

Title of the Invention: COSMETIC APPLICATOR DEVICE AND THE LIKE

FIELD

[0001] The present disclosure generally relates to a cosmetic applicator device and in particular a cosmetic applicator device comprising an improved brush member.

BACKGROUND ART

[0002] The following discussion of the background to the disclosure is intended to facilitate an understanding of the present disclosure only. It should be appreciated that the discussion is not an acknowledgement or admission that any of the material referred to was published, known or part of the common general knowledge of the person skilled in the art in any jurisdiction as at the priority date of the disclosure.

[0003] Conventional cosmetic applicator device (for applying cosmetic compositions onto lips, eyelashes, eyebrows, and other parts of a human body) in general comprises an elongated brush provided with a central core from which a set of bristles or spikes stand on end. The brushes of the conventional art have the technical disadvantages that such bristles and spikes often do not allow the correct and efficient transfer of the cosmetic product from the cosmetic container (e.g., a vessel or tube containing the cosmetic compositions and substances), as well as the proper application of the cosmetic product onto the intended parts of the human body (e.g., lips, eyelashes, eyebrows). Such technical disadvantages have become apparent as the types of cosmetic products get more diverse, e.g., with a diverse range of viscosity, stickiness, density, and friction properties.

[0004] Particularly with regards to makeup brushes for lips, the conventional designs are often configured to comprise a flocking brush head made up of cotton wrapped round the tip of an elongated core (e.g., a stick-like structure) or bristles planted/glued around the tip of the elongated core or any other processes that depose many small fiber particles (flock) onto the tip of the elongated core. Such brushes are often not able to adequately cater to the needs of different cosmetic applications, because the cosmetic compositions/substances required might have diverse properties and the shapes of lips can be irregular and various. For certain shapes of lip, such lip brushes are inefficient in transferring the cosmetic products from the brushes onto the lip surfaces. Also, cotton-made brushes often retain an excessive amount of cosmetic products among the cotton fibers which cannot be easily transferred or removed,

unnecessarily wasting cosmetic products. For some brushes made of bristles (either natural or synthetic), their bristles, if not bundled tightly enough, might shed over time. In use, the shedding problem of the conventional brushes can gradually get worse because washing and drying the brushes gradually weaken the glue that binds the bristles to the elongated core. Also, the potential toxicity of glue should not be overlooked especially in consideration of the fact that these makeup brushes are used daily and for a long period of time. Similar problems are also observed in makeup brushes for eyelashes and eyebrows, which in general also adopt the conventional structure made of the central core and the bristles/spikes stand on end.

[0005] The present disclosure contemplates that it would be desirable to provide a cosmetic applicator device and the like which may at least alleviate or mitigate the aforementioned technical problems.

SUMMARY

[0006] In accordance to one aspect of the present disclosure, there is provided a cosmetic applicator device for applying a composition, comprising a brush member (10), wherein the brush member (10) comprises an elongated core (11) and a plurality of twisted blade members (12); wherein each twisted blade member (12) is configured to comprise: a fixed edge (121), wherein the each twisted blade member (12) is attached at the fixed edge (121) onto the elongated core (11), a free edge (122), a root end (123), and a tip end (124); wherein there is a first continuous twist (125) between the root end (123) and the tip end (124), and the fixed edge (121) is configured to be spirally located around the elongated core (11) from the root end (123) to the tip end (124).

[0007] In some embodiments, the fixed edge (121) and the free edge (122) converges at both the root end (123) and the tip end (124).

[0008] In some embodiments, there is a second continuous twist (126) between the fixed edge (121) and the free edge (122).

[0009] In some embodiments, the twisted blade member (12) is configured to have a thickness (127) gradually decreasing from the fixed edge (121) to the free edge (122).

[0010] In some embodiments, the twisted blade member (12) is configured to have a thickness (127) gradually increasing from the fixed edge (121) to the free edge (122).

[0011] In some embodiments, the twisted blade member (12) is configured to have a width (128) gradually increasing from the root end (123) first, and then gradually decreasing till the tip end (124).

[0012] In some embodiments, the plurality of twisted blade members (12) is equally spaced apart from one another about the elongated core (11).

