



(12) **EUROPEAN PATENT APPLICATION**
published in accordance with Art. 153(4) EPC

(43) Date of publication:
02.12.2009 Bulletin 2009/49

(51) Int Cl.:
A45D 33/36 (2006.01) A46B 9/02 (2006.01)

(21) Application number: **08722020.8**

(86) International application number:
PCT/JP2008/054616

(22) Date of filing: **13.03.2008**

(87) International publication number:
WO 2008/114686 (25.09.2008 Gazette 2008/39)

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

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(30) Priority: **16.03.2007 JP 2007067774**

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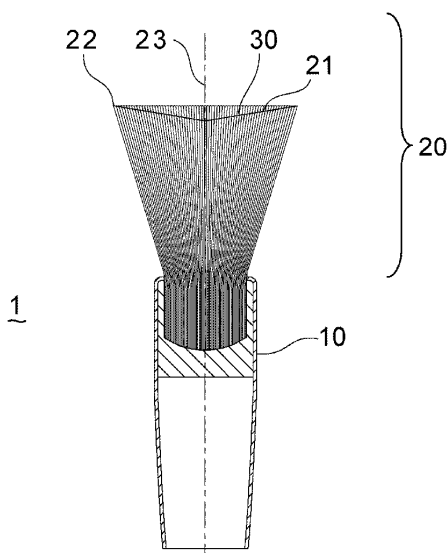
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(54) **COSMETIC APPLICATOR AND PROCESS FOR PRODUCING THE SAME**

(57) The present invention provides a cosmetic applicator that allows a cosmetic material based on solid fine powder to transfer roughly uniformly onto the apical surface of the brush, prevents the cosmetic material from scattering from the brush, and causes the cosmetic material to attach roughly uniformly when applied to the skin, and said cosmetic applicator conforming to the present invention is a cosmetic applicator for application of apply a powdery cosmetic material containing fine powder,

which includes a handle part and a brush part constituted by a bristle material implanted on the aforementioned handle part, wherein said cosmetic applicator is **characterized in that** the hairs of the aforementioned brush part extend upward from the aforementioned handle part, and the distal end of the hairs form a horizontally shaped outer periphery with respect to the aforementioned handle part, from which outer periphery a shape gradually concaving toward the center axis of the brush part is formed.

Fig. 2



Description

Technical Field

[0001] The present invention relates to a cosmetic applicator for applying a cosmetic material to the face. To be specific, the present invention relates to a cosmetic applicator for applying a powdery cosmetic material containing fine powder.

Prior Art

[0002] In recent years, cosmetic materials based on solid powder, made by mixing a fine powder with an average grain size of 0.1 to 10 μm with an oil-based component, etc., are in use. These cosmetic materials provide excellent properties in terms of smooth spreading of the cosmetic material and its easy attachment to the skin when the cosmetic material is applied, as well as prolonged hydrating feel. However, these cosmetic materials adhere too firmly to the skin and the powder attaches along the uneven features of the skin, and therefore they end up emphasizing the lines, pores and other undesirable areas where the skin is uneven. (Refer to Patent Literature 1.)

[0003] On the other hand, cosmetic brushes having a projecting shape at the tip of the brush, like the one shown in Fig. 8 (refer to Fig. 1 in Patent Literature 2), are widely used to apply the aforementioned cosmetic materials based on solid fine powder, or specifically these brushes are used as applicators for conventional cosmetic materials based on solid powder which have large average grain sizes. To be specific, such cosmetic brushes are used to transfer the aforementioned type of cosmetic materials based on solid powder with a fine average grain size from the cosmetic container onto the brush, and then apply the cosmetic material to the skin roughly uniformly. However, simply transferring the cosmetic material based on fine solid powder from the cosmetic container onto the brush presents a problem in that the cosmetic material will not attach roughly uniformly to the apical surface of the brush, and therefore the user will end up using the brush to apply the cosmetic material to the face under the condition where the cosmetic material is attached only on the projecting convex part. As a result, a large amount of cosmetic material will be applied to the location that first comes in contact with the brush and fewer amounts are applied to other locations, and consequently the application amount will vary in different locations on the face and thus mottled appearances (dark and light areas) may occur.

In addition, when the cosmetic material is transferred onto the brush from the cosmetic container the high rigidity of the projecting convex part where the hairs are densely spaced, as shown in Fig. 8, causes a problem in that when the brush is moved back and forth while being pressed on to the cosmetic material to transfer the material onto the brush, the cosmetic material that has been

transferred to the projecting convex part tends to scatter due to the repulsive force to the pressure.

[0004] On the other hand, many women are increasingly interested in a professional looking makeup and presenting a stronger need to easily achieve such makeup with a professional finish. However, use of a cosmetic makeup brush such as those explained above leads to the cosmetic material being applied blandly and non-uniformly. As a result, the areas that should be highlighted will look not so different from the areas that should not be highlighted, and the face will look flat. Other problems that may result include the makeup looking rather heavy and powdery. To solve these problems, women are using cosmetic brushes made with brush hairs having roughly a spherical shape at the tip, to apply cosmetic materials constituted by a powder of approx. 50 μm in average grain size that has been formed into a sheet shape, in such a way that the brush is rotated little by little in one direction so that the cosmetic material is applied by means of the elasticity of brush hairs. (Refer to Patent Literature 3.)

