US 20110174328A1

(19) **United States**

(12) **Patent Application Publication**

(10) **Pub. No.: US 2011/0174328 A1**

(43) **Pub. Date: Jul. 21, 2011**

Cerutti et al.

(54) **ERGONOMIC MASCARA APPLICATOR**

(75) Inventors: **David Cerutti**, Putnam Valley, NY (US); **Gregory A. Ornoski**, Teaneck, NJ (US); **Paul Earnshaw**, Royston (GB); **David Stonehouse**, Cambridge (GB)

(73) Assignee: **Avon Products, Inc.**, Suffern, NY (US)

(21) Appl. No.: **13/062,592**

(22) PCT Filed: **Oct. 9, 2009**

(86) PCT No.: **PCT/US09/60252**

§ 371 (c)(1),
(2), (4) Date: **Mar. 7, 2011**

Related U.S. Application Data

(60) Provisional application No. 61/104,368, filed on Oct. 10, 2008, provisional application No. 61/104,369, filed on Oct. 10, 2008, provisional application No. 61/104,373, filed on Oct. 10, 2008.

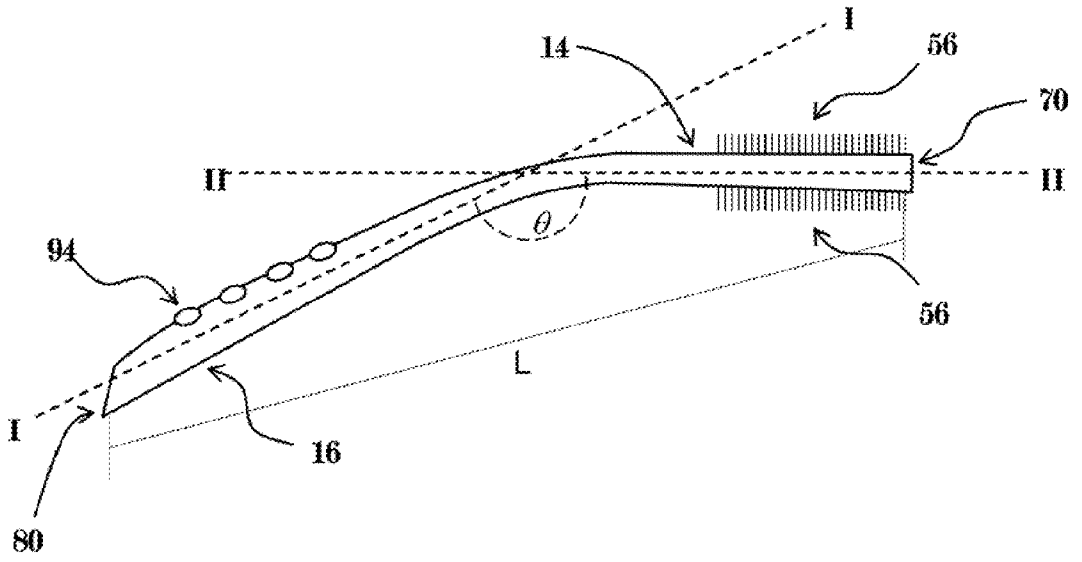
Publication Classification

(51) **Int. Cl.**
A45D 40/26 (2006.01)
A46B 5/02 (2006.01)

(52) **U.S. Cl.** **132/200**; 132/320; 132/218

(57) **ABSTRACT**

An ergonomic applicator is provided for applying a cosmetic composition to the eyelashes. The applicator comprises a handle portion and a head portion wherein the longitudinal axis of the head portion is positioned or can be rotatably positioned at an obtuse angle with respect to the longitudinal axis of the handle. The handle being suitable dimensioned for holding between the thumb and fingers without rotation of the handle. The head portion having at its distal end means for holding a charge of cosmetic composition and transferring it to the eyelashes on contact therewith, such as but not limited to, bristles, projections, indentations fins, tines, Velcro, teeth, grooves, sponges and flocked surfaces.