[0013] In some embodiments, the each twisted blade member is configured to comprise one or more grooves (129).

[0014] In some embodiments, the groove (129) is configured to take a V-shape, a U-shape, a semicircular arc shape, a rectangular shape or a trapezoidal shape.

[0015] In some embodiments, the groove (129) is configured to cut through the twisted blade member (12) from the free edge (122) to the fixed edge (121).

[0016] In some embodiments, the adjacent grooves (129) from the plurality of twisted blade members (12) are configured to be on a groove plane (130).

[0017] In some embodiments, the groove plane (130) is configured to have an angle between 0 and 90 degrees with respect to horizontal plane.

[0018] In some embodiments, the plurality of twisted blade members (12) comprises at least twelve twisted blade members (12).

[0019] In some embodiments, the elongated core (11) and a plurality of twisted blade members (12) are integrally formed.

[0020] In some embodiments, the elongated core (11) and a plurality of twisted blade members (12) are made of a material selected from the group consisting of thermoplastic polymer, thermoplastic elastomer polymer, vulcanized rubber, polyethylene, and polypropylene.

[0021] In some embodiments, the elongated core (11) is configured to have a higher rigidity than the twisted blade member (12).

[0022] In some embodiments, the free edge (122) is configured to comprise a blade peak (131), wherein the width (128) of the twisted blade member (12) is the largest at the blade peak (131).

[0023] In some embodiments, the blade peak (131) is sharp, blunt or round.

[0024] In some embodiments, the first continuous twist (125) comprises a first segment (125a) located relatively closer to the root end (123) and a second segment (125b) located relatively closer to the tip end (124), wherein the first continuous twist is configured to gradually curve and twist away from the elongated core (11) starting from the root end (123) in the first segment (125a), and the first continuous twist (125) is configured to gradually curve and twist towards the elongated core (11) approaching the tip end (124) in the second segment (125b).

[0025] In some embodiments, the brush member (10) is configured to have a rigidity of 10HA to 50HA.

[0026] In some embodiments, each twisted blade member (12) is configured to have a thickness of 0.1mm to 0.35mm.

[0027] Other aspects of the disclosure will be apparent to those of ordinary skill in the art upon review of the following description of specific embodiments of the disclosure in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0028] Various embodiments are described, by way of example only, with reference to the accompanying drawings, in which:

[0029] **Figure 1a** shows a side view of a brush member (10) of the cosmetic applicator device according to an embodiment of the present invention.

[0030] **Figure 1b** shows a top view of a brush member (10) according to an embodiment of the present invention.

[0031] **Figure 1c** shows a front side view of an elongated core (11) with a single twisted blade member (12) according to an embodiment of the present invention.

[0032] **Figure 1d** shows a back side view of an elongated core (11) with a single twisted blade member (12) according to an embodiment of the present invention.

[0033] **Figure 1e** shows a top view of an elongated core (11) with a single twisted blade member (12) according to an embodiment of the present invention.

[0034] **Figure 2a** shows a top view of a brush member (10) according to the first embodiment of the present invention.

[0035] **Figure 2b** shows a top view of a brush member (10) according to the second embodiment of the present invention.

[0036] **Figure 2c** shows a top view of a brush member (10) according to the third embodiment of the present invention.

[0037] **Figure 2d** shows a top view of a brush member (10) according to the fourth embodiment of the present invention.

[0038] **Figure 3a** shows a side view of a brush member (10) according to the first embodiment of the present invention.

[0039] **Figure 3b** shows a side view of a brush member (10) according to the second embodiment of the present invention.

[0040] **Figure 3c** shows a side view of a brush member (10) according to the third embodiment of the present invention.

[0041] **Figure 3d** shows a side view of a brush member (10) according to the fourth embodiment of the present invention.

[0042] **Figure 4a** shows a cross-sectional side view of a brush member (10) according to the first embodiment of the present invention.

[0043] **Figure 4b** shows a cross-sectional side view of a brush member (10) according to the second embodiment of the present invention.

[0044] **Figure 4c** shows a cross-sectional side view of a brush member (10) according to the third embodiment of the present invention.

[0045] **Figure 4d** shows a cross-sectional side view of a brush member (10) according to the fourth embodiment of the present invention.