[0005]

Patent Literature 1: Japanese Patent Laid-open No. 2006-265214

Patent Literature 2: Japanese Patent Laid-open No. Hei 10-295441

Patent Literature 3: Japanese Patent Laid-open No. 2006-69902

Summary of the Invention

Problems to Be Solved by the Invention

[0006] When a cosmetic material based on solid powder of fine average grain size is applied using a cosmetic brush like the one described in Patent Literature 1, the aforementioned cosmetic powder based on solid powder is transferred only to the projecting convex part of the brush, and because the cosmetic material is applied to the skin with the brush in this condition, a large amount of cosmetic material will attach to the location where the cosmetic material is first applied, as mentioned above. As a result, the application amount will vary between the location where the cosmetic material is applied first and the other locations. Because of this, users apply the cosmetic material that has been transferred to the projecting part after stroking the brush over their hand, etc., so as to equalize the amounts transferred to the hairs. On the other hand, when a fine cosmetic material is applied instead of a cosmetic material whose grain size is not fine, the fineness of the average grain size tends to cause the cosmetic material to attach roughly uniformly along the lines extending from the sides of the wings of the nose to both corners of the mouth or along the lines, pores and other features running radially from the outer corners of the eyes to the temples, in which case the unevenness of the skin may be emphasized in some areas.

For this reason, it is necessary to skillfully apply the cosmetic material by moving the brush back and forth many times so that the cosmetic material will be applied by a uniform amount and unevenness will be less emphasized. As a result, the makeup process will become very cumbersome and time-consuming.

[0007] On the other hand, using a cosmetic brush like the one described in Patent Literature 3 where the brush hairs have roughly a spherical shape at the tip presents a problem in that the brush must be rotated little by little in one direction so that the cosmetic material is applied by means of the elasticity of brush hairs. Such makeup process is very cumbersome and time-consuming. When applying a cosmetic material constituted by a powder of approx. 50 μm in grain size that has been formed into a sheet shape, unevenness of the skin will be emphasized in fewer areas. However, if such cosmetic brush is used to apply a cosmetic material based on solid fine powder, unevenness of the skin will be emphasized.

[0008] The present invention aims to solve the aforementioned problems by providing a cosmetic applicator that allows a cosmetic material based on solid fine powder to transfer roughly uniformly onto the apical surface of the brush, prevents the cosmetic material from scattering from the brush, causes the cosmetic material to attach roughly uniformly when applied to the skin, and does not emphasize unevenness of the skin due to the applied cosmetic material.

Means for Solving the Problems

[0009] To achieve the aforementioned aims, the invention pertaining to Claim 1 is a cosmetic applicator for application of a powdery cosmetic material containing fine powder, comprised of a handle part and a brush part constituted by a bristle material implanted on the handle part, said cosmetic applicator being **characterized in that** the bristle material of the aforementioned brush part extends upward from the aforementioned handle part, and the distal end of the bristle material forms a horizontally shaped outer periphery with respect to the aforementioned handle part, from which outer periphery a shape gradually concaving toward the center axis of the brush part is formed.

The invention pertaining to Claim 2 is **characterized in that** the aforementioned concaved shape is a reverse cone.

The invention pertaining to Claim 3 is **characterized in that** the aforementioned concaved shape is a curved surface.

The invention pertaining to Claim 4 is **characterized in that** the aforementioned concaved shape is steps.

The invention pertaining to Claim 5 is **characterized in that** the concave ratio of the aforementioned concaved shape is approx. 0.05 to approx. 0.3.

The invention pertaining to Claim 6 is a method for manufacturing a cosmetic applicator for application of a cosmetic material, comprised of a handle part and a brush

part constituted by a bristle material implanted on the aforementioned handle part, said manufacturing method being **characterized in that** the apical surface of the aforementioned brush part is formed in a shape gradually concaving from the outer periphery of the brush part toward the center axis of the brush part.

Effects of the Invention

[0010] A cosmetic applicator conforming to the present invention is formed in a shape gradually concaving from the outer periphery of the brush part toward the center axis of the brush part, and therefore provides a uniform transfer function to transfer a cosmetic material roughly uniformly onto the apical surface of brush part, anti-scattering function to prevent the cosmetic material from scattering, uniform attachment function to apply the cosmetic material and let it attach to the skin roughly uniformly, and unevenness reduction function to ensure any unevenness of the skin less emphasized.

[0011] By providing the aforementioned functions, a cosmetic applicator conforming to the present invention no longer requires the user to stroke the brush part over their hand, etc., to equalize the amount of cosmetic material transferred onto the hairs. Since the cosmetic material can be transferred onto the apical surface of the brush part roughly uniformly only by stroking the hairs over the cosmetic material, the present invention demonstrates an excellent effect of allowing the user to do a makeup more quickly.