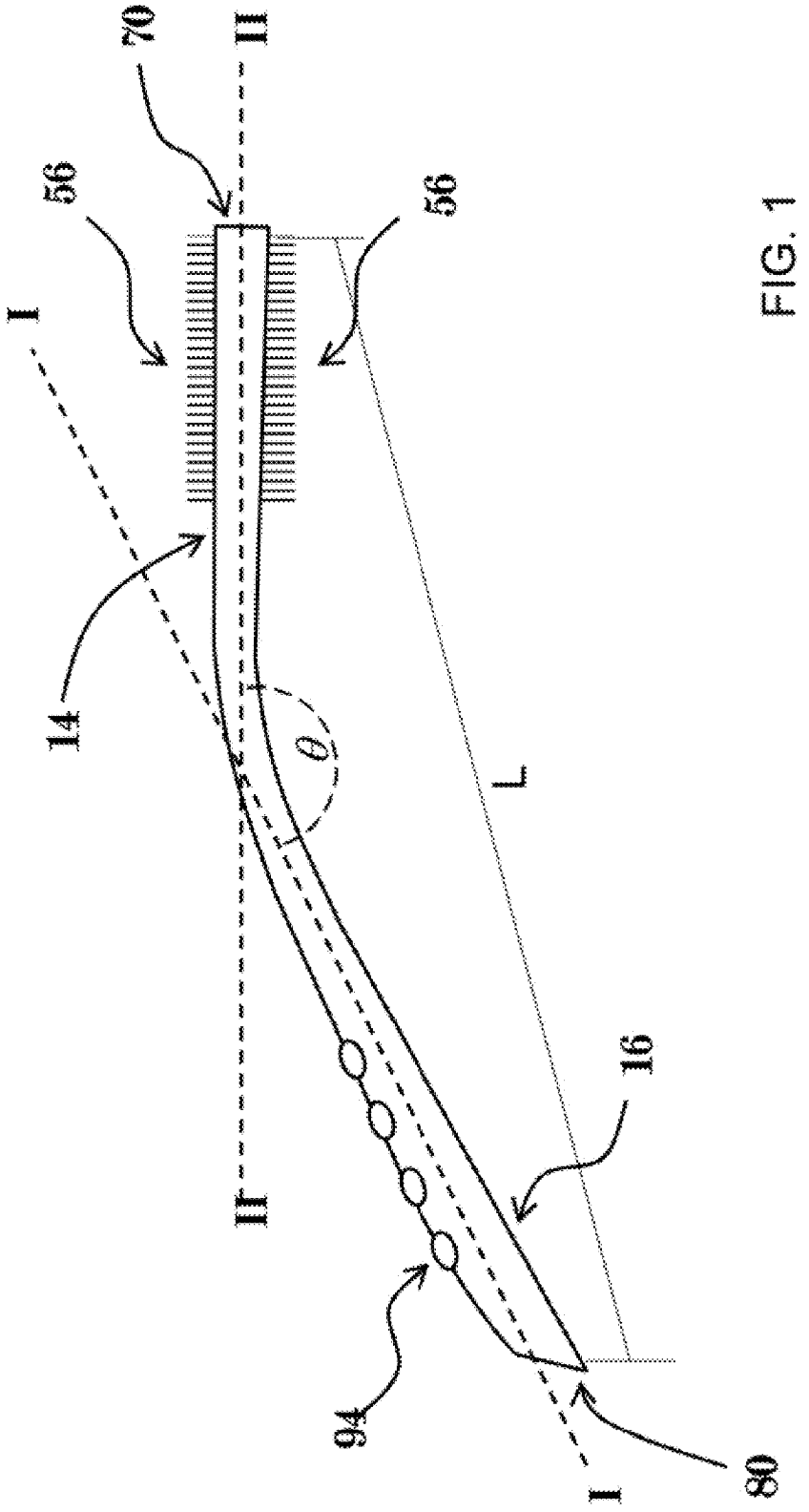


FIG. 1

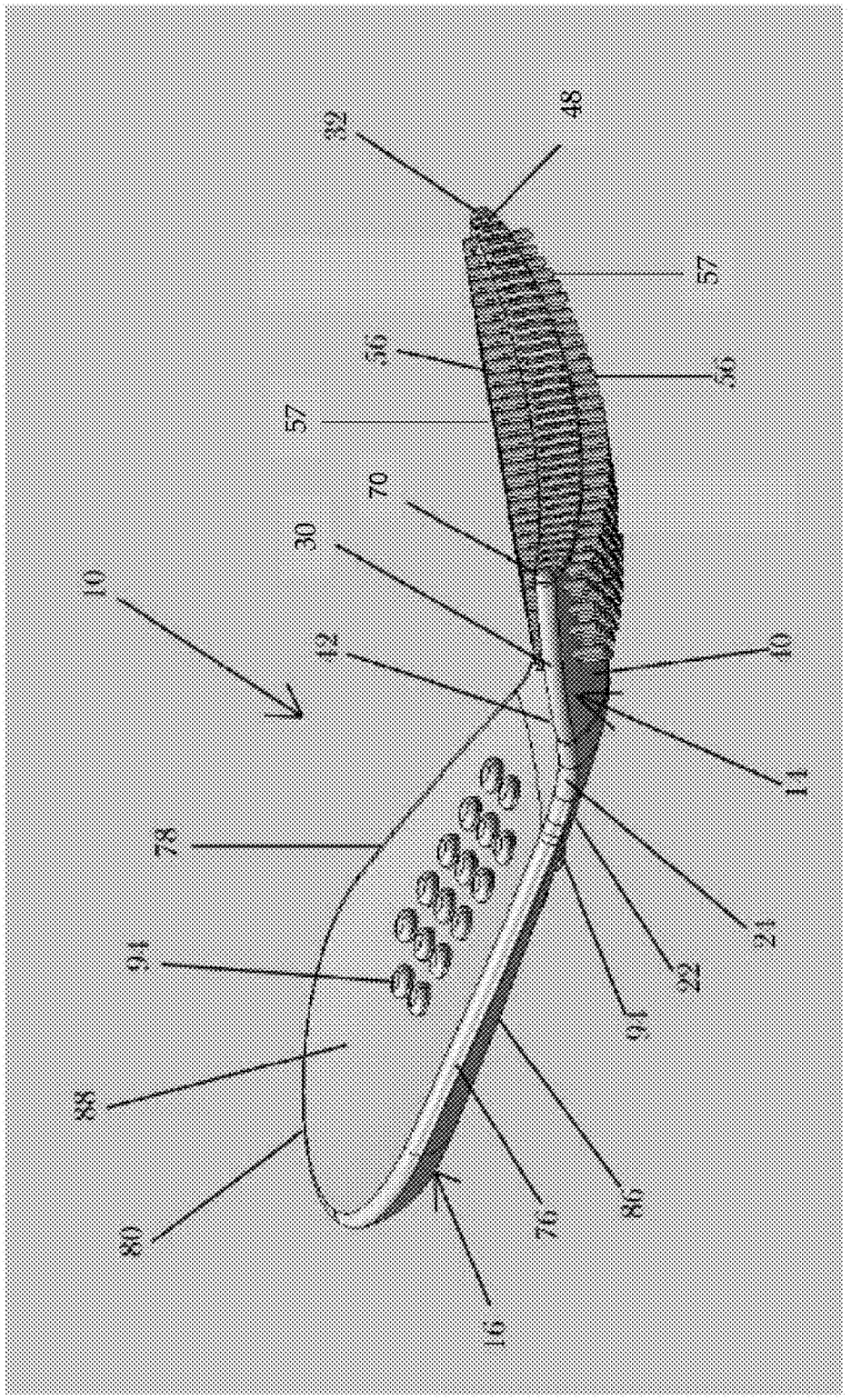


FIG. 2

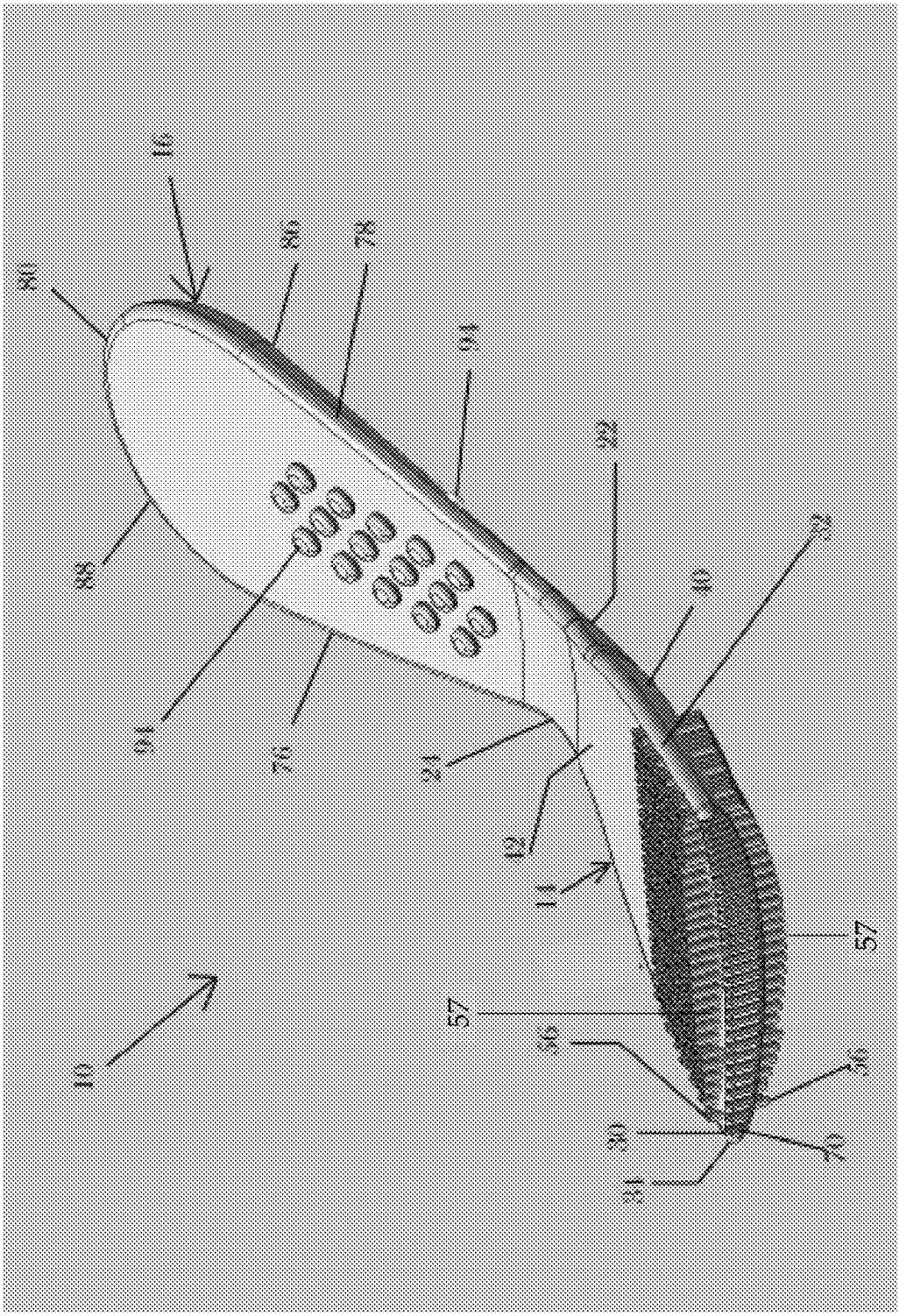


FIG. 3

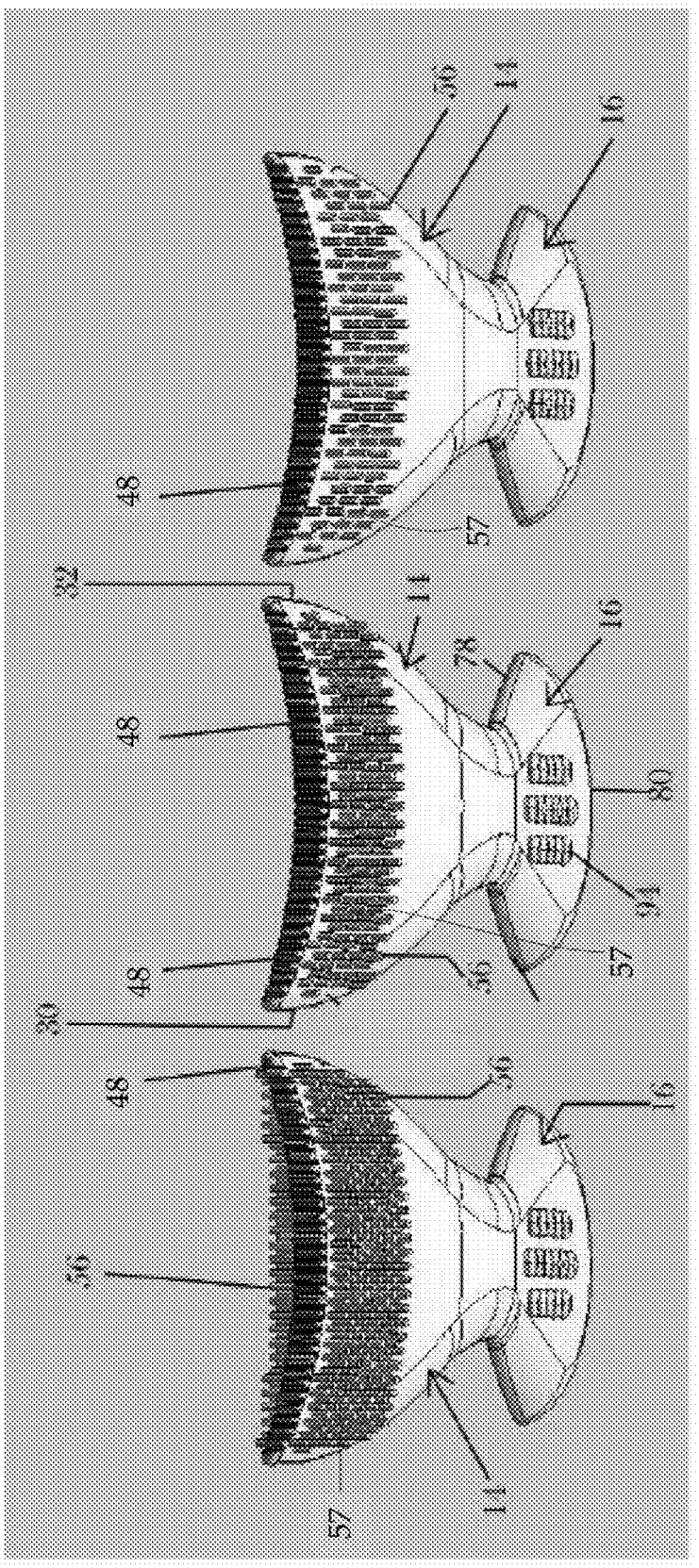


FIG. 6

FIG. 5

FIG. 4

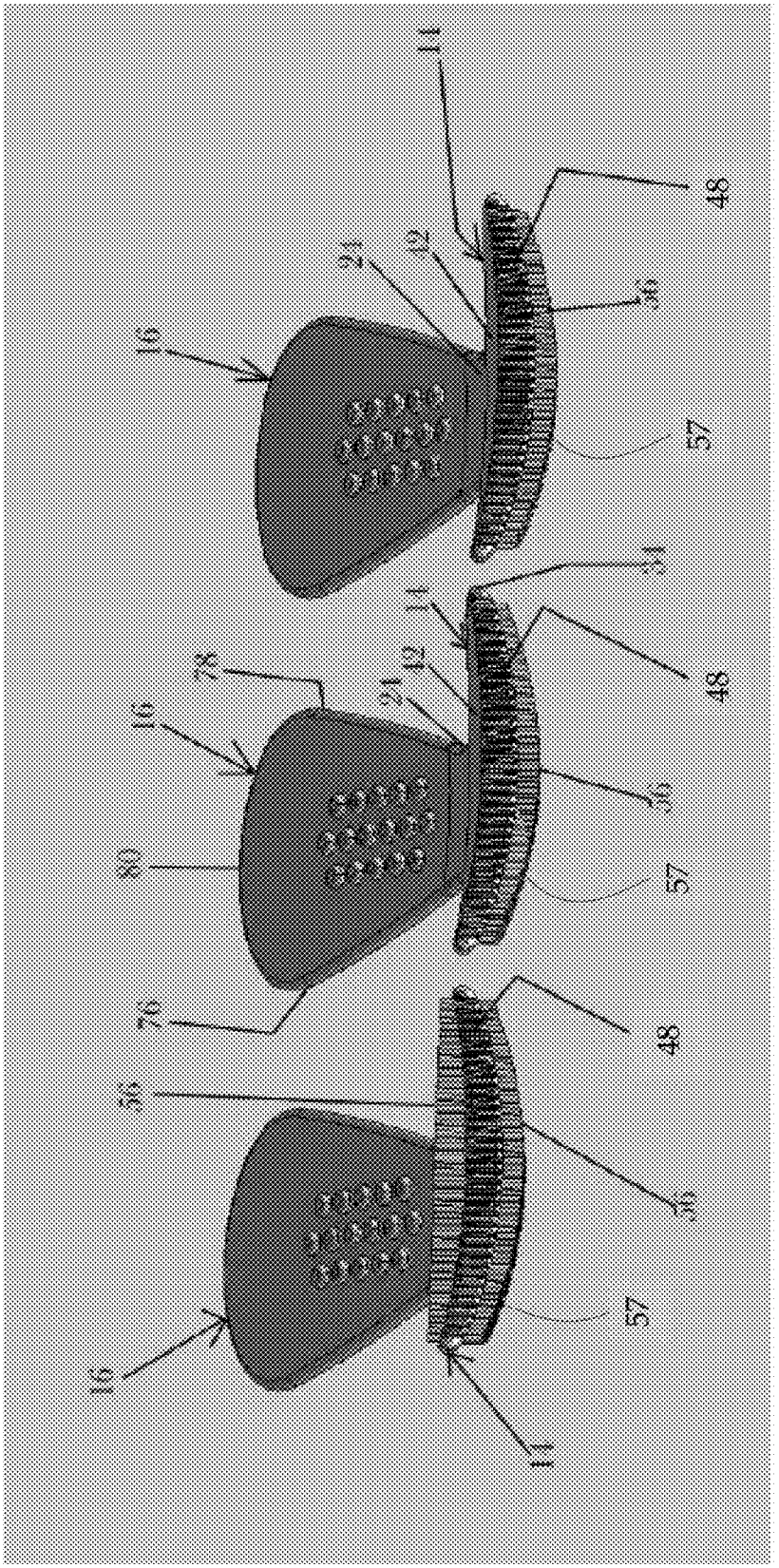


FIG. 9

FIG. 8

FIG. 7

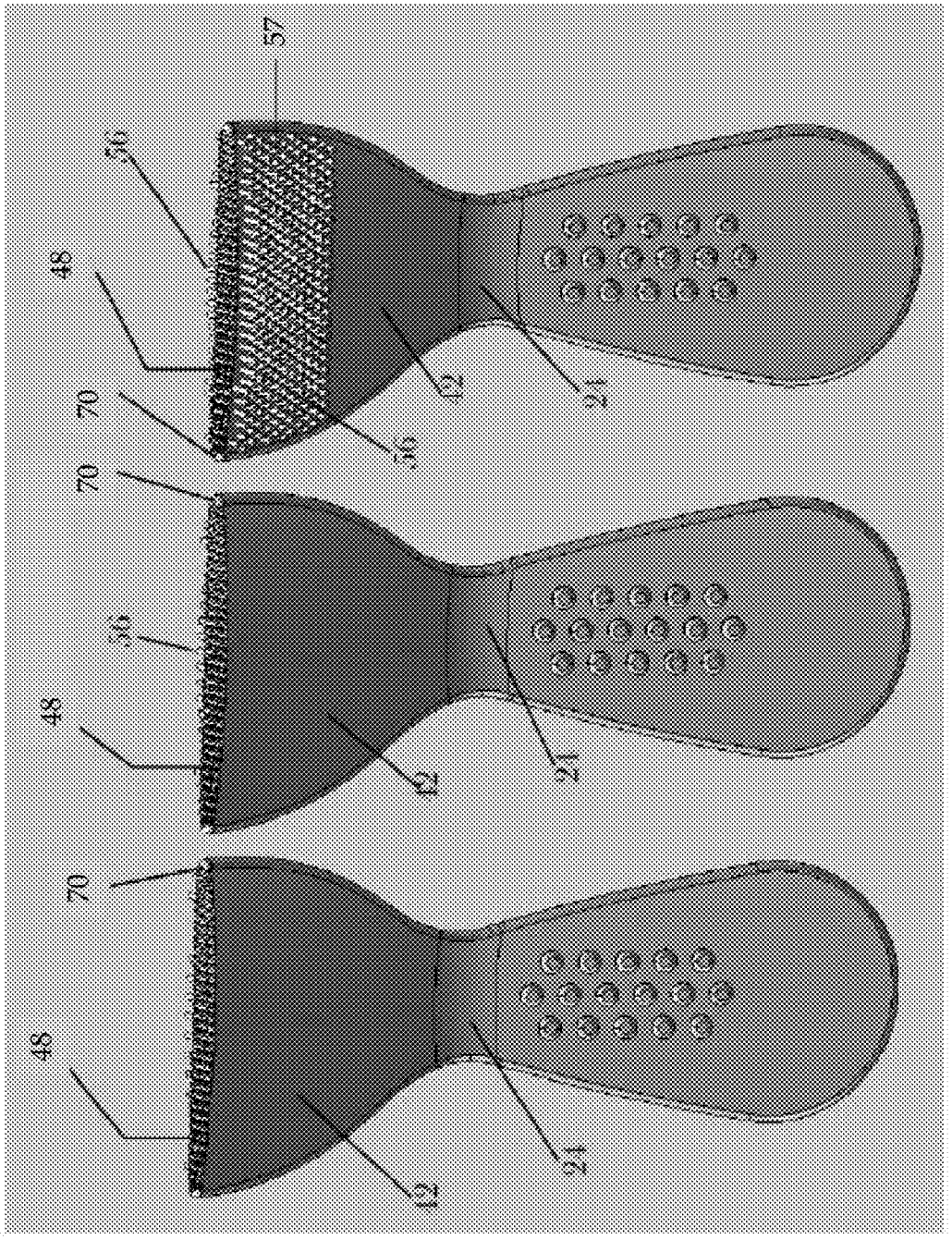


FIG. 10

FIG. 11