[0046] **Figure 5a** shows a side view of a brush member (10) with grooves (129) located on the twisted blade members (12) according to an embodiment of the present invention.

[0047] **Figure 5b** shows a side view of a brush member (10) with grooves (129) located on the twisted blade members (12) according to an embodiment of the present invention.

[0048] Corresponding parts are denoted by the same reference numerals from Figures 1 to 5.

DETAILED DESCRIPTION

[0049] In the following description, details are provided to describe the embodiments of the specification. It shall be apparent to one skilled in the art, however, that the embodiments may be practiced without such details.

[0050] Similar parts of the embodiments may have the same names, similar part numbers, or similar part numbers with an alphabet symbol or prime symbol. The description of one part applies by reference to another similar part, where appropriate, thereby reducing repetition of text without limiting the disclosure.

[0051] Throughout this specification, unless otherwise indicated to the contrary, the terms ‘comprising’, ‘consisting of’, ‘having’ and the like, are to be construed as non-exhaustive, or in other words, as meaning ‘including, but not limited to’.

[0052] Throughout the specification, unless the context requires otherwise, the word ‘include’ or variations such as ‘includes’ or ‘including’ will be understood to imply the inclusion of a stated integer or group of integers but not the exclusion of any other integer or group of integers.

[0053] Throughout the specification, the singular form "a", "an" and "the" include plural references unless the context clearly dictates otherwise. For example, the term "a plant" or "at least one plant" may include a plurality of plants.

[0054] Unless defined otherwise, all other technical and scientific terms used herein have the same meaning as is commonly understood by a skilled person to which the subject matter herein belongs.

[0055] In accordance with one aspect of the present disclosure, as shown in Figures 1a and 1b, there is provided a cosmetic applicator device for applying a cosmetic composition (e.g., lipstick, lip gloss, lipliner, mascara, eyeliner, eyeshadow and any other milky, liquid or creamy products, fluid or pasty product), comprising a brush member (10), wherein the brush member (10) comprises an elongated core (11) that extends along a longitudinal axis XX' and a plurality of twisted blade members (12). Each twisted blade member (12) is configured to comprise a fixed edge (121) and a free edge (122), wherein each twisted blade member (12) is attached at the fixed edge (121) onto the surface of the elongated core (11), and the free edge (122) extends outwards away from the elongated core (11) along a transverse axis YY'. In other words, the free edges of the plurality of the twisted blade members (12) are configured to stick out from the elongated core (11) in a radial direction and serve for the efficient application of a cosmetic compositions/substances onto the intended surfaces.

[0056] The blade intervals (13) (also known as “blade gaps”) between the adjacent twisted blade members (12) are operable to retrieve the cosmetic compositions from the composition container as well as to hold the cosmetic compositions therein.

[0057] In use, the users of the cosmetic applicator device often move the brush member (10) in a direction perpendicular to the longitudinal axis of the brush member (10), i.e., XX' axis, while rotating the same. The brush member (10) will then get pressed against and rotated on the intended surfaces (e.g., lip, eyelashes, eyebrows, and other parts of human body), the adjacent twisted blade members (12) get pushed and twisted, changing the size and dimension of the blade intervals (13) so that the cosmetic compositions held inside the blade intervals (13) get expelled out of the blade intervals (13) and further onto the intended surfaces.

[0058] In some embodiments, the brush member (10) is attached on a wand (15), which forms a handle for user to hold. In some embodiments, the elongated core (11) extends into the wand (15) along the longitudinal direction XX' and gets firmly embedded inside the wand (15). In some embodiments, the elongated core (11) is also known as central core, which forms the “center” of the brush member (10) for twisted blade members (12) to be mounted thereon.

[0059] As shown in Figures 1c, 1d and 1e, in some embodiments, the twisted blade member (12) is configured to also comprise a root end (123) and a tip end (124), wherein the root end (123) is located at or in close proximity to the bottom portion (11a) of the elongated core (11); and the tip end (124) is located at or in close proximity to the tip portion (11b) of the

elongated core (11). The fixed edge (121) is configured to be spirally located around the elongated core (11) from the root end (123) to the tip end (124). In other words, each twisted blade member (12) is configured to curve in a spiral about the surface of the elongated core (11) along its longitudinal axis XX'.