Furthermore, scattering of the cosmetic material from the cosmetic container can be prevented, which leads to another excellent effect of enabling the user to utilize the precious cosmetic material effectively and also being released from the need to clean up the surrounding area. In addition, the cosmetic material is transferred onto the brush part roughly uniformly and thus the user can apply the cosmetic material to the skin roughly uniformly by simply moving the brush part back and forth several times in the desired location. As a result, the cosmetic material can be applied to the skin roughly uniformly and any unevenness of the skin will be less emphasized. Consequently, lines, pores and other features will appear less uneven and a makeup with professional finish can be achieved with ease. This is another excellent effect of the present invention.

Brief Description of the Drawings

[0012]

[Fig. 1] Oblique view showing the first embodiment
 [Fig. 2] A-A' section view of the first embodiment
 [Fig. 3A] Schematic drawing showing transfer of the cosmetic material from the cosmetic container onto the apical surface of brush 21 using the cosmetic applicator illustrated in the present embodiment.

- [Fig. 3B] Schematic drawing showing attachment of the cosmetic material that has been transferred onto the apical surface of brush 21, to the skin, using the cosmetic applicator illustrated in the present embodiment.
- [Fig. 4] Oblique view showing the second embodiment
- [Fig. 5] A-A' section view of the second embodiment
- [Fig. 6] Oblique view showing the third embodiment
- [Fig. 7] A-A' section view of the third embodiment
- [Fig. 8] Oblique view of a conventional cosmetic applicator

Description of the Symbols

[0013]

- 1 Cosmetic applicator
- 10 Handle part
- 20 Brush part
- 21 Apical surface of brush
- 22 Outer periphery
- 23 Center axis
- 30 Reverse cone
- 31 Curved surface
- 32 Steps

Best Mode for Carrying Out the Invention

[0014] A cosmetic applicator conforming to the present invention is explained in detail below by referring to the drawings.

(First Embodiment)

[0015] Fig. 1 is an oblique view showing the first embodiment of a cosmetic applicator 1 conforming to the present invention.

Fig. 2 is a section view that cuts Fig. 1 showing the cosmetic applicator 1 described in the first embodiment along the A-A' plane.

[0016] As shown in Figs. 1 and 2, the cosmetic applicator 1 described in the present embodiment is a cosmetic applicator for applying cosmetic material, equipped with a handle part 10 having roughly a cylindrical shape and also with a brush part 20. The tip of the aforementioned handle part 10 forms a surface which is cut vertically with respect to the center axis 23 of the handle part 10, and hairs are implanted onto this surface to form the brush part 20. The hairs expand from the tip of the aforementioned handle part 10 in the shape of a reverse cone.

[0017] With the cosmetic applicator 1 conforming to the present invention, the aforementioned handle part 10 is not limited to one having roughly a cylindrical shape and a handle part of any shape or size can be selected and used as deemed appropriate, as long as such handle part is easy to grab and allows a cosmetic material to be applied easily. Also note that, with respect to the material

constituting the handle part 10, a metal, synthetic resin, wood or any other material may be selected as deemed appropriate, or two or more of the foregoing may be used in combination as deemed appropriate.

For the aforementioned hairs, animal hairs, synthetic resin, etc., can be used and the length and other attributes of the aforementioned hairs can also be adjusted as deemed appropriate.

[0018] The apical surface of the aforementioned brush part 20 (a surface on the opposite side of the hairs implanted in the handle part 10) (hereinafter referred to as "apical surface of brush 21") is formed in a reverse cone 30, which is a shape gradually concaving from the outer periphery 22 of the brush part 20 toward the center axis 23 of the brush part 20, as shown in Fig. 2. The depth becomes the greatest at the aforementioned center axis 23. By forming the aforementioned apical surface of brush 21 in the shape described above, the cosmetic material can be transferred onto the apical surface of brush 21 roughly uniformly, and scattering of the cosmetic material can also be prevented.

[0019] The concave ratio of the aforementioned reverse cone is desirably approx. 0.05 to 0.3, where a concave ratio of 0.1 to 0.2 is more desirable.

Here, take note that the aforementioned concave ratio represents the value calculated by B/A , where A is the height from the tip of the handle part 10 on which the hairs are implanted to the outer periphery 22 of the brush part 20, while B is the height from the outer periphery 22 of the brush part 20 to the deepest part of the concave. As long as the aforementioned concave ratio is within the aforementioned range, the amount of cosmetic material transferred onto the apical surface of the brush can be kept roughly uniform, and also scattering of the cosmetic material can be prevented and the amount attached to the skin can be kept roughly uniform, as well.

[0020] Fig. 3A is a schematic drawing showing transfer of the cosmetic material from the cosmetic container onto the apical surface of brush 21.

Fig. 3B is a schematic drawing showing attachment of the cosmetic material that has been transferred onto the apical surface of brush 21, to the skin.