FIG. 12

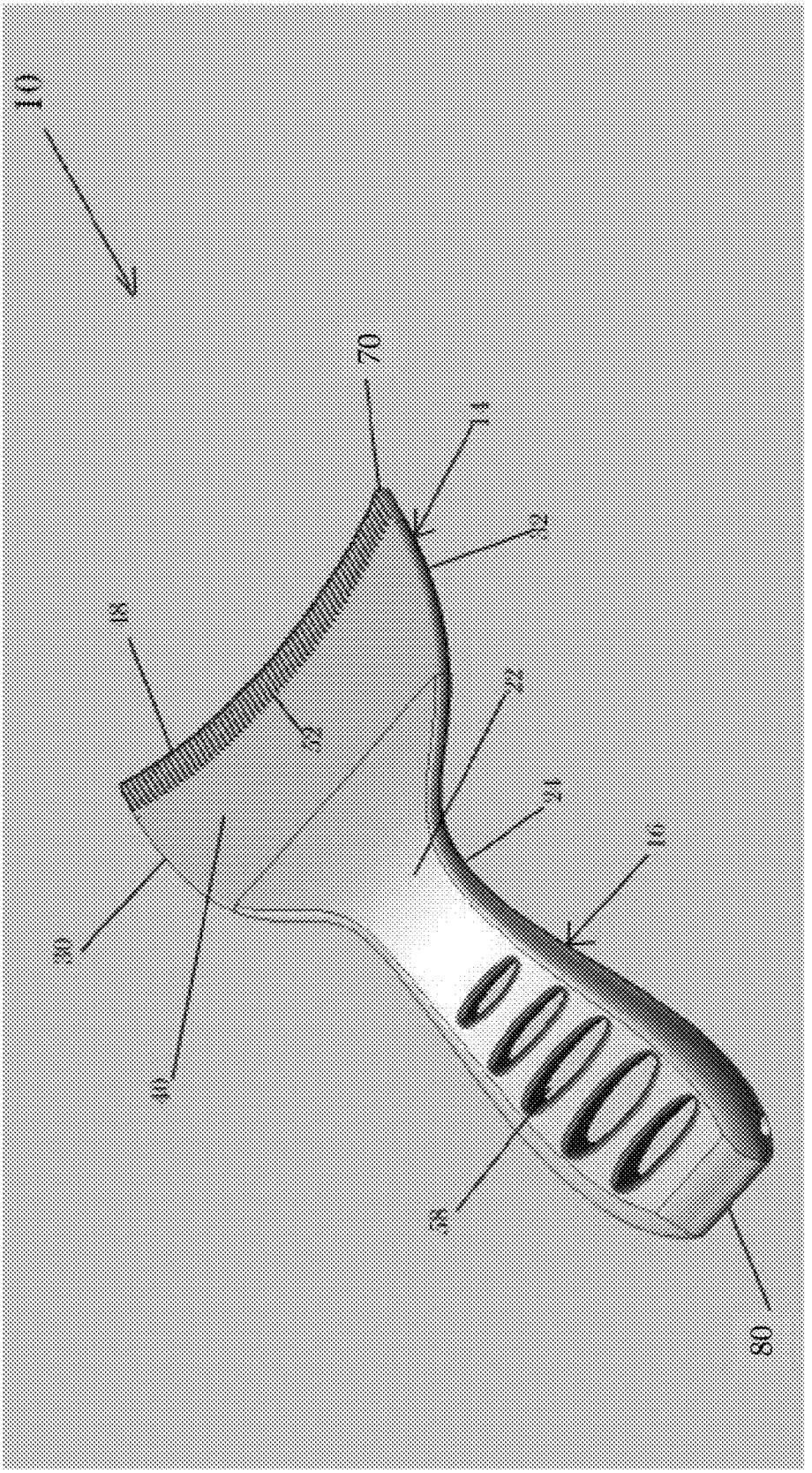


FIG. 13

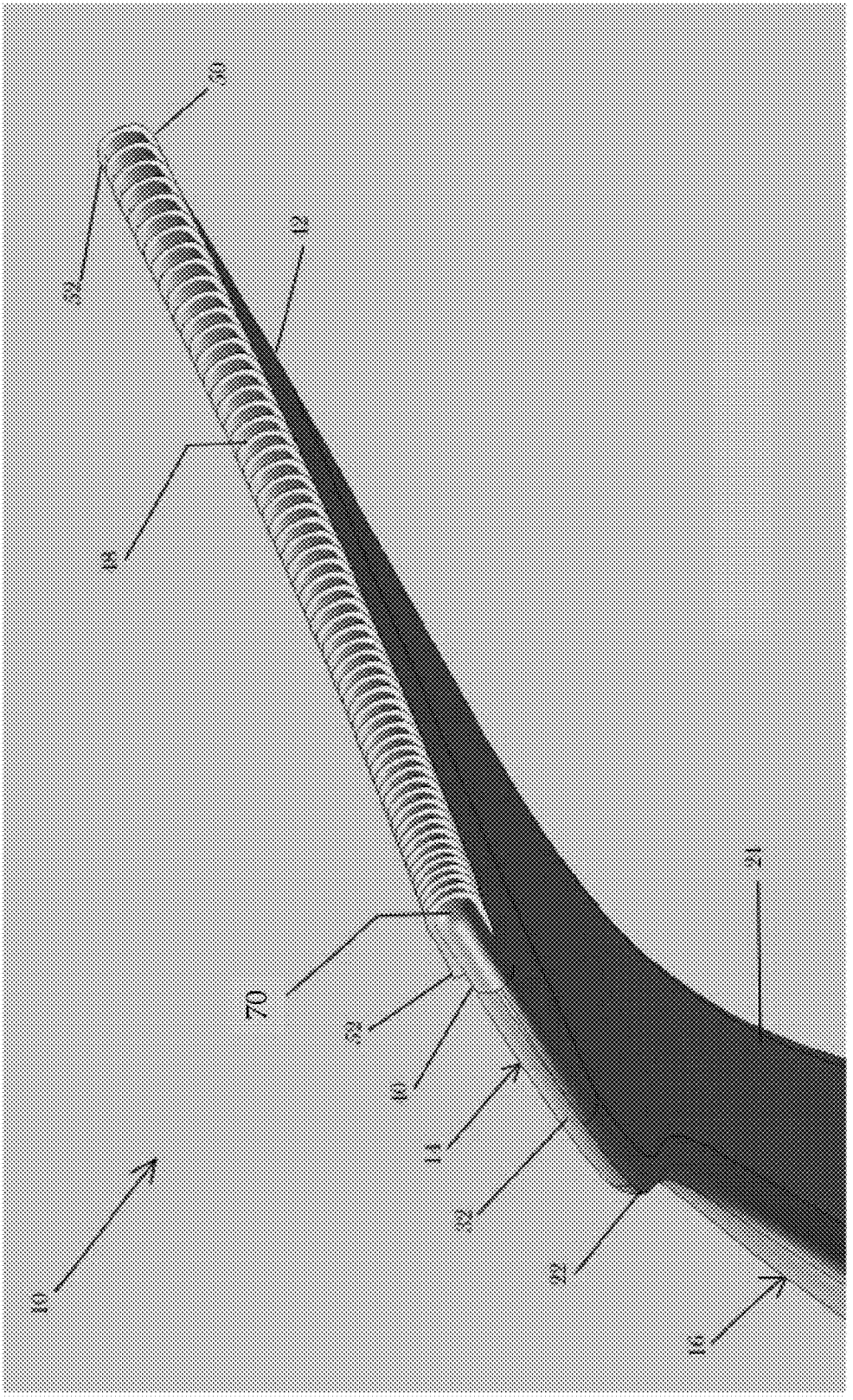


FIG. 14

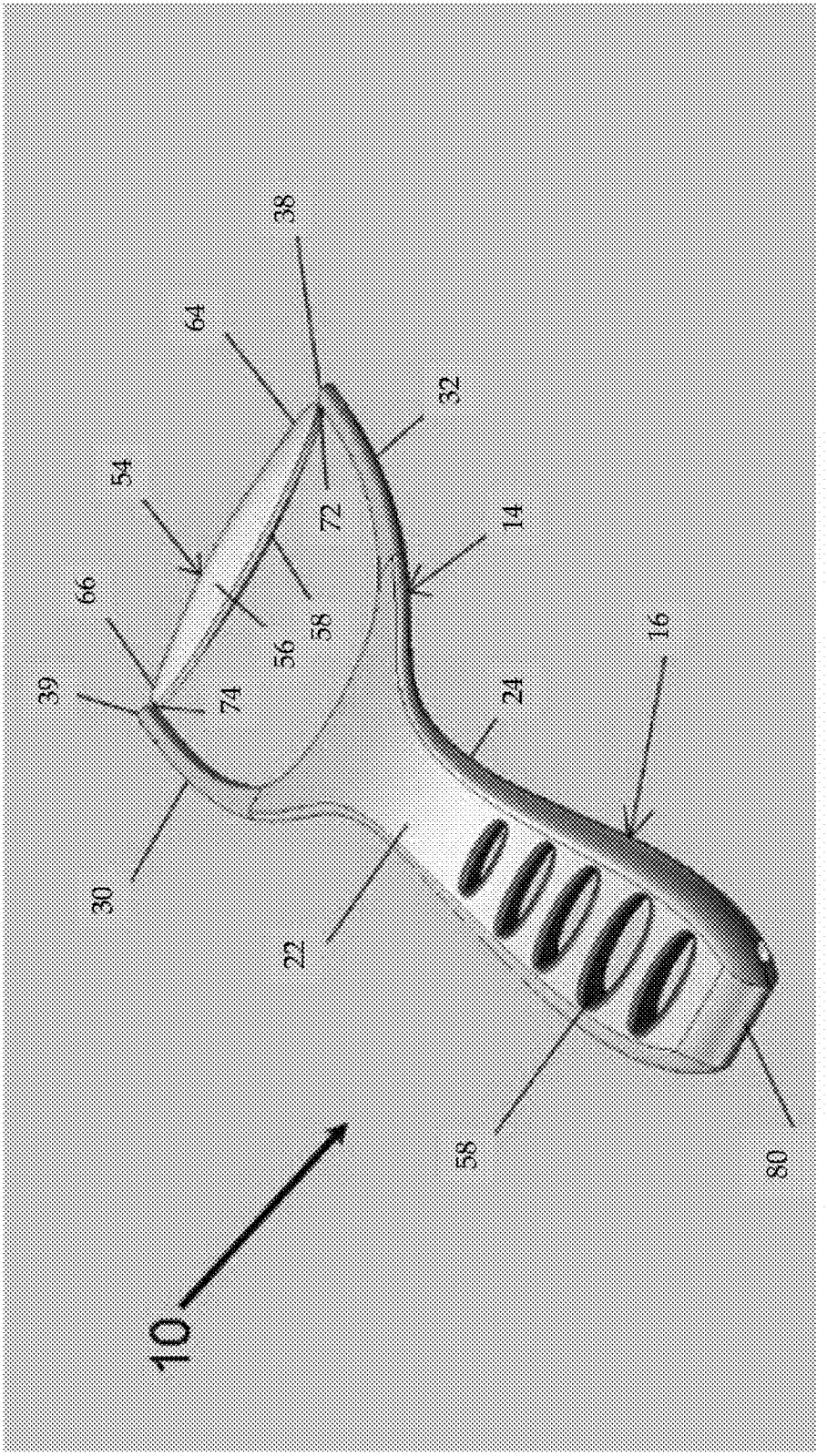


FIG. 15

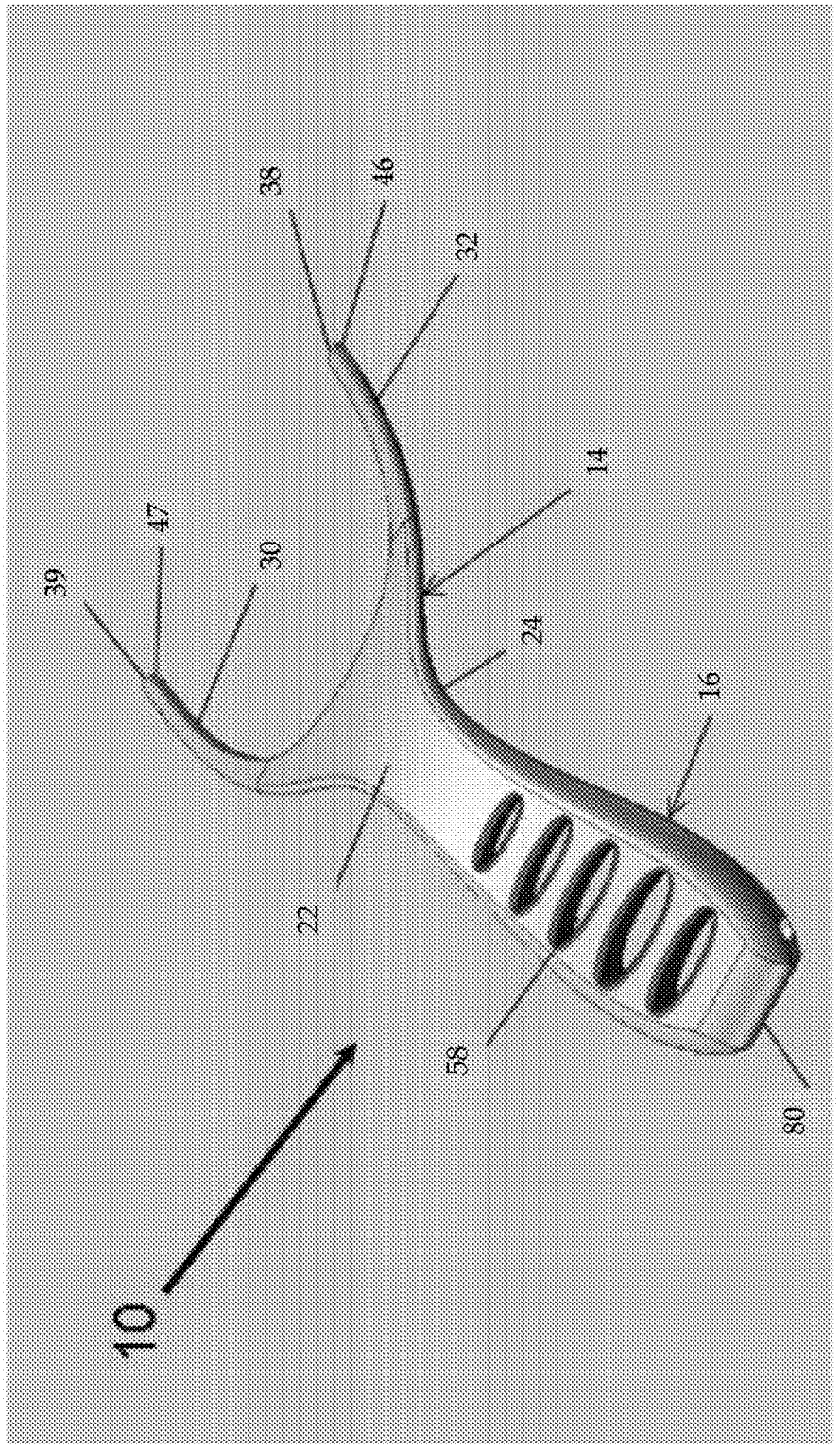


FIG. 16

ERGONOMIC MASCARA APPLICATOR

[0001] This application claims priority to International Application Serial No. PCT/US09/60252 filed Oct. 9, 2009 which claims priority to U.S. Provisional Patent Application Ser. No. 61/104,368, filed Oct. 10, 2008, U.S. Provisional Patent Application Ser. No. 61/104,369, filed Oct. 10, 2008, and U.S. Provisional Patent Application Ser. No. 61/104,373, filed Oct. 10, 2008, the disclosures of which are hereby incorporated by reference herein.

