule of **FIG. 5A**.

5 **[0059]** **FIGS. 6A-F** depict an embodiment of a medium ferrule 40b, such as may be used to accommodate, for example, a fan shaped brush. **FIG. 6A** is a front view of the medium ferrule 40b having a modified frustoconical shape with an elliptical shaped first end 42b and a circular shaped second end 44b wherein the first end 42b is curved to accommodate the fan shaped brush hairs. The first end 42b is adapted to be proximal to the
10 attachment end 23b of the head 20b (as shown in **FIG. 12B**). The height of the medium ferrule 40b is defined by MF_H , the width of the first end 42b is defined by MF_{W1} , and the width of the second end 44b is defined by MF_{W2} . In preferable embodiments, the values of MF_H , MF_{W1} , and MF_{W2} are about 17.6 mm, about 23 mm, and about 17.3 mm respectively. **FIGS. 6B, 6C and 6D** depict the side, top and bottom views of the medium ferrule 40b
15 respectively. **FIG. 6E** shows a cross-sectional view of the medium ferrule 40b of **FIG. 6A** along cross-section line 6D-6D showing the inner diameter of the first end 42b defined by MF_{DI} , and the outer diameter of the first end 42b defined by MF_{DO} . The thickness of the medium ferrule 40b is preferably about 0.5 mm. In preferable embodiments, the medium ferrule 40b is composed of aluminium or plastic. In preferable embodiments, the values of
20 MF_{DI} and MF_{DO} are about 15.3 mm and about 16.3 mm respectively. **FIG. 6F** depicts a perspective view of the medium ferrule of **FIG. 6A**.

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[0060] FIGS. 7A-F depict an embodiment of a large ferrule 40c, such as may be used to accommodate, for example, a bulb shaped brush. FIG. 7A is a front view of the large ferrule 40c having a frustoconical shape with a first end 42c and a second end 44c. The first end 42c is adapted to be proximal to the attachment end 23c of the head 20c (as shown in FIG. 13B). The height of the large ferrule 40c is defined by LF_H , the width of the first end 42c is defined by LF_{W1} , and the width of the second end 44c is defined by LF_{W2} . In preferable embodiments, the values of LF_H , LF_{W1} , and LF_{W2} are about 18 mm, about 23.4 mm, and about 17 mm respectively. FIGS. 7B, 7C and 7D depict the side, top and bottom views of the large ferrule 40c respectively. FIG. 7E shows a cross-sectional view of the large ferrule 40c of FIG. 7A along cross-section line 7C-7C wherein the thickness of the large ferrule 40c is about 0.5 mm. In preferable embodiments, the large ferrule 40c is composed of aluminium or plastic. FIG. 7F depicts a perspective view of the large ferrule of FIG. 7A.

[0061] The ferrule is preferably positioned within the head wall 28 defining the attachment portion and may be affixed to a surface of the head wall 28 using, for example, an adhesive or via a friction fit. Preferably, the ferrule is not externally visible as it is housed within the head 20, which differs from prior art makeup brushes where the metal ferrule is typically exposed. This configuration preferably increases the comfort for the user.

[0062] FIGS. 8A-F depict an embodiment of a small head 20a adapted to contain the small ferrule 40a (as shown in FIG. 11B). FIG. 8A is a front view of the small head 20a having a modified frustoconical shape with an elliptical shaped attachment end 23a and a

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circular shaped engagement end 22a. The attachment end 23a is adapted to be proximal to the first end 42a of the small ferrule 40a (as shown in **FIG. 11B**) and the second end of the small ferrule 44a is adapted to be proximal to the head partition 29 (as shown in **FIG. 11B**). The engagement end 22 and receiving portion defined by the engagement wall 26 for the small head 20a is as shown in **FIGS. 2A-D**. The height of the small head 20a is defined by SH_T , the width of the attachment end 23a is defined by SW_T , and the diameter of the engagement end 22 is defined by SD_T . In preferable embodiments, the values of SH_T , SW_T , and SD_T are about 25.5 mm, about 23.3 mm, and about 18.1 mm respectively. **FIGS. 8B, 8C and 8D** depict the side, top and bottom views of the small head 20a respectively. **FIG. 8E** shows a cross-sectional view of the small head 20a of **FIG. 8A** along cross-section line 8E-8E showing the inner depth of the attachment end 23a defined by SA_I (the outer depth of the attachment end 23a defined by SA_O as shown in **FIG. 8C**), the inner and outer diameters of the head partition 29 surface proximal to the small ferrule 40a defined by SD_I and SD_O respectively, the height of the receiving portion of the small head 20a defined by SH_A , and the height of the receiving portion of the small head 20a including the head partition 29 defined by SH_B . In preferable embodiments, the values of SA_I , SA_O , SD_I , SD_O , SH_A , and SH_B are about 7.9 mm, about 11.2 mm, about 17.1 mm, about 20.3 mm, about 7.6 mm and about 9.5 mm respectively. **FIG. 8F** depicts a perspective view of the small head of **FIG. 8A**.

[0063] **FIGS. 9A-F** depict an embodiment of a medium head 20b adapted to contain the medium ferrule 40b (as shown in **FIG. 12B**). **FIG. 9A** is a front view of the medium head 20b having a modified frustoconical shape with an elliptical shaped attachment end 23b and a circular shaped engagement end 22b wherein the attachment end 23b is curved to

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accommodate the fan shaped brush hairs. The attachment end 23b is adapted to be proximal to the first end 42b of the medium ferrule 40b (as shown in **FIG. 12B**) and the second end of the medium ferrule 44b is adapted to be proximal to the head partition 29 (as shown in **FIG. 12B**). The engagement end 22 and receiving portion defined by the engagement wall 26 for the medium head 20b is as shown in **FIGS. 2A-D**. The height of the medium head 20b is defined by MH_T , the width of the attachment end 23b is defined by MW_T , and the diameter of the engagement end 22 is defined by MD_T . In preferable embodiments, the values of MH_T , MW_T , and MD_T are about 28.5 mm, about 25.3 mm, and about 18.1 mm respectively. **FIGS. 9B, 9C and 9D** depict the side, top and bottom views of the medium head 20b respectively. **FIG. 9E** shows a cross-sectional view of the medium head 20b of **FIG. 9A** along cross-section line 9D-9D showing the outer depth of the attachment end 23b defined by MD_O , the inner diameter of the head partition 29 surface proximal to the medium ferrule 40b defined by MD_I , the height of the receiving portion of the medium head 20b defined by MH_A , and the height of the receiving portion of the medium head 20b including the head partition 29 defined by MH_B . In preferable embodiments, the values of MD_O , MD_I , MH_A , and MH_B are about 19.1 mm, about 17.3 mm, about 7.6 mm and about 9.5 mm respectively. **FIG. 9F** depicts a perspective view of the medium head of **FIG. 9A**.

[0064] **FIGS. 10A-F** depict an embodiment of a large head 20c adapted to contain the large ferrule 40c (as shown in **FIG. 13B**). **FIG. 10A** is a front view of the large head 20c having a frustoconical shape with a circular shaped attachment end 23c and a circular shaped engagement end 22c. The attachment end 23c is adapted to be proximal to the first end 42c of the large ferrule 40c (as shown in **FIG. 13B**) and the second end of the large ferrule 44c is adapted to be proximal to the head partition 29 (as shown in **FIG. 13B**). The

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engagement end 22 and receiving portion defined by the engagement wall 26 for the large head 20c is as shown in **FIGS. 2A-D**. The height of the large head 20c is defined by LH_T , the width of the attachment end 23c is defined by LW_O , and the diameter of the engagement end 22 is defined by LD_T . In preferable embodiments, the values of LH_T , LW_O , and LD_T are about 28.5 mm, about 26.5 mm, and about 18.1 mm respectively. **FIGS. 10B, 10C and 10D** depict the side, top and bottom views of the large head 20c respectively. **FIG. 10E** shows a cross-sectional view of the large head 20c of **FIG. 10A** along cross-section line 10A-10A showing the inner diameter of the attachment end 23c defined by LW_I , the inner diameter of the head partition 29 surface proximal to the large ferrule 40c defined by LD_I , the height of the receiving portion of the large head 20c defined by LH_A , and the height of the receiving portion of the large head 20c including the head partition 29 defined by LH_B . In preferable embodiments, the values of LW_I , LD_I , LH_A , and LH_B are about 23.8 mm, about 17 mm, about 7.6 mm and about 9.5 mm respectively. **FIG. 10F** depicts a perspective view of the large head of **FIG. 10A**.

[0065] **FIG. 11A** depicts the small head 20a attached to a narrow brush. **FIG. 11B** is a cross-section view of the small head 20a of **FIG. 11A** along cross-section line I-I depicting the small ferrule 40a within the attachment portion of the small head 20a defined by the head wall 28.

[0066] **FIG. 12A** depicts the medium head 20b attached to a fan-shaped brush. **FIG. 12B** is a cross-section view of the medium head 20b of **FIG. 12B** along cross-section line H-H depicting the medium ferrule 40b within the attachment portion of the medium head 20b defined by the head wall 28.

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[0067] **FIG. 13A** depicts the large head 20c attached to a bulb-shaped brush. **FIG. 13B** is a cross-section view of the large head 20c of **FIG. 13A** along cross-section line G-G depicting the large ferrule 40c within the attachment portion of the large head 20c defined by the head wall 28.

5 [0068] **FIGS. 14A, B and C** depict embodiments of the applicator 10 of the present invention and, in particular, demonstrate the ability to interchange various combinations of heads 20 using the same stalk 30. **FIG. 14A** shows an applicator 10 with a medium head 20b and a large head 20c connected to the stalk 30. **FIG. 14B** shows an applicator 10 with a large head 20c and a small head 20a connected to the stalk 30. **FIG. 14C** shows an
10 applicator 10 with a medium head 20b and a small head 20a connected to the stalk 30.

[0069] In preferable embodiments the stalk 30 and interchangeable heads 20 are composed of a resilient material (e.g., silicone).

[0070] An applicator 10 is provided according to the present invention, for the application of makeup. The applicator 10 is preferably dual ended including at least one
15 interchangeable head 20, attaching a brush and/or sponge, to facilitate customization by a user (i.e., changing the one or more heads based on individual needs).