The reasons why the amount of cosmetic material transferred onto the apical surface of brush and attached to the skin can be kept roughly uniform, and why the cosmetic material does not scatter, as described above, are explained in detail using these schematic drawings.

[0021] As shown in Fig. 3A, when the cosmetic material is applied to the skin for the first time using the cosmetic applicator 1, the cosmetic material is transferred from the cosmetic container onto the apical surface of brush 21 for the first time. Since the length of hairs extending from the handle part 10 to the apical surface of brush 21 is longer along the outer periphery 22 and gradually decreases toward the center axis 23, the hairs bend less toward the center axis 23 than they do at the outer periphery 22. (Refer to the figure on the left.)

As a result, a large amount of cosmetic material is trans-

ferred to near the outer periphery 22 where the hairs are longer and bend more. By moving the cosmetic applicator 1 back and forth several times, however, the cosmetic material is transferred onto the hairs that are shorter and bend less near the center axis 23, from the hairs that are longer and bend more near the outer periphery 22. Accordingly, this transfer of cosmetic material onto the shorter, less bending hairs near the center axis 23 (indicated by circles in Fig. 3A) allows the overall transfer amount of cosmetic material to be kept roughly uniform. (Refer to the figures at the center and on the right.)

[0022] Next, the reason why the cosmetic material does not scatter is explained. As shown in the left drawing of Fig. 3A and in Fig. 2, when the cosmetic material is transferred from the cosmetic container the outer periphery 22 of the cosmetic applicator 1 is pressed onto the cosmetic material. Unlike with conventional convex brushes, the hairs along the outer periphery 22 contacting the cosmetic material are not concentrated in one location, but they are dispersed instead. Accordingly, moving the cosmetic applicator 1 back and forth while it is pressed onto the cosmetic material generates only a small repulsive force to this pressure, and consequently scattering of the aforementioned cosmetic material that has been transferred onto the outer periphery 22 can be prevented.

[0023] On the other hand, the apical surface of brush 21 is gently pressed onto the skin to cause the cosmetic material that has been transferred onto the apical surface of brush 21 to attach to the skin, as shown in Fig. 3B. Since the shape of the apical surface of brush 21 is a reverse cone 30, which approximates the curved surface of the face, moving the cosmetic applicator 1 back and forth several times results in the facial skin being pressed by the apical surface of brush 21 at roughly a uniform pressure. As a result, the cosmetic material that has been transferred roughly uniformly onto the apical surface of brush 21 can be attached to the skin roughly uniformly, and at the same time the aforementioned back-and-forth movements of the apical surface of brush 21 create roughly a uniform surface over the pores and other uneven areas, and this reduces an uneven look of the skin.

[0024] Furthermore, conventional brushes whose apical surface has a convex shape present difficulty as they are repeatedly used to transfer a cosmetic material that has been filled flat into the bowl section of a cosmetic container. To be specific, the cosmetic material that has been filled flat will eventually dip near the center and it will become difficult to transfer the cosmetic material left in the aforementioned bowl section. When the cosmetic applicator 1 described in the first embodiment is used, on the other hand, the cosmetic material will decrease roughly uniformly from the top layer and thus transferring the cosmetic material onto the brush will remain easy at all times.

[0025] In the above, the cosmetic material in the above explanation is assumed as a cosmetic material based on solid fine powder. However, a cosmetic applicator con-

forming to the present invention is not at all limited to use with a cosmetic material based on compact powder, and they can also be used with a cosmetic material based on liquid powder constituted by a fine powder dissolved into water. To transfer onto the aforementioned cosmetic applicator a cosmetic material based on liquid powder that has been poured into a flat bowl section of the cosmetic container, all the user needs is to move the applicator back and forth several times, and the cosmetic material will be transferred only onto the tip of the hairs, just like when a cosmetic powder based on solid powder is used, and overall the amount of cosmetic material transferred onto the apical surface of brush will become roughly uniform.

[0026] Next, as the apical surface of brush 21 is moved back and forth over the face in a manner contacting the facial skin, and in a condition where the amount of cosmetic material transferred onto the apical surface of brush 21 is roughly uniform, the cosmetic material will be applied in such a way that the many hairs constituting the apical surface of brush 21 are pressing the surface with a roughly similar pressure. As a result, the cosmetic material will be applied along the reverse cone shape of the apical surface of brush 21, and thus the cosmetic material can be applied to the skin roughly uniformly, just like when a cosmetic material based on solid powder is applied. Also because the cosmetic material attaches in a reverse cone shape over lines, pores and other uneven features, use of this cosmetic applicator whose apical surface of brush 21 has a reverse cone shape allows the cosmetic material to be applied in a manner not emphasizing unevenness.

(Second Embodiment)

[0027] Fig. 4 is an oblique view showing the second embodiment of a cosmetic applicator 1 conforming to the present invention.

Fig. 5 is a section view that cuts Fig. 4 showing the cosmetic applicator 1 described in the second embodiment along the A-A' plane.