FIELD OF INVENTION

[0002] The present invention relates generally to applicators for cosmetics. More particularly, the present invention relates to ergonomic applicators for applying a cosmetic composition to eyelashes.

BACKGROUND OF THE INVENTION

[0003] Conventional applicators for applying mascara compositions to eyelashes generally include a brush held on an elongated rod that is connected to a handle. The bristles of the brush project radially from the rod. The brush and rod are usually housed in a cylindrical container. The brush handle forms a closure for the container when the mascara applicator is not in use.

[0004] When use of the mascara applicator is desired, the handle is pulled away from the container to remove the mascara-laden brush. During application of mascara to the eyelashes, the brush rod is generally positioned parallel to the face, and oriented horizontally with the brush handle held beside a cheek or temple for purposes of manipulation and alignment of the brush with the eyelashes.

[0005] During transfer of mascara to the eyelashes, the brush is twisted or rotated along its central axis and moved in a vertical up and down motion, while held in the horizontal position, such as up to the forehead to do the top eyelashes, and down from the forehead to do the bottom eyelashes.

[0006] Some users will hold the mascara brush handle in the right hand to apply mascara to the right eyelashes, and switch the brush handle to the left hand to apply mascara to the left eyelashes. Other users favor the right or left hand and use the favored hand to apply mascara to the eyelashes of both the right and left eyes.

[0007] However, even when the favored hand is used for the eyelashes of both eyes, it may be necessary to hold the mascara applicator in the opposite hand to get to the extreme ends of the eyelash that are furthest from the favored hand or closest to the nose bridge.

[0008] It should be noted that the application of mascara with conventional mascara applicators usually requires dozens of repeated strokes and rotations or twists to achieve the desired eyelash appearance. Because of the manner in which a conventional mascara applicator is held and manipulated the application of mascara can be a difficult and tiresome exercise.

[0009] It is thus desirable to provide a mascara applicator that can be easily manipulated with a favored or non-favored hand for applying mascara. It is also desirable to provide a mascara applicator that can be conveniently held with the hand positioned directly in front of the face rather than off to one side of the head. It is further desirable to provide a mascara applicator that can be easily manipulated in the same hand to apply mascara to the full range of eyelash for both eyes.

SUMMARY OF THE INVENTION

[0010] An ergonomic applicator for applying a cosmetic composition to the eyelashes is provided comprising (i) a handle portion and (ii) a head portion. The handle portion is suitably dimensioned to permit the applicator to be held between the thumb and fingers on opposing faces thereof. The opposing faces are of sufficient width relative to the thickness separating the faces to prevent rotation of the handle when held between the thumb and fingers. Preferably, the maximum thickness separating the faces of the handle portion compared to the maximum width of the handle portion is at a ratio from about 1:5 to about 1:50. The head portion has at its distal end at least one transfer element comprising a textured surface for holding a charge of cosmetic composition and transferring it to the eyelashes on contact therewith. The transfer element extends substantially across the width of the head portion and in a direction orthogonal to a longitudinal axis of the handle. The longitudinal axis of the head portion is oriented, or is rotatable to be oriented, at an obtuse angle with respect to the longitudinal axis of said handle. The obtuse angle is preferably from about 120 degree to about 170 degrees. In a preferred embodiment, the applicator has a total length from its proximal end to its distal end from about 35 mm to about 80 mm.

[0011] In some embodiments, the head portion has a terminal arcuate edge at the distal end thereof, said arcuate edge being concave with respect to the head portion. The head portion may also have an arcuate cross-section about its longitudinal axis. In an alternative embodiment, the head portion may include a first support and a second support defining an opening therebetween for receiving a transfer element. The transfer element may be mounted between the first and second supports. Additionally, the handle portion may include finger grip enhancements or cut-outs to increase friction between the handle portion and the thumb or fingers.

[0012] The transfer element may be included on one or both opposing faces of the head portion. Alternatively, the transfer element is disposed along the terminal edge at the distal end of the head portion. The transfer element may include at least one textured surface, such as bristles, projections, indentations, fins, tines, Velcro, teeth, grooves, sponges, or flocked surfaces. Preferably, the textured surface includes fins or bristles. More preferably, the bristles have a length less than 5 mm.

[0013] In certain embodiments, the head portion is rotatably adjustable with respect to said handle portion so as to adjust the obtuse angle between said longitudinal axis of said head portion and said longitudinal axis of said handle portion. Preferably, the head portion and the handle portion are rotatable about an axis orthogonal to the longitudinal axis of the head portion and the longitudinal axis of the handle portion. The applicator may further include a hinge permitting rotation of the head portion with respect to the handle portion.

[0014] A kit including the applicator of the present invention and a container charged with a liquid cosmetic for application to a keratin fiber is also provided. The container is configured to receive the head portion of the applicator when inserted into the container so as to bring said transfer element into contact with the composition. A wiper is attached to the

container for removing excess composition from the transfer element upon removal of the applicator from the container.

[0015] In addition, the applicator is used in a method for applying mascara to the eyelashes. The method includes metering a charge of mascara onto the transfer element of the applicator and transferring the composition to the eyelashes by contacting the transfer element with the eyelashes while holding the applicator in a substantially vertical position.

[0016] These and other aspects of the invention will become apparent to those skilled in the art after a reading of the following detailed description of the invention, including the figures and appended claims.

BRIEF DESCRIPTION OF THE FIGURES

[0017] FIG. **1** shows a side view of a mascara applicator according to a general embodiment of the invention.

[0018] FIG. **2** shows a perspective view of an exemplary embodiment of the invention having bristles on opposing faces of the head portion and fin-like projections at the distal end of the applicator.

[0019] FIG. **3** shows a different perspective view of the exemplary embodiment of the invention illustrated in FIG. **2**.

[0020] FIG. **4** shows a front perspective view of the exemplary embodiment of the invention illustrated in FIG. **2**.

[0021] FIG. **5** shows a front perspective view of an alternative exemplary embodiment of the invention having a reduced brush density and having bristles on only one face of the head portion.

[0022] FIG. **6** shows a front perspective view of an alternative exemplary embodiment of the invention having a further reduced brush density and having bristles on only one face of the head portion.

[0023] FIG. **7** shows a different front perspective view of the exemplary embodiment of the invention illustrated in FIG. **4**.

[0024] FIG. **8** shows a different front perspective view of the exemplary embodiment of the invention illustrated in FIG. **5**.

[0025] FIG. **9** shows a different front perspective view of the exemplary embodiment of the invention illustrated in FIG. **6**.

[0026] FIG. **10** shows a bottom perspective view of the exemplary embodiment of the invention illustrated in FIG. **6**.

[0027] FIG. **11** shows a bottom perspective view of the exemplary embodiment of the invention illustrated in FIG. **5**.

[0028] FIG. **12** shows a bottom perspective view of the exemplary embodiment of the invention illustrated in FIG. **4**.

[0029] FIG. **13** shows a perspective view of another exemplary embodiment of the invention having the parallel fins that wrap around the terminal edge at the distal end of the applicator.

[0030] FIG. **14** shows a side perspective view of the head portion of the exemplary applicator shown in FIG. **13**.

[0031] FIG. **15** shows a perspective view of another exemplary embodiment of the invention having a concave terminal edge in the head portion forming side legs for attaching to the ends of an elongated transfer element.

[0032] FIG. **16** shows a perspective view of the exemplary applicator shown in FIG. **13** wherein the transfer member is removed.

DETAILED DESCRIPTION

[0033] The inventive applicator for applying a cosmetic composition generally includes angles and/or curvatures that provides an ergonomic shape to improve a user's comfort in applying the cosmetic composition. Specifically, the applicator according to the invention is particularly useful for application of a cosmetic composition, such as mascara, to the eye. The applicator according to the invention may also be useful for application of a variety of cosmetic and personal care products to keratin fibers or to the skin, including without limitation, eyeliner, hair dye, lipliner, lipstick, lipcolor, lip gloss, etc. As used herein, the term "keratin fibers" may include, without limitation, eyelashes, eyebrows, or hair of any part of the body, including the scalp. It is believed that the applicator of the present invention has an advantageous shape that allows the applicator to be more conveniently held in the hand of a user and more easily manipulated by a single hand to apply the cosmetic composition in an efficient and even manner as compared to conventional cosmetic applicators. In addition, it is believed that the applicator of the present invention is capable of providing increased coverage of eyelashes with each stroke and more uniform distribution of mascara compositions across the length of the eyelashes as compared to conventional cosmetic applicators. Without being bound by any theory, it is believed that increased coverage of eyelashes with each stroke is achieved by the advantageous size and shape which provides for increased contact area with the eyelashes. Accordingly, it is believed that the applicator can effectively deposit mascara to the eyelashes using fewer strokes than with a conventional applicator.

[0034] A general embodiment of the applicator **10** according to the invention is shown in FIG. **1**. The applicator **10** for applying a cosmetic composition, such as a mascara composition, to the eyelashes includes a handle portion **16** at the proximal end **80** and a head portion **14** at a distal end **70**. The handle portion **10** may be operably linked to the head portion **14** in any suitable manner. In one embodiment, the head portion **14** and the handle portion **16** may be integral and formed together in one piece. Alternatively, the head portion **14** and the handle portion **16** may be formed as separate structures and joined together using any suitable technique in the art. For example, the head portion **14** and the handle portion **16** may be joined by a hinge, by a friction-fit mechanism, by a locking mechanism, by an adhesive, or by fusing a distal end of the handle portion **16** with a proximate end of the head portion **14**. In one embodiment, the head portion **14** may be detachably attached to the handle portion **16**. In particular, the handle portion **16** may be detachable from and interchangeably attachable to a plurality of head portions **14**.