[0071] In one embodiment, the connector 32 extends from the stalk 30, and is adapted to be received within the engagement portion defined by the engagement wall 26 of the head 20. In an alternate embodiment, the connector extends from a surface of the head distal to the
20 attachment end and is adapted to be received by the stalk which is configured with an engagement wall at one end defining an engagement portion for receiving the connector (not

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shown). In the alternate embodiment, the stalk includes an engagement end, at a first end, having an engagement wall that defines a receiving portion, the engagement wall further defining a channel within the receiving portion. The head includes an attachment end and a base, the attachment end having a head wall defining an attachment portion adapted to receive a tool for makeup application. A connector projects from the base, the connector adapted to be reversibly received within the receiving portion of the engagement end. A rim projects from a surface of the connector and is adapted to be reversibly received within the channel to securely attach the head on the stalk when the applicator is in use by the user. In an additional feature, the stalk of this alternate embodiment is adapted to connect to two heads at either end of the stalk.

[0072] Persons skilled in the art will appreciate that the applicator of the present invention (including the interchangeable head 20 and/or stalk 30) is not restricted by its current size and/or proportions and can be made in various widths and/or lengths.

[0073] While the applicator of the present invention is composed of silicone rubber, persons skilled in the art will appreciate that it may be composed of another material or combination of two or more materials including, but not limited to, neoprene rubber, natural gum rubber, natural latex rubber, and other resilient or non-resilient materials such as plastics, acrylic, and/or vinyl. In preferred embodiments, the applicator of the present invention is composed of a single material (e.g., silicone) which facilitates ease of manufacture and assembly in comparison to prior art attempts.

[0074] The interchangeability of the heads may preferably facilitate the user-friendly nature of the applicator. The applicator preferably involves snapping on or off the brush head

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base and/or the sponge head base to or from the stalk. The applicator may preferably be adapted for seamlessly changing brushes and/or sponges throughout the makeup routine of the user.

[0075] Persons skilled in the art may appreciate that silicone is a very durable and resilient material, which preferably provides a longer life-cycle and increased reliability of the connector-head base (i.e., locking) system. Preferably, the locking system facilitates simple and/or fast assembly and disassembly of the applicator. The use of a single material (e.g., silicone) preferably reduces manufacturing costs when compared to prior art applicators, which may involve sourcing a variety of materials and/or the use of multiple factories for manufacturing.

[0076] Preferably, users of the applicator may no longer be required to purchase multiple applicators. In accordance with a preferable embodiment of the present invention, users may use a single handle portion with one or more attachments to create storage space (e.g., creating room for makeup and/or skincare products in the makeup case).

[0077] In preferable embodiments, the present invention facilitates reduced spending costs as users are no longer required to spend as much money on buying a separate brush and/or sponge for each type and form of makeup. Users of the applicator of the present invention may now preferably use a single stalk and one or more brush heads, which may be more cost effective compared with buying many different makeup brushes and sponges.

[0078] The applicator of the present invention preferably facilitates a reduction in the amount of makeup tools required by a user providing a number of benefits (e.g., freeing up

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space in the user's makeup case). In preferable embodiments, the applicator of the present invention includes a variety of different brush heads and/or sponge heads (adapted for connecting to the stalk) such that the users are not required to invest in as many expensive makeup brushes and tools as in the prior art. In contrast, the present invention provides users
5 with a silicone handle portion (and/or stalk) and a plurality of attachments to facilitate customization of the user's makeup tools. In addition, the present invention facilitates portability of the applicator, brush heads and/or sponge heads. For example, instead of having to travel with a bronzer brush and a blush brush, users of the applicator of the present invention provide for the travel with a single makeup tool.

10 **[0079]** When compared to the prior art, the applicator of the present invention includes at least one rim 34 projecting from the connector 32 to facilitate secure attachment of the sponge and/or brush head 20. As shown in **FIG. 1B**, the engagement wall 26, defining an engagement portion, of the sponge and/or brush head base 20 preferably defines a channel 24 (or "groove 24") for receiving the rim 34. Persons skilled in the art will appreciate that
15 the shape of the connector 32 may be circular (e.g., cylindrical), angular (e.g., triangle, quadrilateral, polygon) or a combination of both. In addition, while preferable embodiments of the present invention include a connector 32 with a rim 34, alternate embodiments may not include a rim (or ring). Further, the at least one rim 34 may be continuous or intermittent. Alternate embodiments of the present invention may include two or more
20 connectors projecting from the end of the stalk to secure the head (e.g., prong-like). Persons skilled in the art will also appreciate that various mechanisms may be used to reversibly attach the sponge and/or brush head to the connector including, but not limited to, for example, a lock-and-key fit, transition fit, and/or interference fit. An example of a lock-and-

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key fit may be an enlarged nodule projecting from an end of the connector that may be received within the base (e.g., the base defining a well) of the sponge and/or brush head (not shown).

[0080] The locking system of the present invention may not be limited to makeup application, and may be adapted for hair brushes as an example. Users may preferably benefit from having one handle portion and interchangeable brush heads for use with hair (e.g., users may switch between a round brush to a paddle brush to a comb, etc.) instead of multiple brushes, which may be costly. Users may also not be required to discard brushes after much use, as they may be able to replace the brush head instead of the entire system.

[0081] In a preferred embodiment, the attachment end 23 is shaped based on the brush type. For example, the end 23 is generally configured with edges that are straight (i.e., not rounded); however, for certain brush types (e.g., fan brush) the edges are rounded.

[0082] Other modifications and alterations may be used in the design and manufacture of other embodiments according to the present invention without departing from the spirit and scope of the invention, which is limited only by the claims of any regular patent applications claiming priority herefrom.

[0083] This concludes the description of presently preferred embodiments of the invention. The foregoing description has been presented for the purpose of illustration and is not intended to be exhaustive or to limit the invention to the precise form disclosed. Other modifications, variations and alterations are possible in light of the above teaching and will be apparent to those skilled in the art, and may be used in the design and manufacture of

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other embodiments according to the present invention without departing from the spirit and scope of the invention. It is intended the scope of the invention be limited not by this description but only by the claims forming a part hereof.

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THE EMBODIMENTS FOR WHICH AN EXCLUSIVE PRIVILEGE OR PROPERTY IS CLAIMED ARE AS FOLLOWS:

1. An applicator for use by a user for applying makeup, the applicator comprising:

a first head comprising:

a first attachment end having a first head wall defining a first attachment portion adapted to receive a first tool for makeup application; and

a first engagement end having a first engagement wall defining a first receiving portion, the first engagement wall further defining a first channel within the first receiving portion;

a stalk having a first end and a second end, the stalk comprising:

a first connector projecting from the first end of the stalk, the first connector adapted to be reversibly received within the first receiving portion of the first engagement end; and

a first rim projecting from a surface of the first connector and adapted to be reversibly received within the first channel to securely attach the first head on the stalk when the applicator is in use by the user.

2. The applicator of claim 1, wherein the applicator further comprises:

a second head comprising

a second attachment end having a second head wall defining a second attachment portion adapted to receive a second tool for makeup application; and

a second engagement end having a second engagement wall defining a second receiving portion, the second engagement wall further defining a second channel within the second receiving portion;

the stalk comprising:

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a second connector projecting from the second end of the stalk, the second connector adapted to be reversibly received within the second receiving portion of the second engagement end; and

a second rim projecting from a surface of the second connector and adapted to be reversibly received within the second channel to securely attach the second head on the stalk when the applicator is in use by the user.

3. The applicator of any one of claims 1-2, wherein the tool is a brush or a sponge.
4. The applicator of any one of claims 1-3, further comprising a ferrule associated with an end of the tool, the ferrule adapted to clamp the tool and secure the tool within the attachment portion.
5. The applicator of claim 4, wherein the ferrule secures the tool within the attachment portion using a friction fit or an adhesive means.
6. The applicator of any one of claims 1-5, wherein the stalk further comprises a handle to facilitate manipulation of the applicator by the user during use.
7. The applicator of any one of claims 1-6, wherein the first head, second head and stalk are composed of a silicone material.
8. A method of using an applicator by a user for makeup application, the method comprising:

providing a head comprising:

an attachment end having a head wall defining an attachment portion adapted to receive a tool for makeup application; and

an engagement end having an engagement wall defining a receiving portion, the engagement wall further defining a channel within the receiving portion;

providing a stalk having a first end and a second end, the stalk comprising:

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a connector projecting from the first end of the stalk, the connector adapted to be reversibly received within the receiving portion of the engagement end;

a rim projecting from a surface of the connector and adapted to be reversibly received within the channel to securely attach the head on the stalk when the applicator is in use by the user;

wherein, the connector is inserted into the receiving portion until the rim mates with the channel when the applicator is in use, and

wherein, the connector is removed from the receiving portion by un-mating the rim from the channel to disassemble the applicator.

9. The method of claim 8, wherein the tool is a brush or a sponge.

10. The method of any one of claims 8-9, further comprising clamping an end of the tool to secure the tool within the attachment portion.

11. The method of any one of claims 8-10, wherein the ferrule secures the tool within the attachment portion using a friction fit or by applying an adhesive.

12. The method of any one of claims 8-11, wherein a handle is applied to a surface of the stalk to facilitate manipulation of the applicator by the user during use.

13. An applicator for use by a user for applying makeup, the applicator comprising:

a stalk having a first end and a second end, the stalk comprising:

a first engagement end, at the first end, having a first engagement wall defining a first receiving portion, the first engagement wall further defining a first channel within the first receiving portion;

a first head comprising a first attachment end and a first base:

the first attachment end having a first head wall defining a first attachment portion adapted to receive a first tool for makeup application; and

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a first connector projecting from the first base, the first connector adapted to be reversibly received within the first receiving portion of the first engagement end; and

a first rim projecting from a surface of the first connector and adapted to be reversibly received within the first channel to securely attach the first head on the stalk when the applicator is in use by the user.

14. The applicator of claim 13, wherein the stalk further comprises a second engagement end, at the second end, having a second engagement wall defining a second receiving portion, the second engagement wall further defining a second channel within the second receiving portion; and a second head having a second attachment end and a second base comprising:

a second attachment end having a second head wall defining a second attachment portion adapted to receive a second tool for makeup application; and

a second connector projecting from the second base, the second connector adapted to be reversibly received within the second receiving portion of the second engagement end; and

a second rim projecting from a surface of the second connector and adapted to be reversibly received within the second channel to securely attach the second head on the stalk when the applicator is in use by the user.