The cosmetic applicator 1 described in the second embodiment is different from the cosmetic applicator 1 described in the aforementioned first embodiment mentioned only in that the gradually concaving shape of the applicator in the second embodiment forms a curved surface 31. However, all other aspects of the second embodiment conform to the same constitution of the cosmetic applicator 1 in the aforementioned first embodiment mentioned.

Since the gradually concaving shape is a curved surface 31, more cosmetic material is transferred onto the tip of hairs and overall the amount of cosmetic material transferred onto the apical surface of brush 21 can be kept constant.

[0028] Also because the apical surface of brush 21 is a curved surface 31, this surface is similar in shape to the curved surfaces in the locations of the face where

the cosmetic material is applied. Accordingly, moving the apical surface of brush 21 back and forth in a manner contacting the facial skin allows the cosmetic material to be applied in such a way that the many hairs constituting the apical surface of brush 21 are pressing the skin with a roughly similar pressure. As a result, the cosmetic material will be applied along the curved surface of the apical surface of brush 21, and thus the cosmetic material can be applied to the skin roughly uniformly, and also the cosmetic material attaches to the curved surfaces over lines, pores and other uneven features. Accordingly, use of this cosmetic applicator whose apical surface of brush 21 is a curved surface allows the cosmetic material to be applied in a manner not emphasizing unevenness.

[0029] (Third Embodiment)

Fig. 6 is an oblique view showing the third embodiment of a cosmetic applicator 1 conforming to the present invention.

Fig. 7 is a section view that cuts Fig. 6 showing the cosmetic applicator 1 described in the third embodiment along the A-A' plane.

The cosmetic applicator 1 described in the third embodiment is different from the cosmetic applicator 1 described in the aforementioned first embodiment mentioned only in that the gradually concaving shape of the applicator in the third embodiment is steps 32. However, all other aspects of the third embodiment conform to the same constitution of the cosmetic applicator 1 in the aforementioned first embodiment mentioned.

[0030] The cosmetic applicator 1 in the third embodiment has its apical surface of brush 21 formed in a shape gradually concaving in a stepwise manner from the outer periphery 22 of the brush toward the center axis 23 (a shape concaving by drawing concentric circles). The number of steps to be provided can be adjusted as deemed appropriate.

The cosmetic applicator in this third embodiment can also provide an operation and effects similar to what can be achieved with the aforementioned first and second embodiments.

[0031] In the meantime, cosmetic applicators pre-charged with a powdery cosmetic material in their handle part have also been known. With these cosmetic applicators, an outlet for releasing the powdery cosmetic material is provided at the center of the handle part and the powdery cosmetic material released from this outlet travels along the center of the brush whose apical surface is formed in a convex shape, and eventually reaches the apical surface. Accordingly, a large amount of cosmetic material is transferred to near the center axis of the apical surface of brush, but little cosmetic material is transferred to the periphery. In other words, the cosmetic material is not transferred roughly uniformly onto the apical surface of brush, just like when the cosmetic brush described in Patent Literature 2 mentioned above is used, and consequently the brush applies the cosmetic material to the face in a condition where the cosmetic material is attached only to the projecting convex part of the brush.

[0032] The first through third embodiments described herein can have the aforementioned structure where a powdery cosmetic material is pre-charged in the handle part. With all of the first through third embodiments, the brush part 20 is formed in a shape gradually concaving from the outer periphery 22 toward the center axis 23 of the brush part 20, and therefore the cosmetic material released near the center axis 23 of this concaved shape spreads along the concaving surface. As a result, the transferred amount of cosmetic material becomes roughly uniform virtually over the entire surface and when the cosmetic material is applied to the face in this condition, the cosmetic material will attach to the skin roughly uniformly. Because this makes sure any unevenness of the skin is less emphasized, an uneven look over lines, pores and other features can be suppressed.

[0033] As described above, the first through third embodiments are formed in a shape gradually concaving from the outer periphery 22 of the brush part 20 toward the center axis 23 of the brush part 20, and therefore all of the embodiments provide the functions: a uniform transfer function to transfer a cosmetic material roughly uniformly onto the apical surface of brush; an anti-scattering function to prevent the cosmetic material from scattering; a uniform attachment function to apply the cosmetic material and let it attach to the skin roughly uniformly; and an unevenness reduction function to ensure any unevenness of the skin less emphasized.

[0034] As mentioned earlier, the average grain sizes of cosmetic materials are becoming increasingly finer in recent years and many women are spending a lot amount of energy on makeup, which has become very cumbersome, time-consuming or less desirable in other ways, in order to look more beautiful, make lines and other uneven features of the face less conspicuous, and achieve various other objectives in their quest for beauty.

The cosmetic applicators described in the first through third embodiments allow a cosmetic material to be applied to the skin roughly uniformly and make lines and other uneven features of the face less conspicuous, and thus enable women to be free from the hassle of makeup which has become very cumbersome, time-consuming or less desirable in other ways, and moreover these cosmetic applicators allow them to achieve a makeup with professional finish with ease.