[0035] The handle portion **16** and the head portion **1.4** may be connected in any suitable orientation. In one embodiment, the handle portion **16** may be co-linear with the head portion **14** of the applicator **10**. Preferably, the handle portion **16** is connected to or integral with the head portion **10** at an angle forming a bended shape, having a generally convex shape on one side where the head portion **14** is linked to the handle portion **16** and a generally concave shape on an opposing side. The bended shape may be a slight or an exaggerated deviation from a co-linear formation, forming an offset between the head portion **10** and the handle portion **16**. It is believed that this offset provides a more ergonomic shape to the applicator **10** and can facilitate application of mascara to the eyelashes in a more efficient and uniform manner as compared to conventional mascara applicators. In certain embodiments, the applicator **10** may be the widest at the distal end **70** and taper to the narrowest point on the applicator **10** at the bend where the head portion **14** is linked to the handle portion **16**. It is also

believed that the ergonomic shape of the applicator **10** can improve comfort, allow the applicator **10** to be more conveniently held in the hand of a user, and provide better ability for manipulating the applicator **10** with a single hand.

[0036] The applicator **10** of the present invention May be in any suitable size and shape. Preferably, the size and shape of the applicator **10** make it convenient and comfortable for use with either hand, regardless of whether a user has a favored hand for applying mascara to the eyelashes. In situations where a user holds the applicator **10** only with the favored hand for, application of mascara to the eyelashes on both the left and right eyes, the applicator **10** is capable of easily accessing the full range of eyelashes for both eyes, including those eyelashes that are furthest from the favored hand or closest to the nose bridge.

[0037] Preferably, the applicator **10** may be in a relatively small and convenient size for portable use by a consumer. More preferably, the applicator **10** may be in a size that allows the applicator **10** to be held firmly between the thumb and fingers and prevents radial movements of the applicator **10** during use and manipulation by a consumer. For example, the total length (L) of the applicator **10** at the longest point from the proximal end **80** to the distal end **70** may range from about 15 mm to about 80 mm, from about 25 mm to about 80 mm, from about 25 mm to about 75 mm, from about 35 mm to about 80 mm, from about 35 mm to about 65 mm, or from about 40 mm to about 60 mm. In a specific embodiment, the total length (L) of the applicator **10** at the longest point may be approximately two inches (or about 50.8 mm), with the handle portion **16** being slightly more than one inch (about 25.4 mm) in length and the head portion **14** being slightly less than one inch (about 25.4 mm) in length. As used herein, the total length of the applicator **10** is determined by measuring the length of a third side of a triangle defined on two sides by the head portion **14** and the handle portion **16**. in certain embodiments where the head portion **14** and the handle portion **16** are co-linear and do not overlap in length, the total length (L) is the sum of the length of the head portion **14** and the length of the handle portion **16**. Other suitable dimensions for a relatively small and convenient size include a width of the distal end **70** of the head portion **14** ranging from about 10 mm to about 50 mm, from about 12.5 mm to about 45 mm, from about 15 mm to about 40 mm, from about 17.5 mm to about 35 mm, or from about ¾ inch (about 19.1 mm) to about 1¼ inch (about 31.8 mm) and a width of the applicator **1.0** at its narrowest point ranging from about 5 mm to about 30 mm, from about 7.5 to about 20 mm, from about 8 mm to about 15 mm, or from about five sixteenths of an inch (about 7.9 mm) to about three eighths of an inch (about 9.5 mm).

[0038] It is contemplated by the present invention that the head portion **14** and handle portion **16** of the applicator **10** may include other shapes and sizes that are ergonomically comfortable to hold and manipulate.

[0039] In a preferred embodiment, the longitudinal axis I-I of the handle portion **16** is positioned or capable of being positioned at an obtuse angle θ with respect to the longitudinal axis II-II of the head portion **10**. By obtuse angle, it is meant that the angle is greater than 90 degrees but less than 180 degrees. The handle portion **16** and the head portion **10** of the applicator **10** may be fixed at, rotatably adjustable to, or capable of being deformed along an axis orthogonal to the longitudinal axis I-I of the handle portion **16** and the longitudinal axis II-II of the head portion **14** to form the angle θ. In one embodiment, the handle portion **16** may be connected to the head portion **14** via an adjustable hinge (not shown). Specifically, the range of motion of the adjustable hinge may be limited to form only obtuse angles. In another embodiment, the applicator **10** may be formed from a deformable material to allow a user to bend and deform the applicator **10** to a suitable angle θ. Preferably, the angle θ between the longitudinal axis I-I of the handle portion **16** and the longitudinal axis II-II of the head portion **14** range from about 95 to about 175 degrees, more preferably from about 115 to about 170 degrees, even more preferred from about 120 to about 170 degrees, still more preferred from about 130 to about 165 degrees, and most preferably from about 140 to about 160 degrees.

[0040] The handle portion **14** of the applicator **10** may have any suitable dimensions that permit the applicator to be held between the thumb and fingers and prevent rotation of the handle when held between the thumb and fingers. Preferably, the handle portion **16** is narrower than the head portion **14**. In one embodiment, as shown in the exemplary embodiments of the present invention illustrated in FIGS. **2** through **16**, the handle portion **14** includes two opposing faces **86**, **88** having sufficient width relative to the thickness separating the faces to prevent rotation of the handle portion **14** when held between the thumb and fingers. The thickness separating the two faces may be uniform throughout or may be variable. Particularly, the ratio of the dimension of the maximum thickness separating the faces to the width of the widest point of the handle portion **14** may range from about 1:2 to about 1:50, from about 1:5 to about 1:50, from about 1:3 to about 1:25, or from about 1:4 to about 1:20, from about 1:5 to about 1:10. In certain embodiments, the maximum thickness separating the faces may range from about 1 mm to about 10 mm, from about 1.25 mm to about 5 mm, from about 1.5 mm to about 3 mm. In certain embodiments, the handle portion **14** may be substantially within a linear or curved plane. In another embodiment, the handle portion **14** may be flat.

[0041] The handle portion **14** may also include any suitable modifications that improve the comfort and/or stability of the applicator **10** when held between the thumb and fingers. One suitable modification includes a convex contour on at least one of the opposing faces **86** and **88** of the handle portion **14**. Another suitable modification may be a convex contour on face **88** of the handle portion **14**, which is adapted to be held by a thumb, and a concave contour on the opposing face **86** of the handle portion **14**, which is adapted to be held by the fingers. Alternatively, another suitable modification to the handle portion **14** is shown in the exemplary embodiments shown in FIGS. **2** through **12**. The modification may include finger grip enhancements **94** that are attached to or formed integrally with the handle portion **14**. The finger grip enhancements **94** may include any means for increasing the friction of the handle portion **14** against the thumb and/or fingers, such as but are not limited to, raised semi-circles, ridges, depressions, other shaped projections or void spaces between such projection. The finger grip enhancements **94** may be formed unitarily with the handle portion **14** or may be attached by any suitable means, including an adhesive or fusion of the enhancements **94** with the handle portion **14**. The finger grip enhancements **94** may be formed using any suitable technique, including molding and finishing techniques such as soft touch finish or co-extrusion of polymers.

[0042] Another suitable modification is shown in another exemplary embodiment of the present invention shown in FIGS. **13**, **15** and **16**. The handle portion **14** may be modified

to include cut-outs or openings **58** that increase friction between the handle portion **14** and the thumb and/or fingers, thereby facilitate gripping of the handle **16**. The cut-outs or openings **58** may be in any suitable shape. Preferably, the cut-outs or openings **58** are narrow or elongated. In the specific embodiments shown in FIGS. **13**, **15** and **16**, the cut-outs or openings **58** have an oval shape. In addition, as shown in FIGS. **13**, **15** and **16**, the cut-outs or openings **58** may be arranged parallel to each other. More preferably, the cut-outs or openings **58** having a length perpendicular to the longitudinal axis I-I of the handle portion **14**.

[0043] The head portion **16** is the part of the applicator **10** in contact with at least one transfer element **56** for applying the cosmetic composition. Preferably, the head portion **14** is narrower at its proximal end, where it is linked to the handle portion **16**, than at the distal end **70**. The head portion **16** provides structural support for the transfer element **56**. Additionally, the surface(s) of the head portion **16** may be textured to form a transfer element **56**. Preferably, the transfer element **56** extends substantially across the width of the head portion **14** and in a direction orthogonal to the longitudinal axis I-I of the handle portion **16**. By substantially across the width, it is meant that the transfer element **56** extends more than 70%, preferably more than 80%, more preferably more than 90% and most preferably more than 95% of the width of the head portion **14**. The transfer element **56** may also extend across the entire width of the head portion **14**. In addition, the transfer element **56** may have any suitable shape. Specifically, the transfer element **56** may have an arcuate exterior shape that substantially conforms or conforms to at least a quarter, at least a third, at last half or all of the contours formed by the eyelashes or the eyelid. In certain embodiments, the arcuate exterior shape is convex while in other embodiments, the arcuate exterior shape may be concave. In some embodiments, the head portion **16** and the transfer element **56** may be unitary such as in the case where the transfer element **56** constitutes textured surfaces integral with the head portion **16**. For example, the head portion **16** and the transfer element **56** may be molded as a solitary piece by injection-molding.

[0044] In a preferred embodiment, such as those exemplary embodiments shown in FIGS. **2** through **14**, the head portion **16** may have two opposing faces **40**, **42** with a thickness in between. The thickness between opposing faces **40** and **42** may be uniform throughout or may be variable. In one preferred embodiment, the thickness of the head portion **16** is at a maximum along its longitudinal axis II-II and decreases as the distance from the longitudinal axis II-II increases. The transfer element **56** may extend from one or both of the opposing faces **40**, **42**. The transfer element **56** may also extend from the distal end **70** of the head portion **14** of the applicator **10**. The maximum thickness of the head portion **16** may be less than the width of the widest point of the head portion **16**. In particular, the maximum thickness separating the opposing faces **40**, **42** as compared to the width of the widest point of the head portion **16** may have a ratio from about 1:2 to about 1:50, from about 1:5 to about 1:25, or from about 1:10 to about 1:20. In specific embodiments, the maximum thickness separating the opposing faces of the head portion **16** may range from about 1 mm to about 10 mm, from about 1 mm to about 10 mm, from about 1.25 mm to about 5 mm, from about 1.5 mm to about 3 mm.