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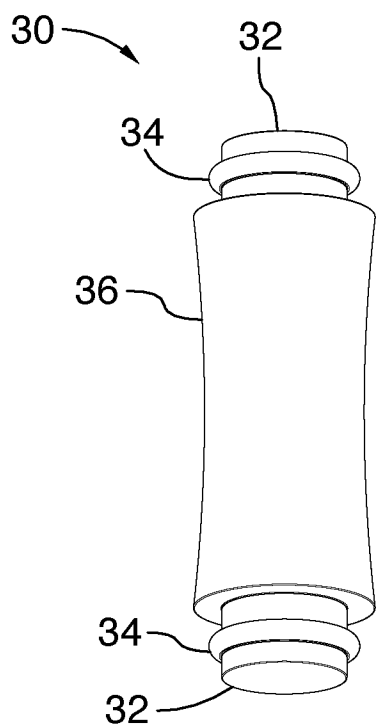


FIG. 1A

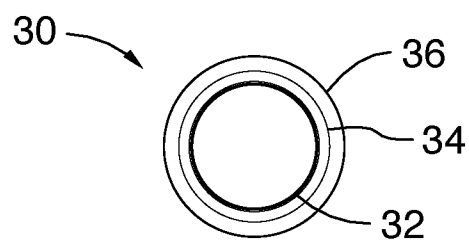


FIG. 1C

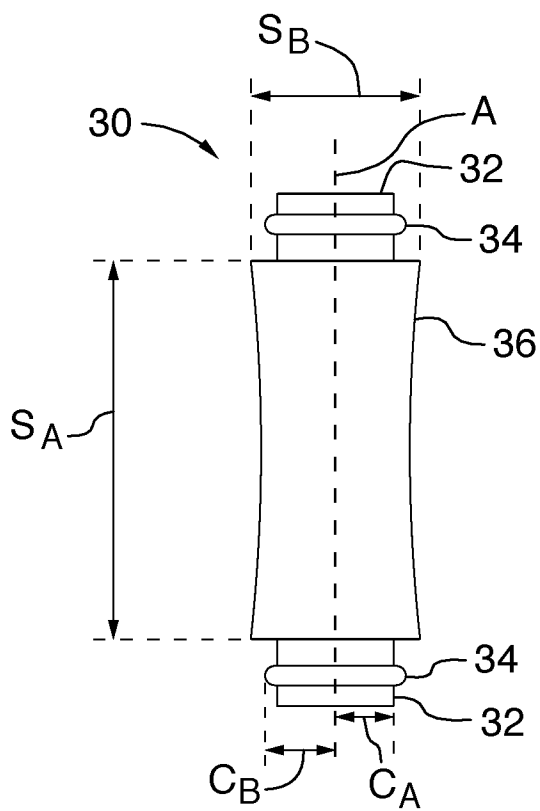


FIG. 1B

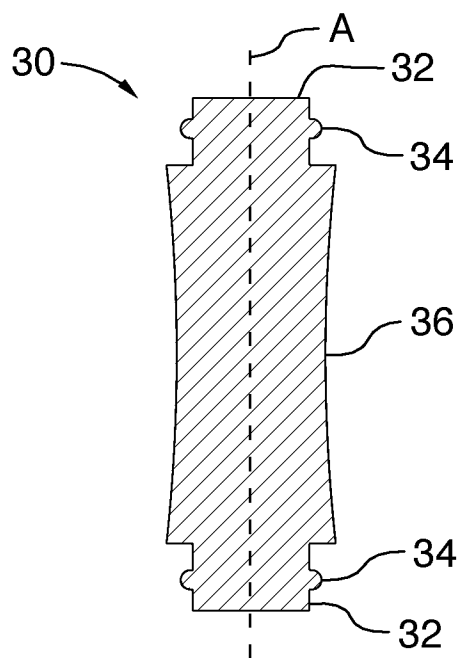


FIG. 1D

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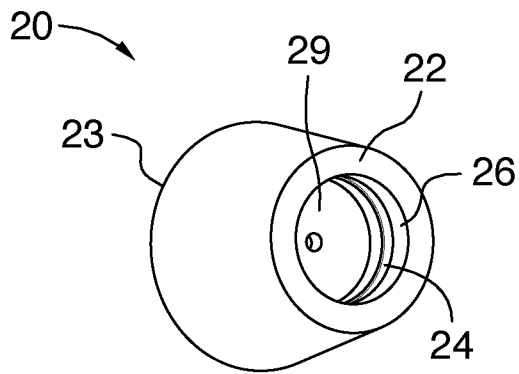


FIG. 2A

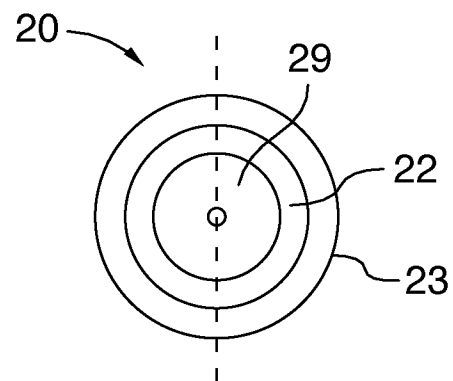


FIG. 2B

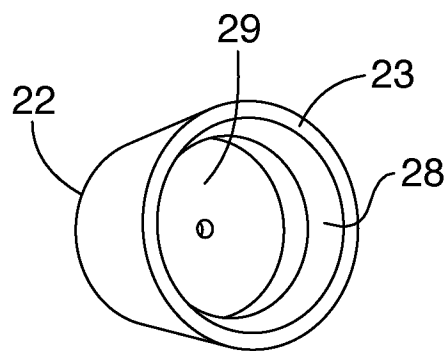


FIG. 2C

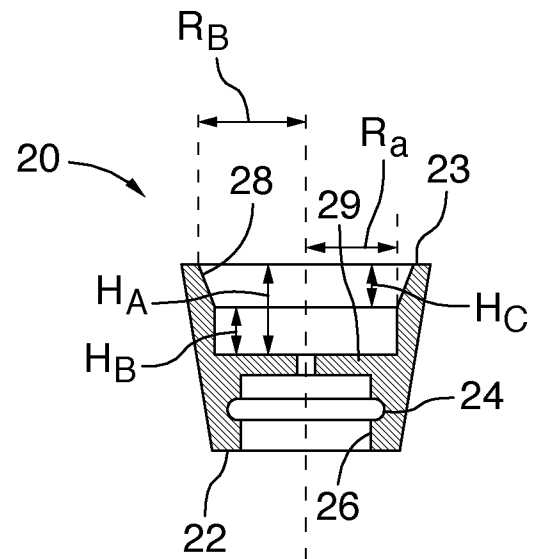


FIG. 2D

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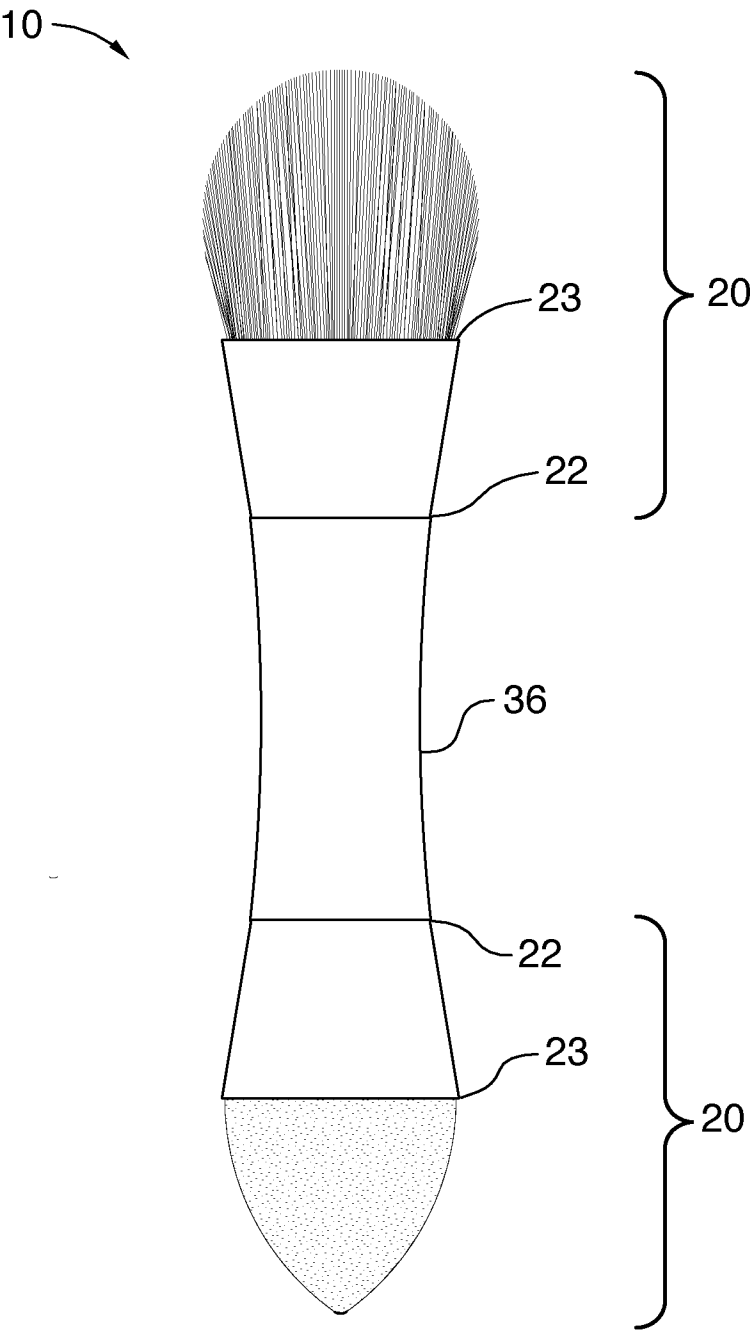