[0060] In some embodiments, there is a first continuous twist (125) between the root end (123) and the tip end (124). With the first continuous twist (125) from the root end (123) to the tip end (124), it will be easier to bend and twist the twisted blade members (12) made of elastic materials (e.g., thermoplastic polymer, thermoplastic elastomer polymer, vulcanized rubber, polyethylene, and polypropylene). For example, when the twisted blade members (12) are being pressed against the lip, the twisted blade members (12) get bended and twisted under pressure, distorting the blade intervals (13) between the adjacent twisted blade members (12), which accordingly directs the cosmetic composition held within the blade intervals (13) out towards the lip.

[0061] In some embodiments, the first continuous twist (125) comprises at least two segments: the first segment (125a) relatively closer to the root end (123) and the second segment (125b) closer to the tip end (124). In the first segment (125a), starting from the root end (123), the first continuous twist (125) is configured to gradually curve and twist away from the surface of the elongated core (11); whereas in the second segment (125b), approaching the tip end (124), the first continuous twist (125) is configured to gradually curve and twist towards the surface of the elongated core (11). Accordingly, when the twisted blade members (12) are pressed against a surface (e.g., lip), the first segment and the second segment will bend and twist in different directions: i.e., the first segment will tend to twist towards the root end (123), while the second segment will tend to twist towards the tip end (124). Thus, the portion of the twisted blade member (12) between the first segment and the second segment will get particularly stretched, exposing the cosmetic composition carried within the blade intervals (13).

[0062] In some embodiments, the fixed edge (121) and the free edge (122) converge at both the root end (123) and the tip end (124). In other words, the fixed edge (121), the free edge (122), the root end (123) and the tip end (124) together form the boundary of the twisted blade member (12) and accordingly determine the shape and configuration of the twisted blade member (12). The root end (123) and the tip end (124) can be shaped in various forms, such as pointed end, blunt end and rounded end.

[0063] In some embodiments, there is a second continuous twist (126) between the fixed edge (121) and the free edge (122). The second continuous twist (126) is operable to further improve the overall elasticity of the twisted blade members (12) and strengthen the distortion of the blade intervals (13) when the twisted blade members (12) are pressed against a surface (e.g., lip). More specifically, with both the first continuous twist (125) and the second continuous twist (126), each twisted blade member (12) is operable to twist not just along the longitudinal direction XX' of the elongated core (11), but also along the transversal direction YY' of the elongated core (11) away or towards the surface of the elongated core (11). This arrangement makes the twisted blade members (12) easier to twist and bend during the use of the cosmetic applicator device.

[0064] Figures 2 to 4 show four embodiments (the first embodiment (a), the second embodiment (b), the third embodiment (c) and the fourth embodiment (d)) of the improved brush member (10) with different blade shapes. In some embodiments, the twisted blade member (12) is configured to have a thickness of 0.1mm to 0.35mm.

[0065] In some embodiments, the twisted blade member (12) is configured to have a thickness (127) gradually decreasing from the fixed edge (121) to the free edge (122). In some other embodiments, the twisted blade member (12) is configured to have a thickness (127) gradually increasing from the fixed edge (121) to the free edge (122). By varying the thickness (127) of the twisted blade member (12) between the fixed edge (121) and the free edge (122), the cosmetic applicator device can be made suitable for cosmetic compositions with different viscosities stickiness, density, and friction properties. For example, for composition with relatively high viscosity, such as cream-like and pasty-like cosmetic substances, it might be better to have relatively thinner free edge (122) and thicker fixed edge (121) so that it is easier for the high viscosity composition to move out of the blade intervals (13) (i.e., the gap between the twisted blade members (12) become wider, forming a wider opening of the blade interval (13)). In contrast, if the viscosity of the composition is relatively low, such as liquid substance, it then might be better to have relatively thicker free edge (122) and relatively thinner fixed edge (121) so that the low viscosity composition can be carried and retained inside the blade intervals (13) more stably, preventing the low viscosity composition from easily dripping off from the brush member (10) (i.e., the gap between the twisted blade members (12) become narrower, forming a narrower opening of the blade interval (13)).