[0045] The head portion **16** may also include an additional axis of rotation perpendicular to the longitudinal axis II-II of the head portion **16** (not shown). The head portion **16** may be further adjustable about this additional axis. Specifically, the head portion **16** may be formed from two pieces rotatably attached to each other by an adjustable hinge along this additional axis. The range of motion of the adjustable hinge may be limited to form only obtuse angles. Preferably, the adjustable hinge may be limited to movements between from about 95 to about 175 degrees, more preferably from about 100 to about 170 degrees, even more preferred from about 100 to about 170 degrees, more preferred still from about 105 to about 165 degrees, and most preferably from about 110 to about 160 degrees.

[0046] Preferably, the head portion **16** may have any suitable shape that substantially conforms to or conforms to at least a quarter of the contours formed by the eyelashes or the eyelid. In one preferred embodiment, as shown in FIGS. **2** through **12** any cross-section about the longitudinal axis II-II of the head portion **16** may have an arcuate shape. Preferably, the arcuate shape substantially conforms to or conforms to at least a quarter, at least a third, at last half or all of the contours formed by the eyelashes or the eyelid. The arcuate cross-section of the head portion **16** about the longitudinal axis II-II may be convex along the top face **40** and concave along the bottom face **42**. Alternatively, the cross-section of the head portion along the top and bottom faces **40**, **42** may be concave/concave, convex/convex, planar/planar or any combinations thereof. In another preferred embodiment, the head portion **16** has a terminal arcuate edge, preferably a concave edge, at the distal end **70** as shown in FIGS. **4** through **6** and **13**. The terminal concave edge substantially conforms to or conforms to at least a quarter, at least a third, at last half or all of the contours formed by the eyelashes or the eyelid.

[0047] In an alternative embodiment, as shown in the exemplary embodiment shown in FIGS. **15** and **16**, the head portion **16** may include a first support, such as a first side leg **30**, on a right side of the longitudinal axis II-II of the head portion **16** and a second support, such as a second side leg **32**, on the left side of the longitudinal axis II-II. The first and second supports form an opening therebetween for receiving and supporting a transfer element **56**. In the specific embodiment show in FIGS. **15** and **16**, the first and second supports may be formed from a concave terminal edge at the distal end **70** of the head portion **16**. The transfer element **56** may be rotatably or non-rotatably mounted along its length between the first and second supports. The transfer element **56** may have an elongated shape, such as, but not limited to a cylinder or an elongated oval shape having a circular cross section.

[0048] The transfer element **56**, includes means for holding and releasing a cosmetic composition, such as mascara, and can include any type of textured surface for holding a charge of cosmetic composition and transferring it to a keratin fiber, e.g., eyelashes, or the skin on contact. Any suitable textured surfaces capable of holding and transferring a charge of cosmetic composition may be used as a transfer element **56**. The textured surfaces may also be capable of imparting various types of aesthetically pleasing appearances to the eyelashes, such as a volumized appearance, a separated appearance (i.e., the eyelashes being individually separated from each other), a curly appearance, etc. Examples of suitable textured surfaces include bristles, projections, indentations, fins, tines, Velcro, teeth, grooves, sponges, or flocked surfaces. The textured surfaces may be formed from any suitable substance. In some embodiments, the textured surfaces are formed from silicone or other soft touch materials. However, it will be understood where bristles become a sufficient length to be

readily bent such as, for example, in a paint brush, the bristles will no longer be considered to constitute a textured surface, and in such case should not be included on the terminal edge of the head portion. However, in some embodiments, it is contemplated that longer bristles, for example, from about 10 to about 20 mm are within the scope of the invention provided that they are not on the terminal edge of the head portion, for example, longer bristles may be suitable included on one or more of the opposing face of the head portion. Bristles according to the invention will typically be less than 10 mm in length, less than 7.5 mm in length, less than 5 mm in length, less than 2.5 mm in length. The bristles may be, without limitation integral with the body of the head or may be synthetic fibers implanted in the head. In one embodiment, the transfer element **56** is not unitary with the head portion **14** and the bristles less than about 5 mm from the base of the transfer element **56**. In certain embodiments, any bristles extending out of a terminal end of the applicator parallel to a plane containing substantially the head portion **14** will be less than about 5 mm, less than about 4.5 mm, less than about 4 mm, less than about 3.5 mm, less than about 3 mm, less than about 2 mm, or less than about 1 mm. In other embodiments, the transfer element **56** will be free of bristles extending parallel to the plane containing substantially the head portion **14**. In another embodiment, the terminal edge of said head portion is substantially free of bristles by which is meant that the number of bristles extending from the terminal edge in a direction parallel to the longitudinal axis II-II of the head portion **14** are suitably low such that such bristles cannot materially contribute to the application of mascara over a substantial number of eyelashes during regular use. In other embodiments, the terminal edge will be free of bristles.

[0049] In one preferred embodiment, the texture surface may comprise an array of stub-like projection, fin-like projections, and/or bristles arranged in any suitable shape or pattern and need not be symmetrical. Examples of suitable patterns include spaced and parallel rows, staggered rows and columns, linear rows and columns, or random patterns. An array of projections arranged in parallel rows in the same direction as the longitudinal axis II-II of the head portion **14**, may impart a separated appearance to the eyelashes. In contrast, an array of projections arranged in staggered rows and columns, may impart a voluminous appearance to the . eyelashes. The density of the array may vary as shown in the exemplary embodiments shown in FIGS. **3** through **5**, depending on the characteristics of the cosmetic composition being applied. Differences in the densities of the array of projections may also impart different aesthetic looks to the eyelashes.

[0050] The cosmetic applicator **10** of the present invention may be placed in a kit with or used in combination with a reservoir containing or charged with a cosmetic composition, preferably a liquid cosmetic composition such as a mascara. The reservoir may include at least one wiper for eliminating excess mascara from the transfer elements **56**. In one embodiment, the applicator **10** may serve as a closure element for the reservoir, without the use of a separate closure device, such as a cap or a cover. The applicator **10** may be used in combination with the reservoir by first placing the head portion **14** into the reservoir so as to bring the transfer element into contact with the mascara composition and subsequently withdrawing the head portion **14** from the reservoir to meter a charge of mascara onto the transfer element **56**. While the head portion **14** of the applicator **10** is being withdrawn from the reservoir, the wiper removes excess mascara from the transfer element **56** by a smoothing motion and pushing the excess mascara back into the reservoir.

[0051] To use the applicator **10** for applying a mascara composition to the eyelashes, a user may hold the handle portion **16** of the applicator **10** between the thumb and fingers and place the head portion **14** directly in front of the eyelashes in a substantially vertical position, where the transfer element **56** would be parallel or substantially parallel to the eyelid. By substantially vertical it is meant generally parallel to the line of the nose. The applicator **10** is then easily moved upwardly (towards the top of the head) or downwardly (toward the chin) in a single motion such that the transfer element **56** engages and deposits the mascara composition in a uniform manner.

[0052] The size and shape of the handle portion **16** permits the user to ergonomically and stably hold the applicator **10** between the thumb and forefingers and manipulate the applicator **10** for application of a mascara composition to the eyelashes. In particular, the applicator **10** may be suitably sized such that the hand of the user may lean on the cheek or the forehead for additional support during application of the mascara composition. The ability to lean on portions of the face such as the cheek or the forehead provides increased stability and allows the user to more precisely apply mascara to the eyelashes and avoid a smudged appearance.

[0053] FIGS. **2** through **12** illustrates some of the currently preferred embodiments of the applicator **10** according to the invention. The applicator **10** includes a head portion **14** linked to a handle portion **16** at an obtuse angle, forming a generally convex surface **22** on one side where the head portion **14** is linked to the handle portion **16** and a generally concave surface **24** on an opposing side. The head portion **14** has a side edge **32** on the right side of the longitudinal axis II-II of the head portion **14** and an opposite side edge **30** on the left side of the longitudinal axis II-II. The head portion **14** includes an distal end **70** having a slightly concave contour between the opposite side edges **30** and **32**. As shown in the exemplary embodiments of FIGS. **2** through **12**, the head portion **14** is narrower at its proximal end where it is linked to the handle portion **16** as compared to the distal end **70** of the head portion **14**.

[0054] The embodiment illustrated in FIG. **2** also includes a head portion **14** having a top face **40** and a bottom face **42**. The top face **40** can be planar but is preferably convex between the opposite side edges **30** and **32**. The bottom face **42** is preferably concave between the opposite side edges **30** and **32**. The top and bottom faces **40**, **42** can also have a concave/concave, convex/convex, planar/planar relationship or any combinations thereof.

[0055] The thickness between of the top face **40** and the bottom face **42** of the head portion **14** may be uniform or variable. Preferably, the thickness of the head portion **14** between the top face **40** and the bottom face **42** is at a maximum midway between the opposite side edges **30** and **32** of the head portion **14**. The head portion **14** may have a minimum thickness at the opposite side edges **30** and **32**.

[0056] The top face **40** of the head portion **14** includes a transfer element **56** that extends substantially from the right side edge **32** to the left side edge **30**. The transfer element **56** also extends a predetermined distance from the distal end **70** towards the proximal end **80**. The transfer element **56** includes any type of textured surface for holding a charge of cosmetic composition and transferring it to the eyelashes on contact. The textured surface of this exemplary embodiment

includes an array of stub-like projections or bristles **57** arranged in staggered or linear rows and columns or random patterns. The density of the bristles **57** may vary as shown in FIGS. **4** through **12**, depending on the characteristics of the cosmetic composition being applied.

[0057] In the specific embodiments shown in FIGS. **2**, **3**, **4**, **7**, **8** and **12**, the bottom face **42** of the head portion **14** includes a transfer element **56** that extends substantially from the right side edge **32** to the left side edge **30**. The transfer element **56** on the bottom face **42** also extends downwardly a predetermined amount from the distal end **70** toward the proximal end **80**. The transfer element **56** on the bottom face **42** also includes any type of textured surface for holding a charge of cosmetic composition and transferring it the eyelashes on contact, which includes the array of the stub-like projections or bristles **57** arranged in a manner similar to the arrangement of the stub-like projections or bristles **57** on the top face **40**.

[0058] In other embodiments of the invention, either the transfer element **56** on the top face **40** or the transfer element **56** on the bottom face **42** may be omitted.