FIG.3A

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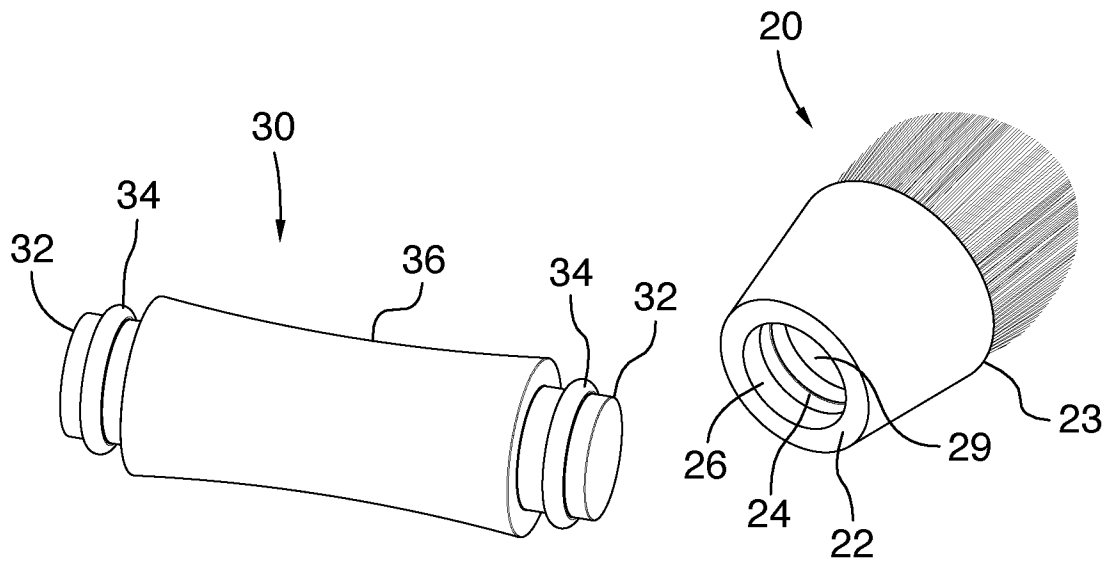


FIG.3B

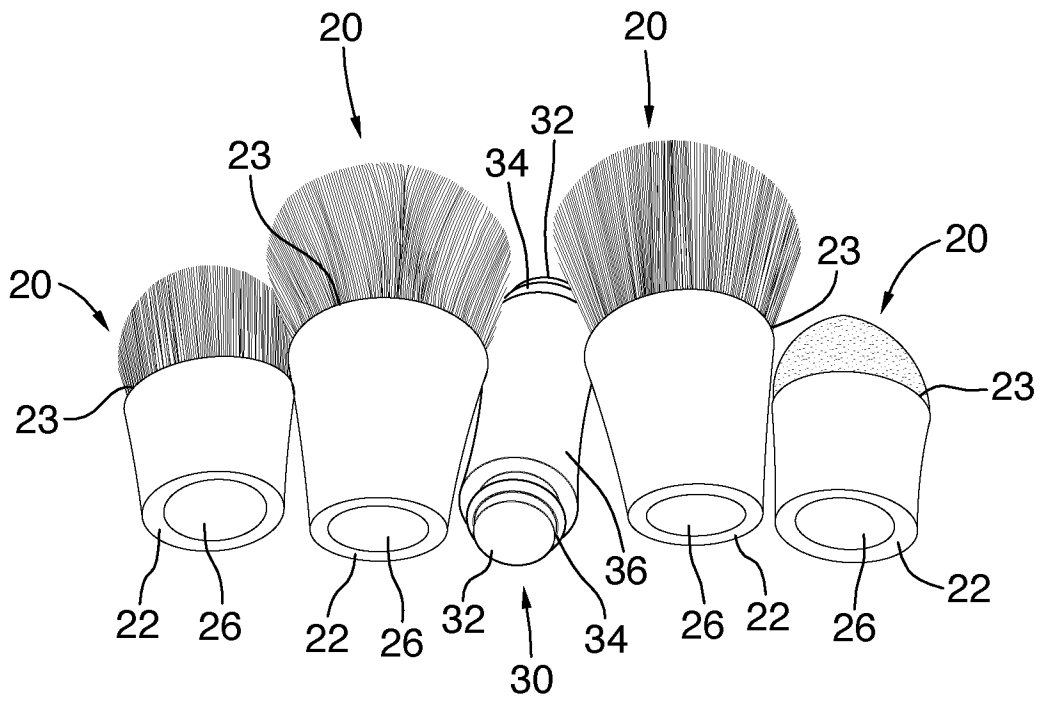
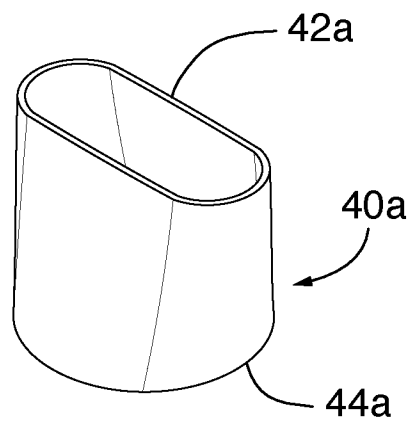
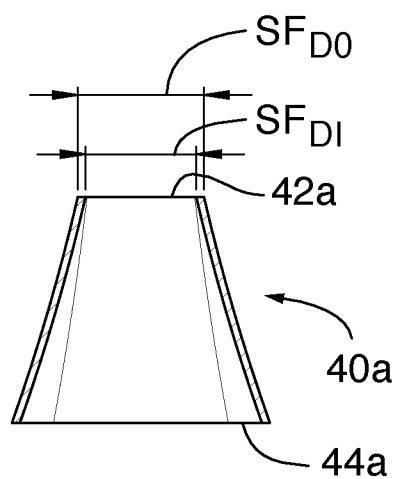
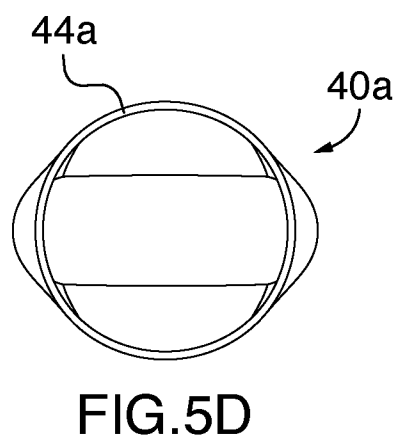
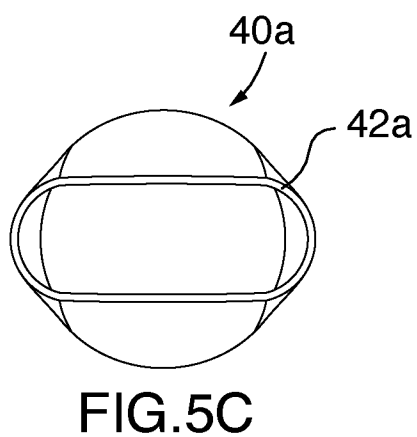
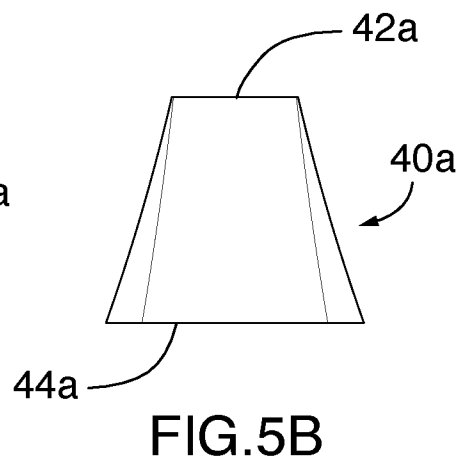
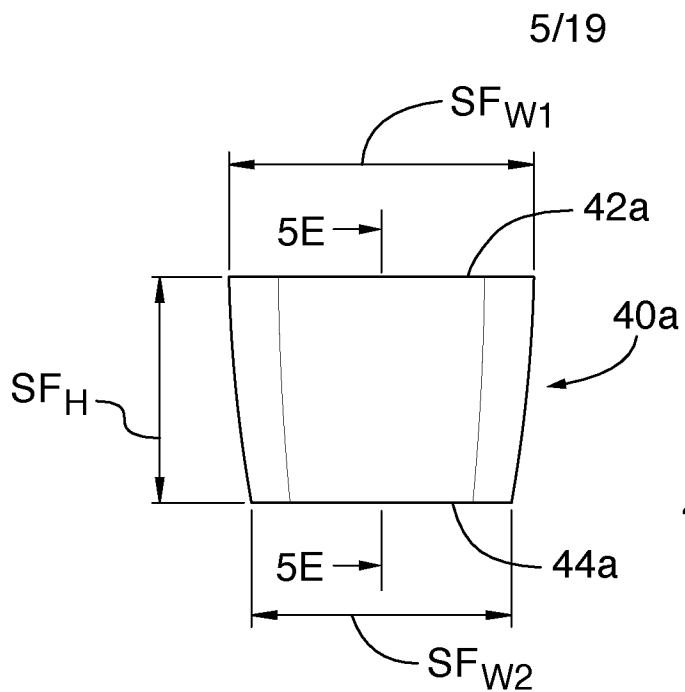