[0066] In some embodiments, the twisted blade member (12) is configured to have a width (128) gradually increasing from the root end (123) first, and then gradually decreasing till the tip end (124). In this arrangement, the width of the twisted blade member (12) is relatively shorter near the root end (123) and the tip end (124), and is relatively longer in length in the middle of the twisted blade member (12). In some circumstances, depending on the properties of the cosmetic composition as well as the place to be applied with the composition (e.g., lip, eyelashes, eyebrows), it can be beneficial for the twisted blade members (12) to have a wider width in the middle portion (or somewhere close to the middle portion), which protrudes outwards from the elongated core (11) to create a blade peak (131) on the free edge (122). The blade peak (131) is operable to guide the cosmetic compositions out of the blade intervals (13) to the intended place more efficiently. In other words, at the blade peak (131), the width (128) of the twisted blade member (12) is the largest.

[0067] Such a configuration is particularly useful when the viscosity of the cosmetic composition is relatively high (e.g., cream-like, or pasty-like substance), having a relatively sharp blade peak (131) helps direct those composition onto the intended surface (see Figures 2c, 2d, 3c, 3d, 4c and 4d). Also, when a more a distinct and tense effect is desired (e.g., for the lip, the eyelashes, and the eyebrows to be applied with more cosmetic substances), having a relatively sharp blade peak (131) also facilitates the transfer of the cosmetic substances (see Figures 2c, 2d, 3c, 3d, 4c and 4d). Of course, to effectively control and limit the substances to be applied onto the intended surface, then having a blunt-shaped or a round-shaped blade peak (131) is likely to be more suitable (see Figures 2a, 2b, 3a, 3b, 4a and 4b).

[0068] In some embodiments, the plurality of twisted blade members (12) is equally spaced apart from one another about the elongated core (11). In other words, the blade intervals (13) are configured to have the same size and dimension, so that no matter which side of the brush member (10) presses against the intended surface, the effects are the same, making it easier for common users to control the cosmetic applicator device. However, for more sophisticated users who are able to skillfully master the cosmetic applicator device, it might be preferred for the dimensions of the blade intervals (13) to be different on different sides of the brush member (10). For example, a first side of the brush member (10) can be configured to have the adjacent twisted blade members (12) spaced apart more closely, so that these narrow blade intervals (13) are only able to hold fewer cosmetic substances, and accordingly the first side of the brush member (10) is more suitable for cosmetic applications that require fewer

substances. A second side of the brush member (10) can be configured to have the adjacent twisted blade members (12) spaced apart more widely, so that more cosmetic substances can be carried inside the wider blade intervals (13) on the second side of the brush, which is accordingly suitable for cosmetic applications that require more cosmetic substances.

[0069] As shown in Figure 5, in some embodiments, each twisted blade member (12) is configured to comprise one or more grooves (129), which divide a twisted blade member (12) into multiple segments and accordingly make the twisted blade member (12) easier to bend and twist under pressure. Also, the grooves (129) increase the surface for holding the cosmetic compositions and are operable to create more microstructures (e.g., channels, passages, pathways, and voids) for the cosmetic substances to flow out of the blade intervals (13). Accordingly, by adjusting the number and forms of the grooves in manufacturing, one can make the cosmetic applicator device suitable for cosmetic compositions with a range of viscosity and stickiness.

[0070] These groove (129) structures are particularly useful when the cosmetic applicator device (10) is used for surfaces that have hairs or any type of keratin fibers, such as eyelashes and eyebrows, because these grooves (129) are operable for these hairs to pass through and even get entangled therein, during which, cosmetic substances carried inside the grooves (129) are efficiently and firmly applied onto these hairs. The grooves (129) are also operable to lengthen, thicken and/or separate the hairs. It is advantageous for the twisted blade members (12) to have such grooves (123) particularly when the cosmetic substances are in liquid form and/or are made of a composition that has low stickiness.

[0071] The groove (129) structures can take various forms, such as V-shape, a U-shape, a semicircular arc shape, a rectangular shape, and a trapezoidal shape, depending on the cosmetic applications intended. For example, if it is preferred to have hairs strongly entangled inside the grooves (129), then groove (129) structure in the form of a straight thin line are probably suitable. In other cosmetic applications that do not require strong and intense interactions between the hairs and grooves (129), then grooves (129) in the form of a wide-opening V shape (wherein the opening is positioned to face outwards away from the elongated core (11)) are likely to be suitable.