[0035] Additionally, a desired concaved shape can be selected for the cosmetic applicator according to the shape of the face, or level of curving of the facial skin. For example, a fuller woman with a more curved face can select a cosmetic applicator with a curved surface, while a woman with a less curved, flatter face can select a cosmetic applicator with a reverse cone or steps, in order to enjoy the intended effects more prominently. Along the extension of this thinking, it is clear that the concaved shape of the cosmetic applicator is not at all limited to the aforementioned three types and the present invention encompasses any concaved shape that agrees to the technical concept of the cosmetic applicator pro-

posed herein.

[0036] Next, a method for manufacturing a cosmetic applicator pertaining to the embodiments presented herein is explained.

A cosmetic applicator pertaining to the embodiments presented herein is manufactured by forming the apical surface of brush in a shape gradually concaving from the outer periphery of the brush toward the center axis.

[0037] A specific manufacturing method will be explained, but it should be noted that the manufacturing method described below is only one example and the present invention is not at all limited to this manufacturing method. First, the hairs are bundled and aligned in a manner matching the cross-section shape of the handle part in which the hairs will be implanted. A projecting object is pressed against one end of the aligned bundle of hairs to form a concaved shape on this end.

Next, the other end of the aforementioned aligned bundle of hairs is joined to the implanting part of the aforementioned handle part to manufacture a cosmetic applicator. The aforementioned projecting object may be made of metal or resin, and any projecting object matching the concaved shape to be formed can be selected as deemed appropriate.

As for the means for joining the bundle of hairs with the handle part, as described above, one example is to join the bundle of hairs using an adhesive, while another example is to push one side of the aforementioned hairs that have been formed into a shape concaving toward the other side, into one side of the hollow constituted by a hollow cylinder, and then crimp the section of the handle part where the hairs have been pushed in.

[0038] As explained above, a cosmetic applicator conforming to the present invention has its apical surface of brush formed in a shape gradually concaving from the outer periphery of the brush toward roughly the center, and therefore a cosmetic material can be attached to the apical surface of brush roughly uniformly.

Also with a cosmetic applicator conforming to the present invention, a cosmetic material is attached to the brush roughly uniformly and thus the cosmetic material can be applied nearly uniformly to desired areas of the skin, etc., thereby preventing mottled appearances (dark and light areas).

In addition, use of a cosmetic applicator conforming to the present invention allows a solid cosmetic material to decrease roughly uniformly, which prevents only specific parts of the material from decreasingly considerably.

Examples

(Example 1)

[0039] A cosmetic material attachment test was conducted using a cosmetic applicator with a concaved shape (reverse cone) which was formed in such a way that the height from the tip of the handle part where the hairs were implanted to the outermost tip of the brush

part became 35 mm, brush diameter at the outermost tip of the brush part became 35 mm, brush diameter at the tip of the handle part where the hairs were implanted became 20 mm, and height from the outermost tip of the brush part to the deepest part of the concaved section became 5 mm.

The aforementioned cosmetic applicator was stroked back and force twice over the flat surface of a cosmetic material filled into a cosmetic container, and then the applicator was stroked back and forth over several locations of the face by moving from one location to another, to apply the cosmetic material over the entire face and let it attach to the skin.

Visual observation by three subjects confirmed that the cosmetic material was attached roughly uniformly to the apical surface and inside of the brush. When the amount of cosmetic material applied to the face and condition of emphasis of uneven features were checked, it was found that the cosmetic material was attached to the skin roughly uniformly and no locations could be identified where uneven features were emphasized.

(Comparative Example 1)

[0040] A cosmetic material attachment test was conducted using a cosmetic applicator which was formed in such a way that the height from the tip of the handle part where the hairs were implanted to the outermost tip of the brush part became 35 mm, brush diameter at the outermost tip of the brush part became 35 mm, brush diameter at the tip of the handle part where the hairs were implanted became 20 mm, and the apical surface of brush would have roughly a convex shape.

The test method confirmed to Example 1 explained above. Visual observation by three subjects confirmed that a large amount of cosmetic material had been transferred onto the roughly convex part of the apical surface of brush, that a large amount of cosmetic material had been transferred onto the roughly convex part inside the brush, and that the transferred amount of cosmetic material decreased toward the outer periphery. When the amount of cosmetic material applied to the face and the condition of emphasis of uneven features were checked, mottled areas where the cosmetic material was attached non-uniformly to the skin were found and uneven features were emphasized in several locations.

Claims

1. A cosmetic applicator for application of a powdery cosmetic material containing fine powder, comprised of a handle part and a brush part constituted by a bristle material implanted on the handle part, said cosmetic applicator being **characterized in that** the bristle material of the aforementioned brush part extends upward from the aforementioned handle part, and the distal end of the bristle material forms a hor-

izontally shaped outer periphery with respect to the
aforementioned handle part, from which outer pe-
riphery a shape gradually concaving toward the cent-
er axis of the brush part is formed.