FIG.4



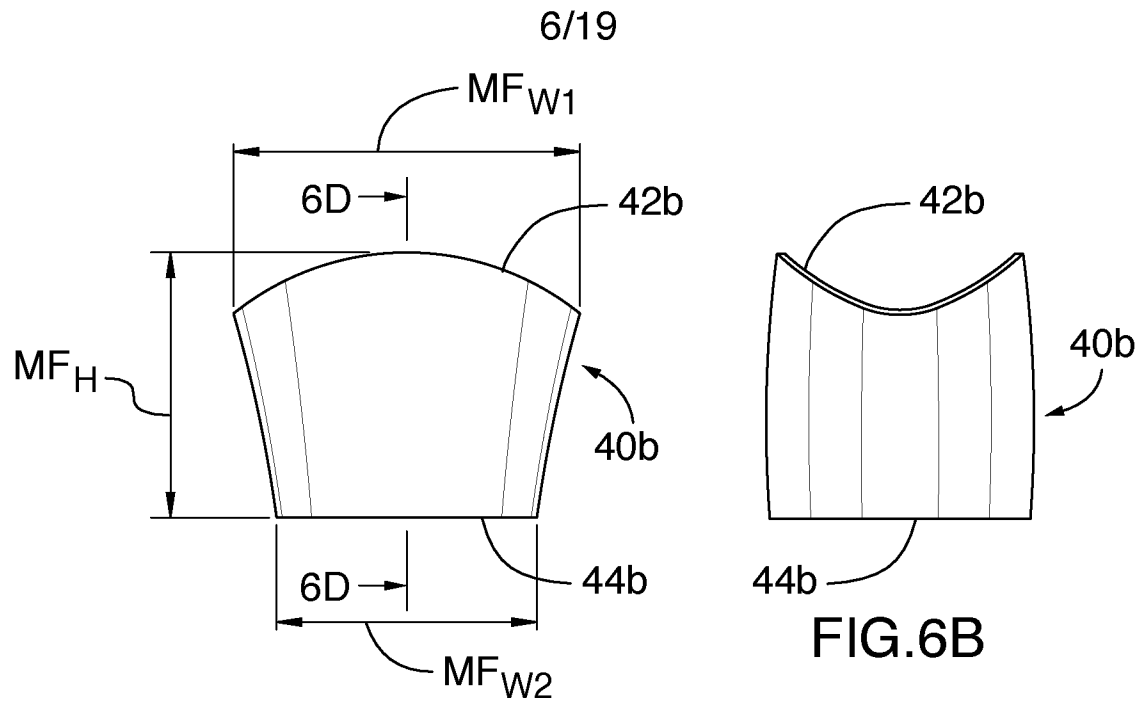


FIG. 6A

FIG. 6B

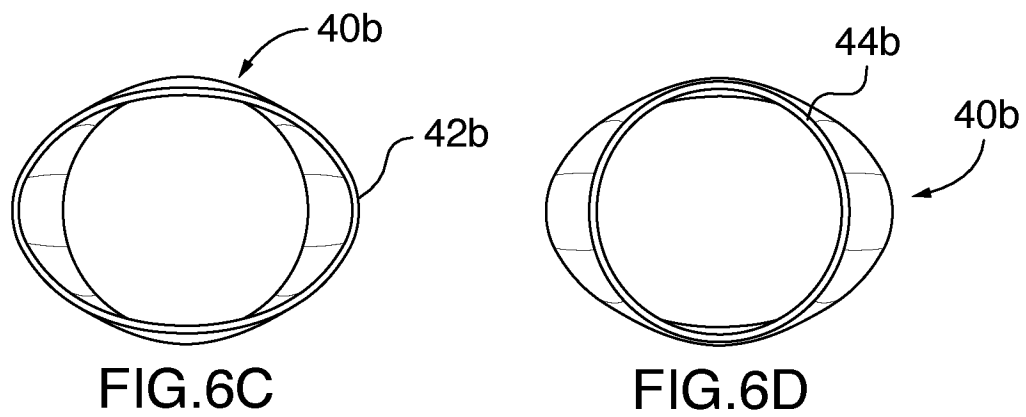


FIG. 6C

FIG. 6D

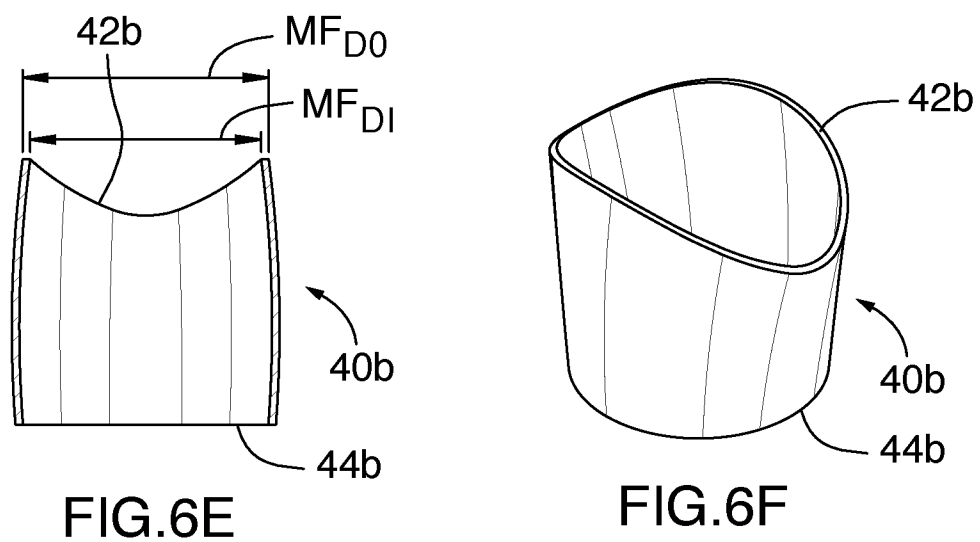


FIG. 6E

FIG. 6F

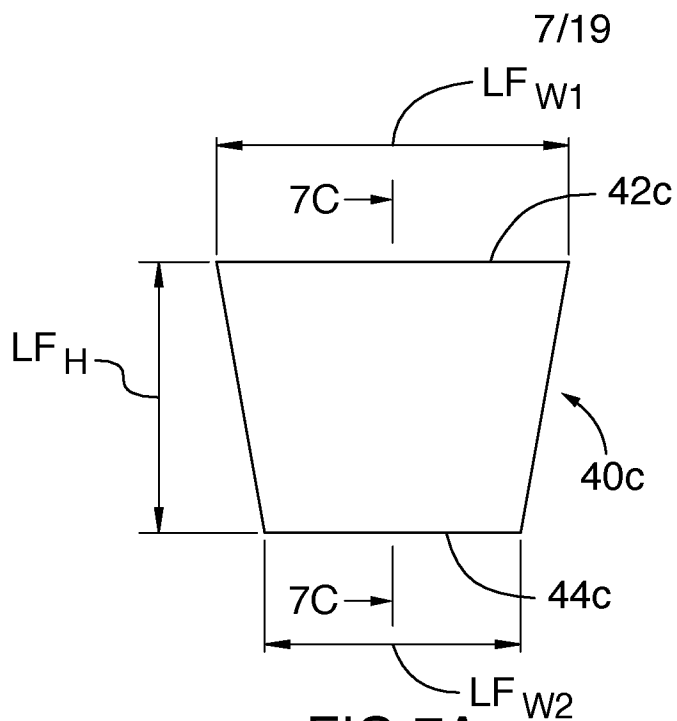


FIG. 7A

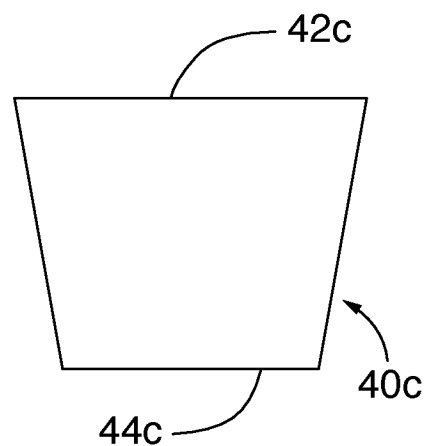


FIG. 7B

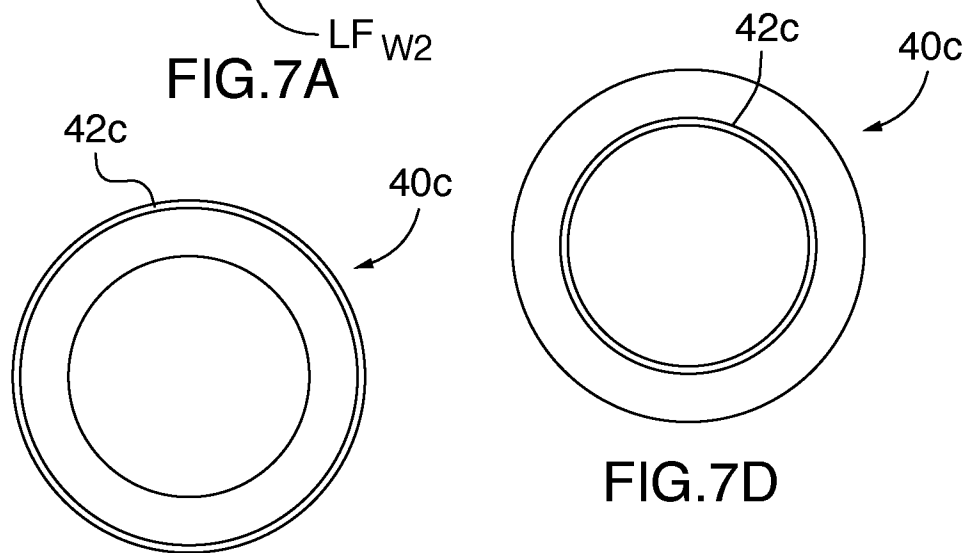


FIG. 7C

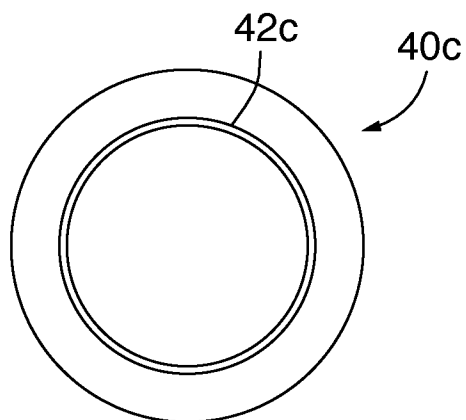


FIG. 7D

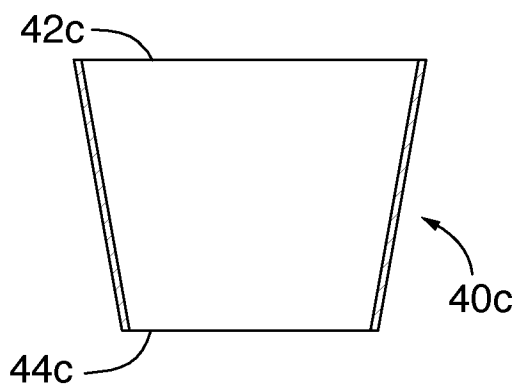


FIG. 7E

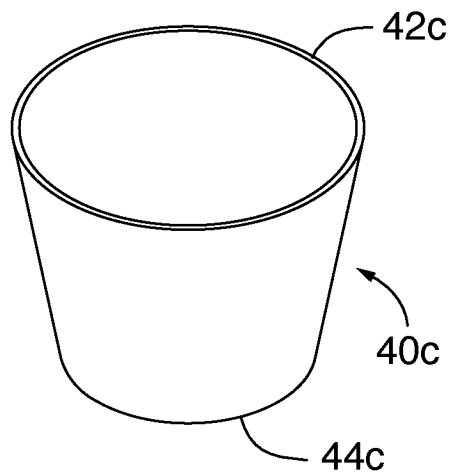


FIG. 7F

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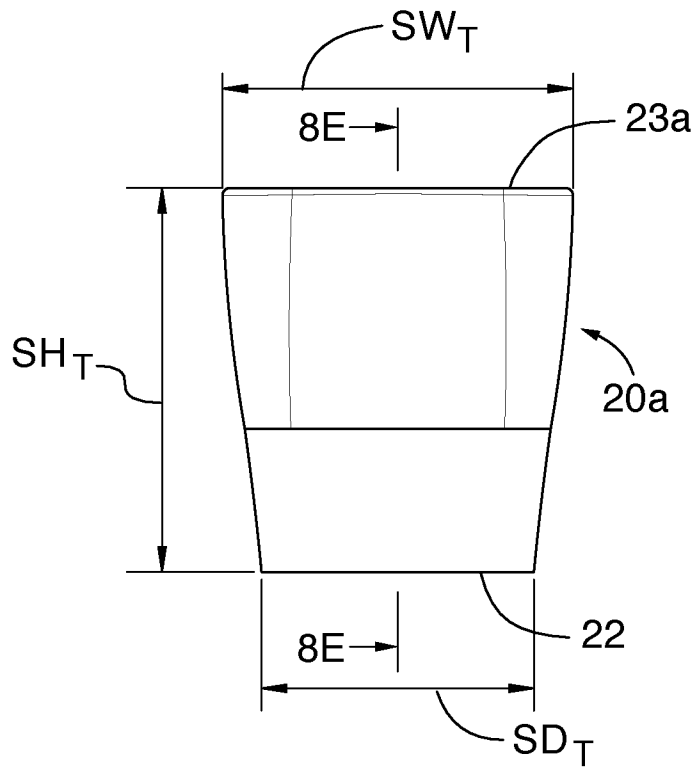