[0072] In some embodiments, the groove (129) is configured to cut through the twisted blade member (12) from the free edge (122) to the fixed edge (121). In other words, two

adjacent segments of the twisted blade member (12) are operable to move freely with respect to each other. The elasticity of the twisted blade members (12) accordingly gets increased, and the blade intervals (13) can also deform and get distorted in a greater extent when the twisted blade members (12) are pressed against the intended surfaces.

[0073] In some embodiments, the adjacent grooves (129) from the plurality of twisted blade members (12) are configured to be on a groove plane (130) (i.e., a virtual plane, used here to geometrically define the characteristic elements of the invention) (see Figure 5). In some embodiments, the groove plane (130) is configured to have an angle between 0 and 90 degrees with respect to horizontal plane. In some embodiments, the plurality of twisted blade members (12) is configured to have more than one such groove plane (130). By adjusting the number of the groove planes (130), one can make a cosmetic applicator device suitable for cosmetic compositions with diverse viscosity and stickiness.

[0074] Depending on the cosmetic applications intended, the number (or density) of the twisted blade members (12) of a brush member (10) can be adjusted. For example, some brush member (10) is configured to have at least twelve twisted blade members (12). Having more twisted blade members (12) inside a brush member (10) results in more blade intervals (13) but with smaller size and dimension. Thus, for low viscosity cosmetic substances, it is preferred to have more twisted blade members (12), while for high viscosity cosmetic substances, it is preferred to have fewer twisted blade members (12).

[0075] In some embodiments, the elongated core (11) and a plurality of twisted blade members (12) are integrally formed, i.e., formed in one piece. The brush member (10) can be obtained in different ways: by mono-injection, bi-injection or tri-injection molding; the integral cosmetic applicator device according to the invention can also be obtained by additive manufacturing, machining or compression. The materials that can be used include a thermoplastic polymer or a thermoplastic elastomer polymer or even a vulcanizable rubber. Such integrally formed brushes minimize the use of glue, improving the health safety of the makeup brushes.

[0076] In some embodiments, the brush member (10) is configured to wherein the brush member is configured to have a rigidity of 10HA to 50HA (Shore hardness A).

[0077] In some embodiments, the elongated core (11) is configured to have a higher rigidity than the twisted blade members (12). Depending on the cosmetic applications intended, it might be technically beneficial to have the elongated core (11) and the twisted blades (12) made of materials with different rigidities. On one hand, the elongated core (11) ideally should not bend or twist easily so that it will be easier for the user to handle the cosmetic applicator device, as force exerted by the user onto the cosmetic applicator device can be more efficiently transferred to the twisted blade members (12). The twisted blade members (12), on other hand, can be manufactured using materials with higher elasticity, avoiding any unpleasant, firm, and rough feeling when the twisted blade members (12) are pressed against the lip, eyelashes, eyebrows, and other parts of a human body.

[0078] It is to be appreciated that certain features of the invention, which are, for clarity, described in the context of separate embodiments, may also be provided in combination in a single embodiment. Conversely, various features of the invention, which are, for brevity, described in the context of a single embodiment, may also be provided separately or in any suitable sub-combination or as suitable in any other described embodiment of the invention. Certain features described in the context of various embodiments are not to be considered essential features of those embodiments, unless the embodiment is inoperative without those elements.

[0079] It is to be appreciated by the person skilled in the art that variations and combinations of features described above, not being alternatives or substitutes, may be combined to form yet further embodiments falling within the intended scope of the disclosure.