[0059] In the specific embodiments shown in FIGS. **2** through **12**, the distal end **70** of the head portion **14** may also include a transfer element **56**. The transfer element **56** include any type of textured surface for holding a charge of cosmetic composition and transferring it the eyelashes on contact. Specifically, the textured surface may be formed with spaced fin-like projections that project from the edge at the distal end **70** and extend from the top face **40** to the bottom face **42**. Alternatively, the edge at the distal end **70** may include the type of texture surfaces describes for the top face **40** and the bottom face **42**. The textured surfaces, including fin-like projections, on the applicator **10** at the edge at the distal end **70** provide a further area on the applicator **10** for applying mascara to the eyelashes. Specifically, the fin-like projections may have a height from the base of the texture surface ranging from about 0.001 to about 0.5 inches. The fin-like projections may be arranged in an array with spacing ranging from about 0.001 to about 0.25 inches.

[0060] The handle portion **16** of these exemplary embodiments have a side edge **76** on the left side of the longitudinal axis I-I of the handle portion **16** and an opposite side edge **78** on the right side of the longitudinal axis I-I. These exemplary embodiments of the applicator **10** also include a handle portion **16** having a proximal end **80** with a convex contour between the left side edge **76** and the right side edge **78**.

[0061] The exemplary embodiments shown in FIGS. **2** through **12** also include a top handle face **86** and a bottom handle face **88**. The top handle face **86** is preferably convex between the left side edge **76** and the right side edge **78** and the bottom handle face **88** is preferably planar between the left side edge **76** and the right side edge **78**. The handle portion **16** is wider at the proximal end **80** than its distal end where the handle portion **16** is linked to the head portion **14**. These exemplary embodiments of the applicator **10** also include finger grip enhancements **94** formed on the top handle face **86** and the bottom handle face **88**.

[0062] FIGS. **13** and **14** illustrate an alternative preferred embodiment of the applicator **10** according to the invention including a head portion **14** and a handle portion **16** operably linked at an obtuse angle, the applicator **10** having the same general shape as previously described for the exemplary embodiments shown in FIGS. **2** through **12**.

[0063] The embodiment illustrated in FIGS. **13** and **14** provide an alternative embodiment of a head portion **14** of the applicator **10**. Similar to the exemplary embodiments of FIGS. **2** through **12**, the alternative embodiment shown in FIGS. **13** and **14** includes a head portion **14** with a distal end **70** having a slightly concave contour between the opposite side edges **30** and **32**, the head portion **14** being narrower at its proximal end where it is linked to the handle portion **16** as compared to the distal end **70** of the head portion **14**. The head portion **14** also includes a generally flat top face **40** and a generally flat bottom face **42**.

[0064] The transfer element **56** is located at the distal end **70** of the applicator **10**. The transfer element **56** include any type of textured surface for holding a charge of cosmetic composition and transferring it the eyelashes on contact. Specifically, the textured surface may include a row of spaced and substantially parallel fins **48**. The fins **48** may have a curved contour, such as a convex contour, at the distal end **70**. The curved contour can be rounded or of a teardrop shape. The fins **48** may be arranged in parallel to the longitudinal axis of II-II. Additionally, the fins **48** may be attached to or integral with the top face **40** and the bottom **42** and wrap around the edge at the distal end **70** between the opposite side edges **30** and **32**. The fins **48** may have a top leg portion **52** that extends on the top face **40** a predetermined amount toward the proximal end **80**. The fins **48** also have a bottom leg portion **50** that extends on the bottom face **42** a predetermined amount toward the proximal end **80**. As shown in FIG. **14**, the bottom leg portion **50** may taper downwardly toward the bottom face **42** and the top leg portion **52** may project uniformly from the top face **40**. Moreover, the leg portions **50** and **52** may be part of a continuous and unitary fin. The projections of the fins **48** from the distal end **70** may have a maximum height from the base of the texture surface, such as the top face **40**, the bottom face **42** or the edge at the distal end **70**, ranging from about 0.001 to about 0.5 inches. The fins **48** may be arranged with spacing ranging from about 0.001 to about 0.25 inches.

[0065] The embodiment illustrated in FIG. **13** also provide an alternative embodiment of a handle portion .**16** of the applicator **10**. The handle portion .**16** is narrower than the head portion **14** and includes cut-outs or openings **58** that facilitate gripping of the handle **16**. The cut-outs or openings **58** may be in any suitable shape. Preferably, the cut-outs or openings **58** are narrow or elongated. In the specific embodiment shown in FIG. **13**, the cut-outs or openings **58** have an oval shape. In addition, as shown in FIG. **13**, the cut-outs or openings **58** may be arranged parallel to each other. More preferably, the cut-outs or openings **58** having a length perpendicular to the longitudinal axis I-I of the handle portion **14**.

[0066] FIGS. **15** and **16** illustrate another embodiment of the applicator **10** according to the invention including a head portion **14** and a handle portion **16** operably linked at an obtuse angle. The handle portion **16** of this particular embodiment is the same as that described or the exemplary embodiment show in FIG. **13**.

[0067] The exemplary embodiment illustrated in FIGS. **15** and **16** provides another alternative embodiment of the head portion **14** of the applicator **10**. The head portion **16** may include a side leg **30** having an end portion **38**, on a right side of the longitudinal axis II-II of the head portion **16** and a side leg **32** having an end portion **39**, on the left side of the longitudinal axis II-II. The right side leg **30** and the left side leg **32** form an opening therebetween for receiving a transfer element **56**. As shown in FIGS. **15** and **16**, the side legs **30** and **32** may be formed from a concave cut-away at the distal end

70 of the head portion 16. A right support opening 46 is provided in the right end portion 38 and a corresponding left support opening 47 is provided in the left end portion 39.

[0068] The transfer element 56, supported by the side legs 30 and 32, includes opposite textured surfaces 54, 58 for holding a charge of cosmetic composition and transferring it the eyelashes on contact. Specifically, the transfer element 56 may be in the form of a conventional mascara brush, or can have the shape of a cylinder, or an elongated oval shape having a circular cross section. The transfer element 56 has opposite ends 64 and 66 with respective support pins 72 and 74 that respectively engage the support openings 46 and 47 in the side legs 30 and 32.

[0069] The engagement between the support pins 72 and 74 and the support openings 46 and 47 may be established to permit rotation of the transfer element 56 relative to the side legs 30 and 32. Alternatively, such engagement can be non-rotatable. In another embodiment the transfer element 56 can be rendered detachable from the side legs 30 and 32, and interchangeable with other transfer elements 56 of different shapes or sizes such as a roller shape transfer element 56 having a rounded cylindrical shape or a rounded elongated oval shape.

[0070] The invention described and claimed herein is not to be limited in scope by the specific embodiments herein disclosed since these embodiments are intended as illustrations of several aspects of this invention. Any equivalent embodiments are intended to be within the scope of this invention. Indeed, various modifications of the invention in addition to those shown and described herein will become apparent to those skilled in the art from the foregoing description. Such modification are also intended to fall within the scope of the appended claims. All publications cited herein are incorporated by reference in their entirety.

What is claimed:

1. An ergonomic applicator for applying a cosmetic composition to the eyelashes comprising:

a handle portion suitably dimensioned to permit the applicator to be held between the thumb and fingers on opposing faces thereof, the opposing faces being of sufficient width relative to the thickness separating the faces to prevent rotation of the handle when held between the thumb and fingers; and

a head portion having at its distal end at least one transfer element comprising a textured surface for holding a charge of cosmetic composition and transferring it to the eyelashes on contact therewith,

the at least one transfer element extending substantially across the width of the head portion and in a direction orthogonal to a longitudinal axis of the handle,

wherein the longitudinal axis of said head portion is oriented, or is rotatable to be oriented, at an obtuse angle with respect to the longitudinal axis of said handle.

2. The applicator according to claim 1, wherein said head portion has a terminal arcuate edge at the distal end thereof, said arcuate edge being concave with respect to the head portion.

3. The applicator according to claim 1, wherein said head portion has an arcuate cross-section about its longitudinal axis.

4. The applicator according to claim 1, wherein said at least one transfer element is included on one or both opposing faces of said head portion.

5. The applicator according to claim 1, wherein said transfer element is disposed along the terminal edge at the distal end of said head portion.

6. The applicator according to claim 1, wherein said at least one textured surface is independently selected from the group consisting of bristles, projections, indentations, fins, tines, Velcro, teeth, grooves, sponges, and flocked surfaces.

7. The applicator according to claim 6, wherein said at least one textured surface comprises fins

8. The applicator according to claim 6, wherein said at least one textured surface comprises bristles.

9. The applicator according to claim 8, wherein said bristles have a length less than 5 mm.

10. The applicator according to claim 1, wherein said head portion further comprises a first support and a second support defining an opening therebetween for receiving said transfer element, said transfer element mounted between said first and second supports.

11. The applicator according to claim 1, wherein the handle portion further comprises finger grip enhancements or cut-outs to increase friction between the handle portion and the thumb or fingers.

12. The applicator according to claim 1, wherein said obtuse angle is from about 120 degrees to about 170 degrees.

13. The applicator according to claim I, wherein the maximum thickness separating the faces of the handle portion compared to the maximum width of the handle portion is at a ratio from about 1:5 to about 1:50.

14. The applicator according to claim 1, wherein said applicator is from about 35 mm to about 80 mm at its longest point.

15. The applicator according to claim 1, wherein said head portion is rotatably adjustable with respect to said handle portion so as to adjust the obtuse angle between said longitudinal axis of said head portion and said longitudinal axis of said handle portion.

16. The applicator according to claim 15, wherein said head portion and said handle portion are rotatable about an axis orthogonal to said longitudinal axis of said head portion and said longitudinal axis of said handle portion.

17. The applicator according to claim 16, further comprising a hinge permitting rotation of said head portion with respect to said handle portion.

18. A kit comprising the applicator according to claim 1 and a container charged with a liquid cosmetic for application to a keratin fiber, and configured to receive the head portion of said applicator when inserted into said container so as to bring said transfer element into contact with said composition, and a wiper attached to said container for removing excess composition from said transfer element upon removal of the applicator from the container.

19. A method for applying mascara to the eyelashes comprising metering a charge of mascara onto the transfer element of the applicator according to claim 1 and transferring the composition to the eyelashes by contacting the transfer element with said eyelashes while holding the applicator in a substantially vertical position.

* * * * *