FIG. 8A

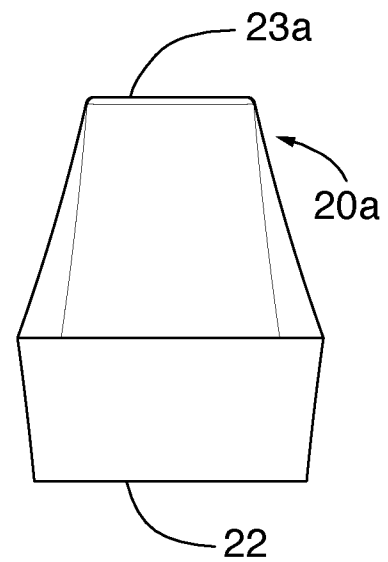


FIG. 8B

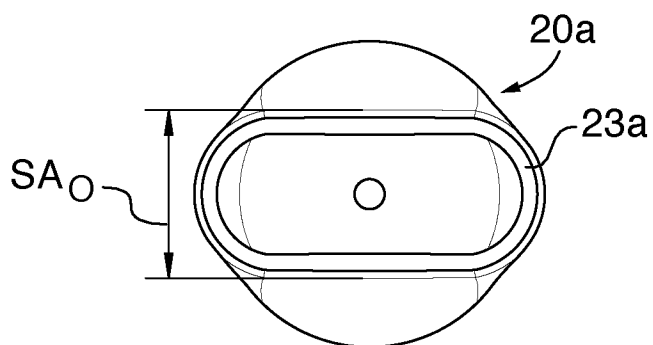


FIG. 8C

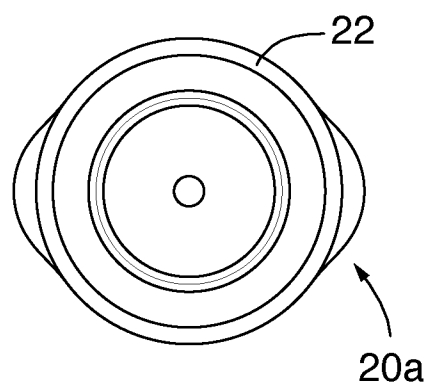


FIG. 8D

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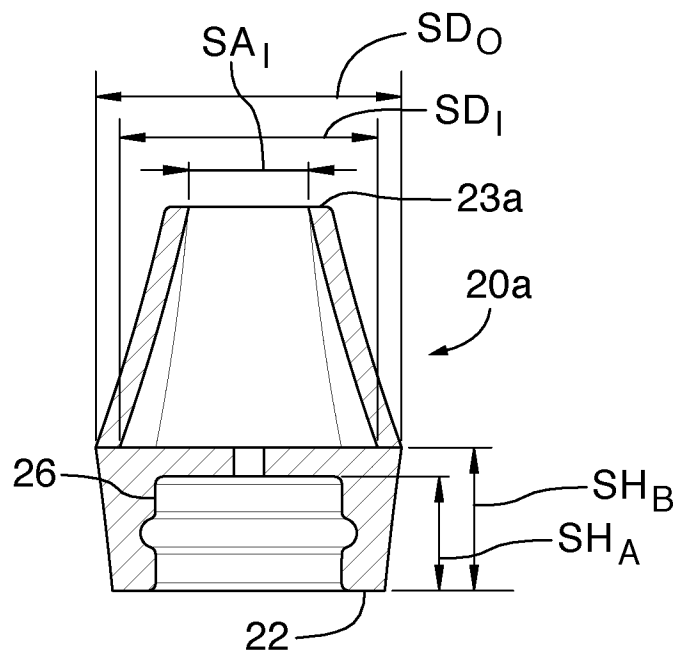


FIG. 8E

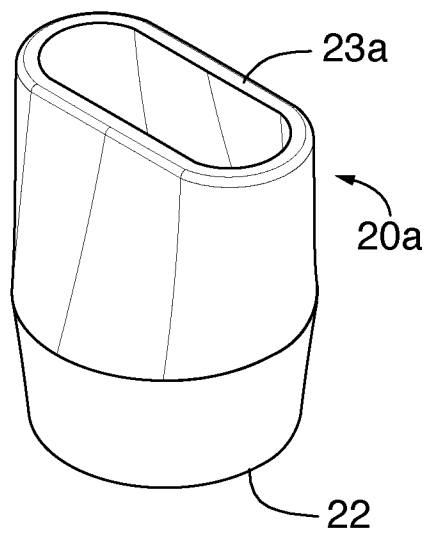


FIG. 8F

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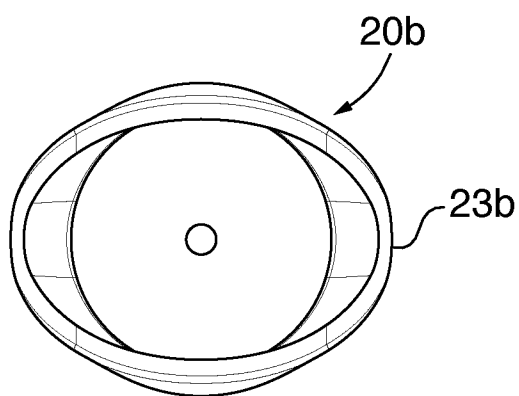
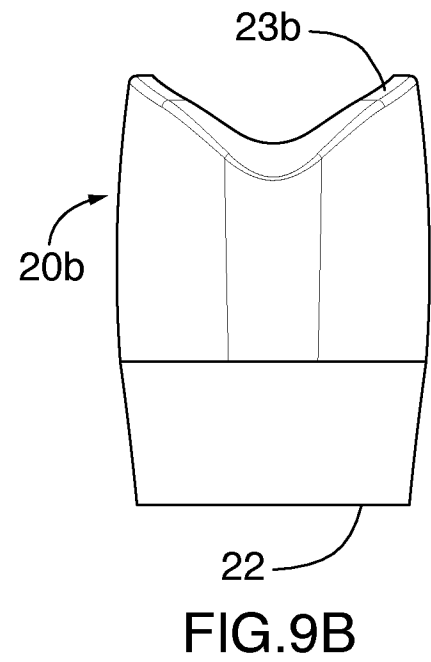
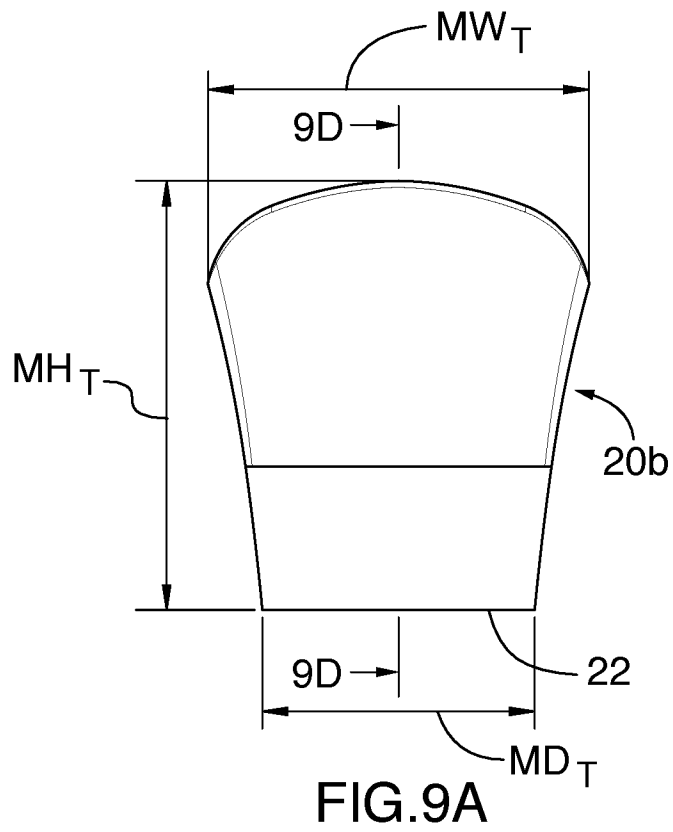