REFERENCE

- 10 Brush member
- 11 Elongated core
- 11a Bottom portion
- 11b Tip portion
- 12 Twisted blade member
- 13 Blade interval
- 15 Wand
- 121 Fixed edge
- 122 Free edge

- 123 Root end
- 124 Tip end
- 125 First continuous twist
- 125a First segment
- 125b Second segment
- 126 Second continuous twist
- 127 Thickness of the twisted blade member
- 128 Width of the twisted blade member
- 129 Groove
- 130 Groove plane
- 131 Blade peak

CLAIMS

[Claim 1] A cosmetic applicator device for applying a composition, comprising a brush member (10), wherein the brush member (10) comprises an elongated core (11) and a plurality of twisted blade members (12);

wherein each twisted blade member (12) is configured to comprise:

a fixed edge (121), wherein the each twisted blade member (12) is attached at the fixed edge (121) onto the elongated core (11),

a free edge (122),

a root end (123), and

a tip end (124);

wherein there is a first continuous twist (125) between the root end (123) and the tip end (124), and the fixed edge (121) is configured to be spirally located around the elongated core (11) from the root end (123) to the tip end (124).

[Claim 2] The cosmetic applicator device according to claim 1, wherein the fixed edge (121) and the free edge (122) converge at both the root end (123) and the tip end (124).

[Claim 3] The cosmetic applicator device according to claim 1, wherein there is a second continuous twist (126) between the fixed edge (121) and the free edge (122).

[Claim 4] The cosmetic applicator device according to claim 1, wherein the twisted blade member (12) is configured to have a thickness (127) gradually decreasing or increasing from the fixed edge (121) to the free edge (122).

[Claim 5] The cosmetic applicator device according to claim 1, wherein the twisted blade member (12) is configured to have a width (128) gradually increasing from the root end (123) first, and then gradually decreasing till the tip end (124).

[Claim 6] The cosmetic applicator device according to claim 1, wherein the plurality of twisted blade members (12) is equally spaced apart from one another about the elongated core (11).

[Claim 7] The cosmetic applicator device according to claim 1, wherein the each twisted blade member is configured to comprise one or more grooves (129).

[Claim 8] The cosmetic applicator device according to claim 7, wherein the groove (129) is configured to take a V-shape, a U-shape, a semicircular arc shape, a rectangular shape or a trapezoidal shape.

[Claim 9] The cosmetic applicator device according to claim 7, wherein the groove (129) is configured to cut through the twisted blade member (12) from the free edge (122) to the fixed edge (121).

[Claim 10] The cosmetic applicator device according to claim 7, wherein the adjacent grooves (129) from the plurality of twisted blade members (12) is configured to be on a groove plane (130).

[Claim 11] The cosmetic applicator device according to claim 9, wherein the groove plane (130) is configured to have an angle between 0 and 90 degrees with respect to horizontal plane.

[Claim 12] The cosmetic applicator device according to claim 1, wherein the plurality of twisted blade members (12) comprises at least twelve twisted blade members (12).

[Claim 13] The cosmetic applicator device according to claim 1, wherein the elongated core (11) and a plurality of twisted blade members (12) are integrally formed.

[Claim 14] The cosmetic applicator device according to claim 13, wherein the elongated core (11) and a plurality of twisted blade members (12) are made of a material selected from the group consisting of thermoplastic polymer, thermoplastic elastomer polymer, vulcanized rubber, polyethylene, and polypropylene.

[Claim 15] The cosmetic applicator device according to claim 14, wherein the elongated core (11) is configured to have a higher rigidity than the twisted blade member (12).

[Claim 16] The cosmetic applicator device according to claim 1, wherein the free edge (122) is configured to comprise a blade peak (131), wherein the width (128) of the twisted blade member (12) is the largest at the blade peak (131).

[Claim 17] The cosmetic applicator device according to claim 16, wherein the blade peak (131) is sharp, blunt, or round.

[Claim 18] The cosmetic applicator device according to claim 1, wherein the first continuous twist (125) comprises a first segment (125a) located relatively closer to the root end (123) and a second segment (125b) located relatively closer to the tip end (124), wherein the first continuous twist is configured to gradually curve and twist away from the elongated core (11) starting from the root end (123) in the first segment (125a), and the first continuous twist (125) is configured to gradually curve and twist towards the elongated core (11) approaching the tip end (124) in the second segment (125b).

[Claim 19] The cosmetic applicator device according to claim 1, wherein the brush member (10) is configured to have a rigidity of 10HA to 50HA.

[Claim 20] The cosmetic applicator device according to claim 1, wherein the each twisted blade member (12) is configured to have a thickness of 0.1mm to 0.35mm.