FIG. 9C

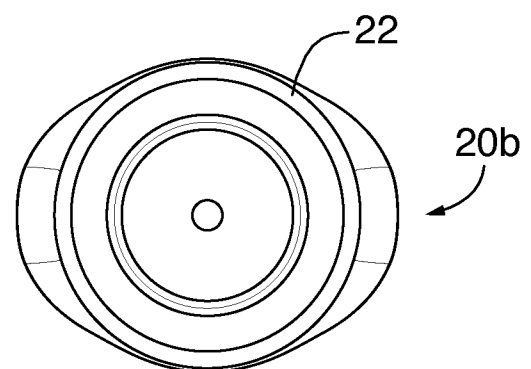


FIG. 9D

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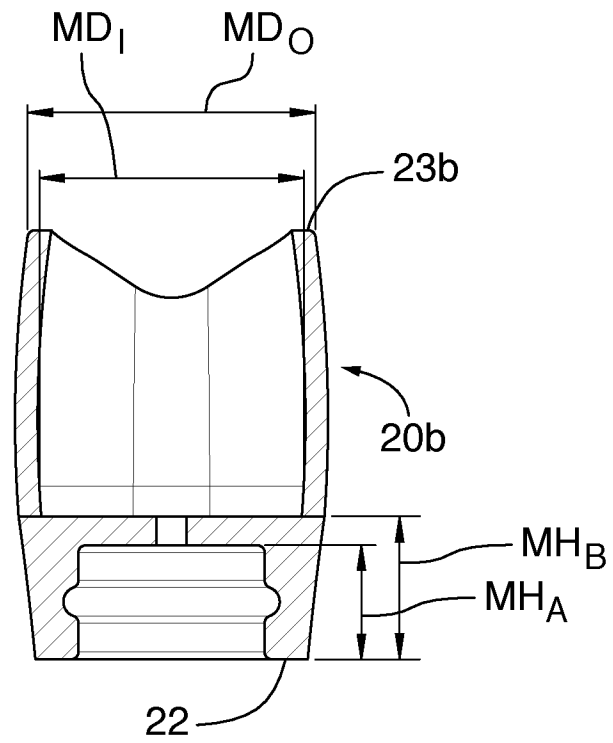


FIG. 9E

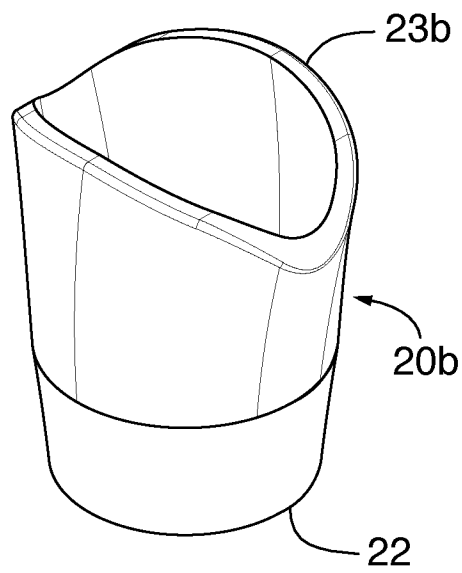


FIG. 9F

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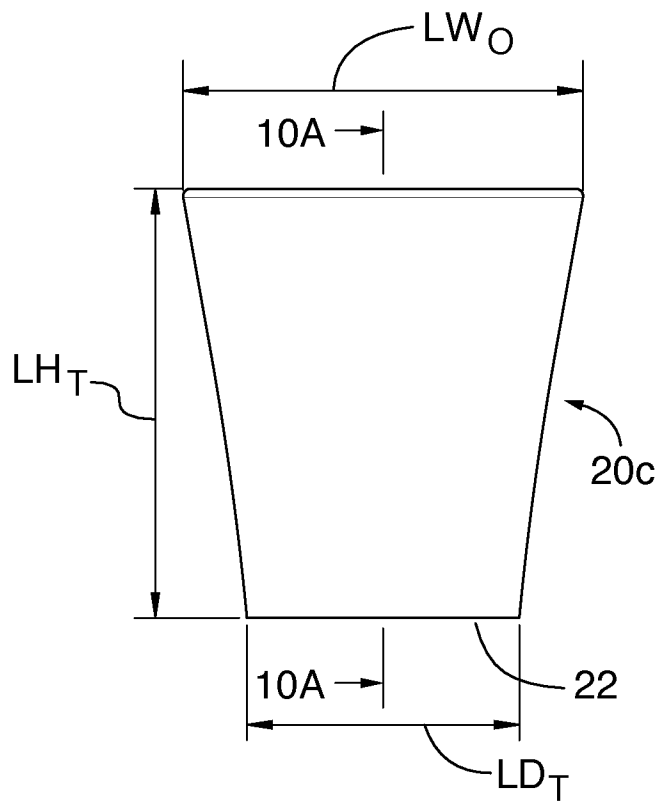


FIG. 10A

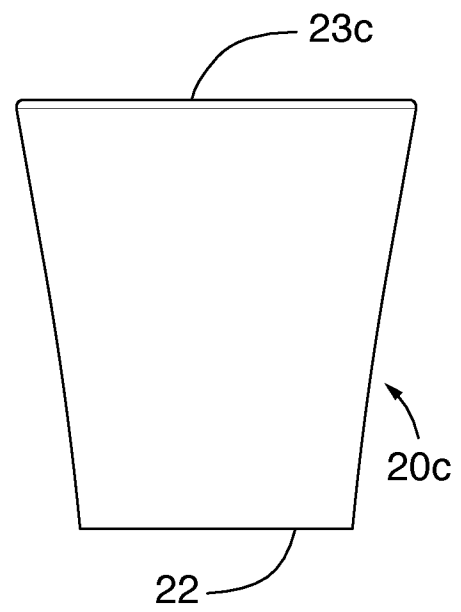


FIG. 10B

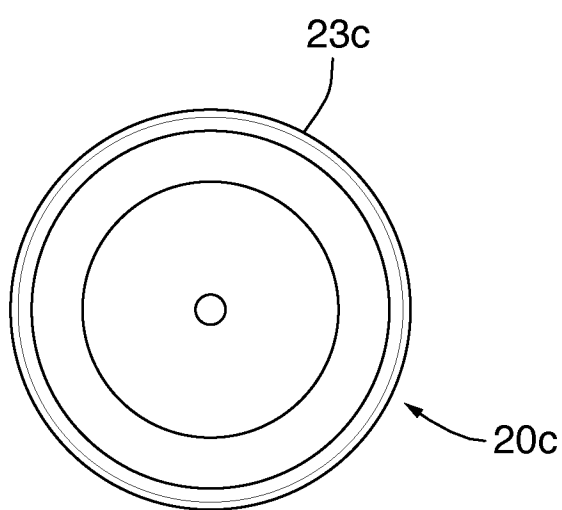


FIG. 10C

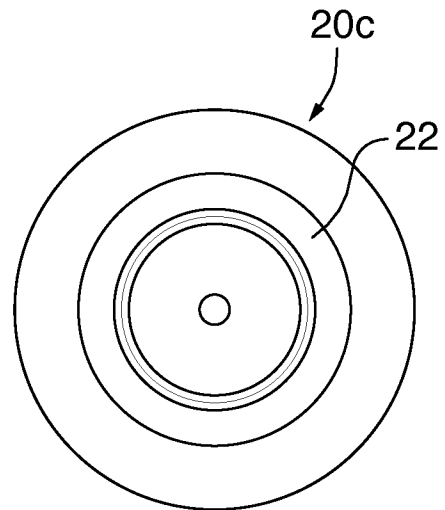


FIG. 10D

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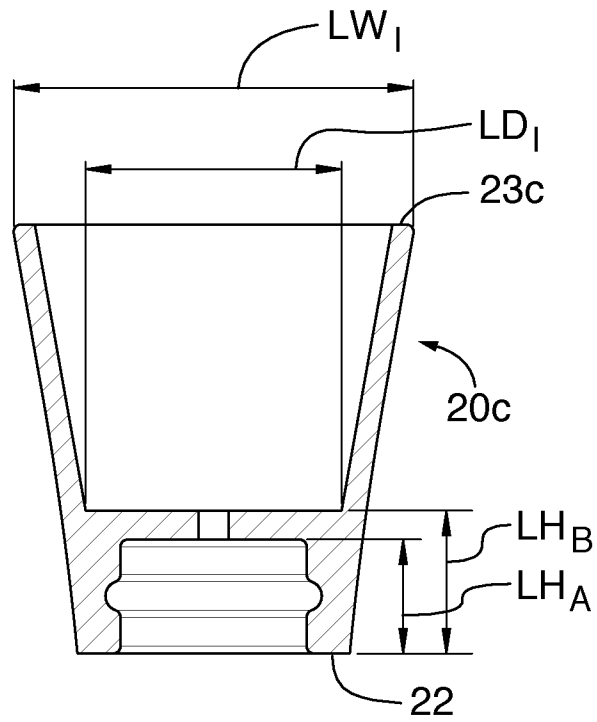


FIG. 10E

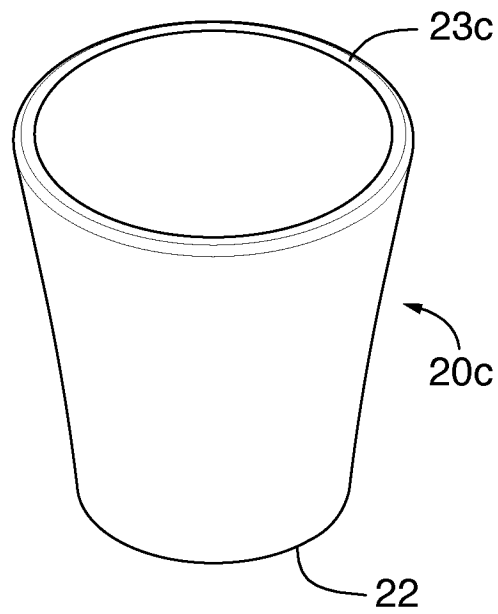


FIG. 10F

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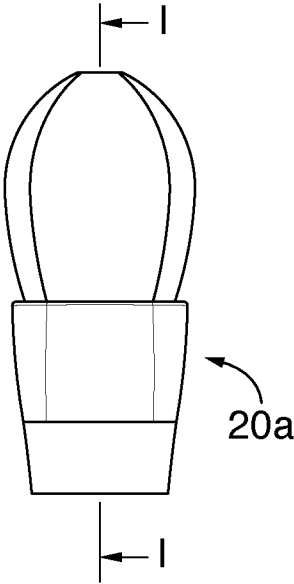


FIG.11A

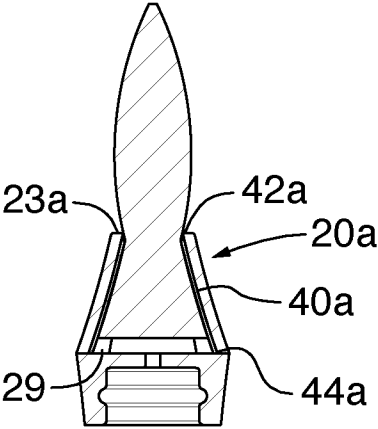


FIG.11B

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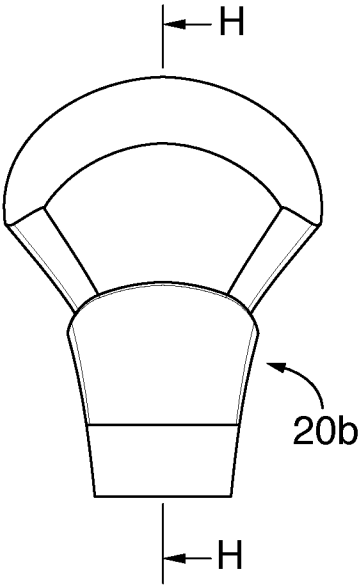


FIG.12A

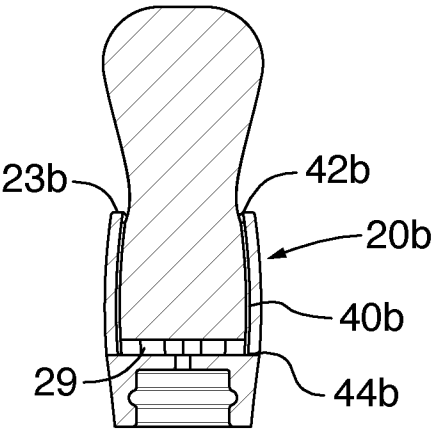


FIG.12B

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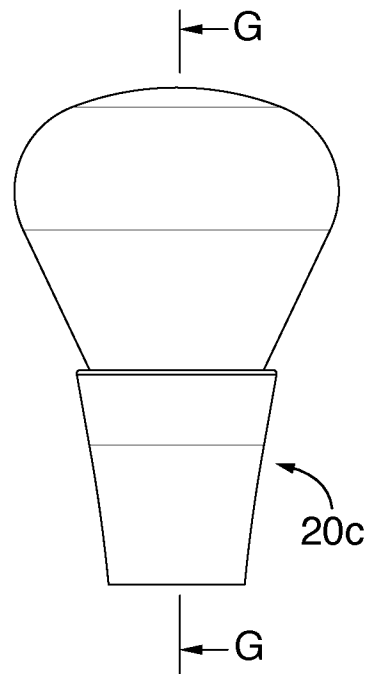


FIG. 13A

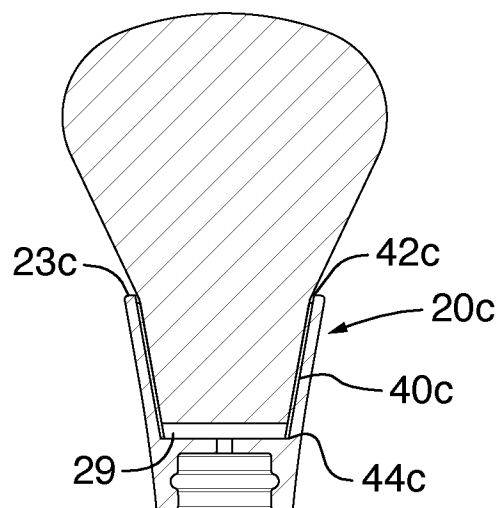


FIG. 13B

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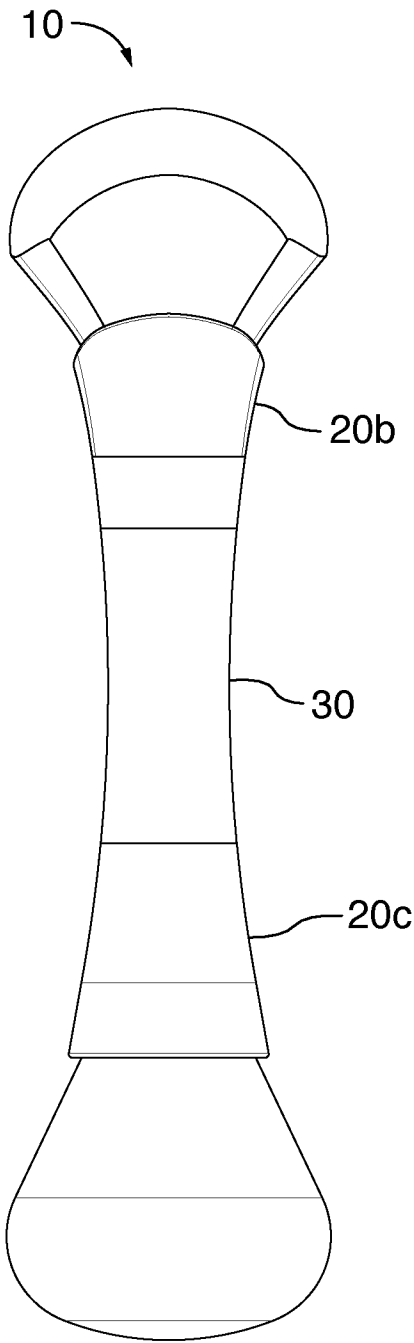


FIG.14A

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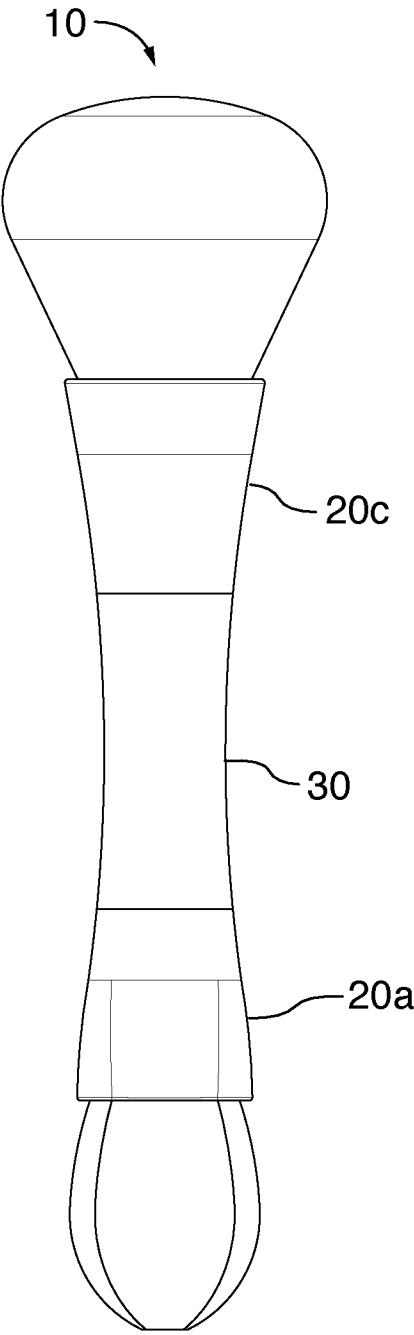


FIG.14B

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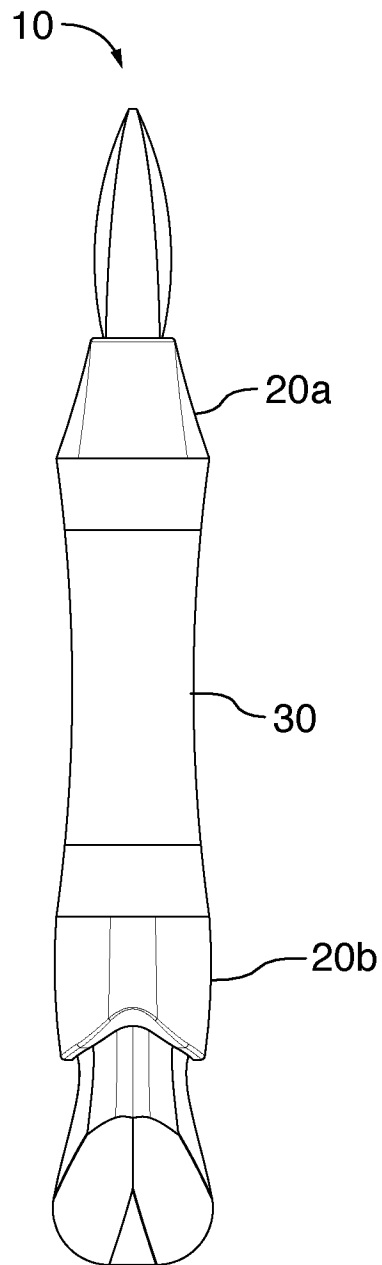


FIG. 14C

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CA2020/050583

A. CLASSIFICATION OF SUBJECT MATTER

IPC: *A45D 40/26* (2006.01), *A45C 11/00* (2006.01), *A45D 40/00* (2006.01), *A46B 15/00* (2006.01)

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)

IPC: *A45D 40/26* (2006.01), *A45C 11/00* (2006.01), *A45D 40/00* (2006.01), *A46B 15/00* (2006.01),
A45D 40/ALL (2006.01), *A45C 11/ALL* (2006.01), *A46B 15/ALL* (2006.01)

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

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

Canadian Patent database and Orbit Patent database (search terms used: makeup, applicator, coaxial, click, snap)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 8074666 B2 (XIANZHEN PIAO) 13 December 2011 (13-12-2011) *whole document*	1 to 14
Y	US 6648538 B2 (JEAN-LOUIS H. GUERET) 18 November 2003 (18-11-2003) *whole document*	1 to 14
Y	US 2004/0213624 A1 (ROBERT PETIT) 28 October 2004 (28-10-2004) *whole document*	1 to 14
Y	US 2008/0006287 A1 (JEAN-LOUIS GUERET) 10 January 2008 (10-01-2008) *whole document*	1 to 14
Y	US 8021066 B2 (LAURE THIEBAUT) 20 September 2011 (20-09-2011) *whole document*	1 to 14

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

* "A" "D" "E" "L" "O" "P"	Special categories of cited documents: document defining the general state of the art which is not considered to be of particular relevance document cited by the applicant in the international application earlier application or patent but published on or after the international filing date document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) document referring to an oral disclosure, use, exhibition or other means document published prior to the international filing date but later than the priority date claimed	"T" "X" "Y" "&"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art document member of the same patent family
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Date of the actual completion of the international search
26 June 2020 (26-06-2020)Date of mailing of the international search report
26 June 2020 (26-06-2020)Name and mailing address of the ISA/CA
Canadian Intellectual Property Office
Place du Portage I, C114 - 1st Floor, Box PCT
50 Victoria Street
Gatineau, Quebec K1A 0C9
Facsimile No.: 819-953-2476

Authorized officer

Jean-Francois Dufour (819) 639-7847

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CA2020/050583

Patent Document Cited in Search Report	Publication Date	Patent Family Member(s)	Publication Date
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