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2. A cosmetic applicator according to Claim 1, **characterized in that** the aforementioned concaved shape is a reverse cone.

3. A cosmetic applicator according to Claim 1, **characterized in that** the aforementioned concaved shape is a curved surface. 10

4. A cosmetic applicator according to Claim 1, **characterized in that** the aforementioned concaved shape is steps. 15

5. A cosmetic applicator according to any one of Claims 1 to 4, **characterized in that** the concave ratio of the aforementioned concaved shape is approx. 0.05 to approx. 0.3. 20

6. A method for manufacturing a cosmetic applicator for application of a cosmetic material, comprised of a handle part and a brush part constituted by a bristle material implanted on the aforementioned handle part, said manufacturing method being **characterized in that** the apical surface of the aforementioned brush part is formed in a shape gradually concaving from the outer periphery of the brush part toward the center axis of the brush part. 25
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Fig. 1

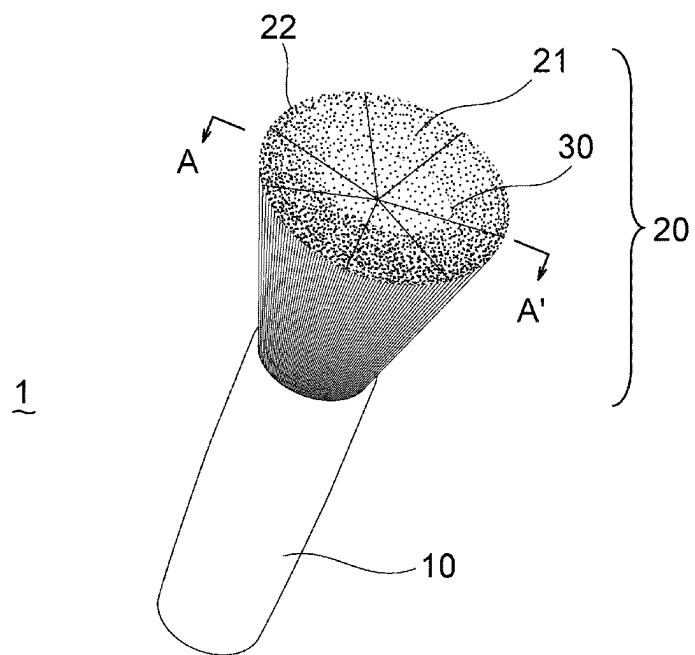


Fig. 2

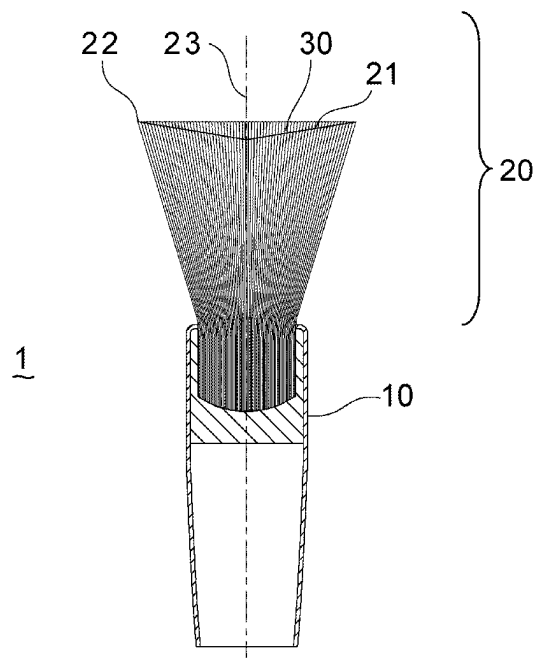


Fig. 3A

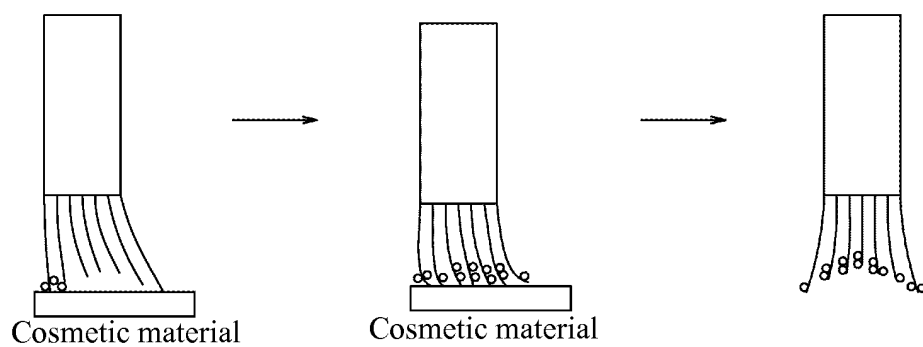


Fig. 3B

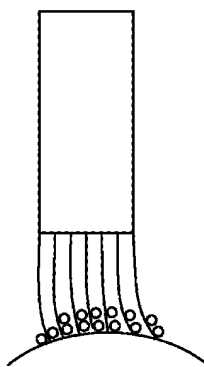


Fig. 4

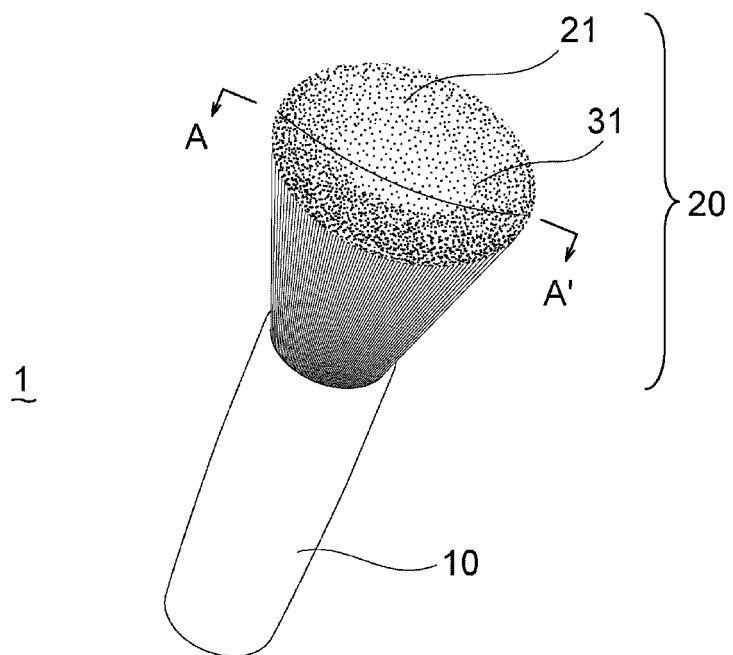


Fig. 5

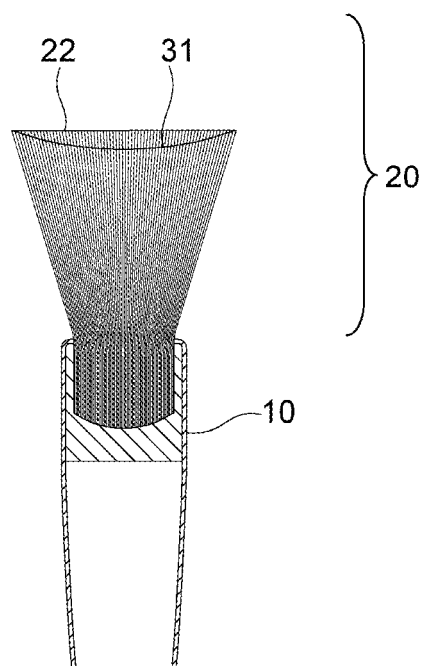


Fig. 6

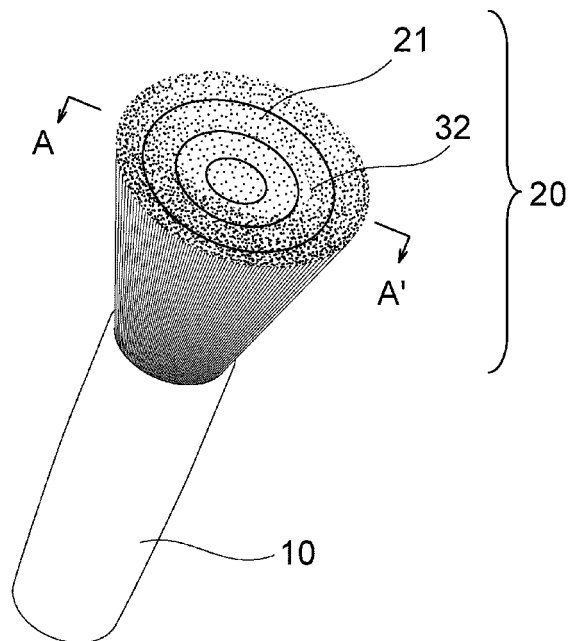


Fig. 7

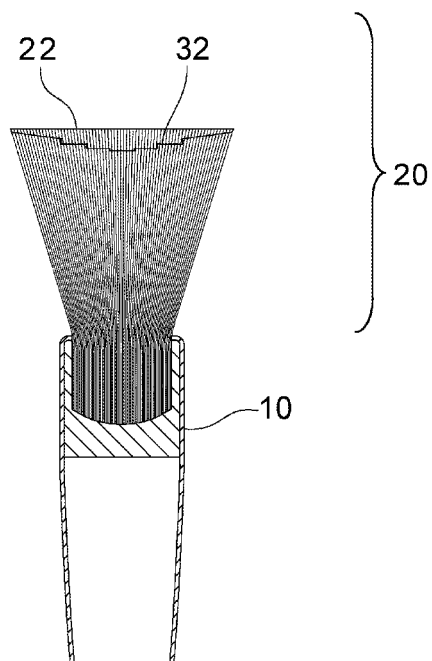
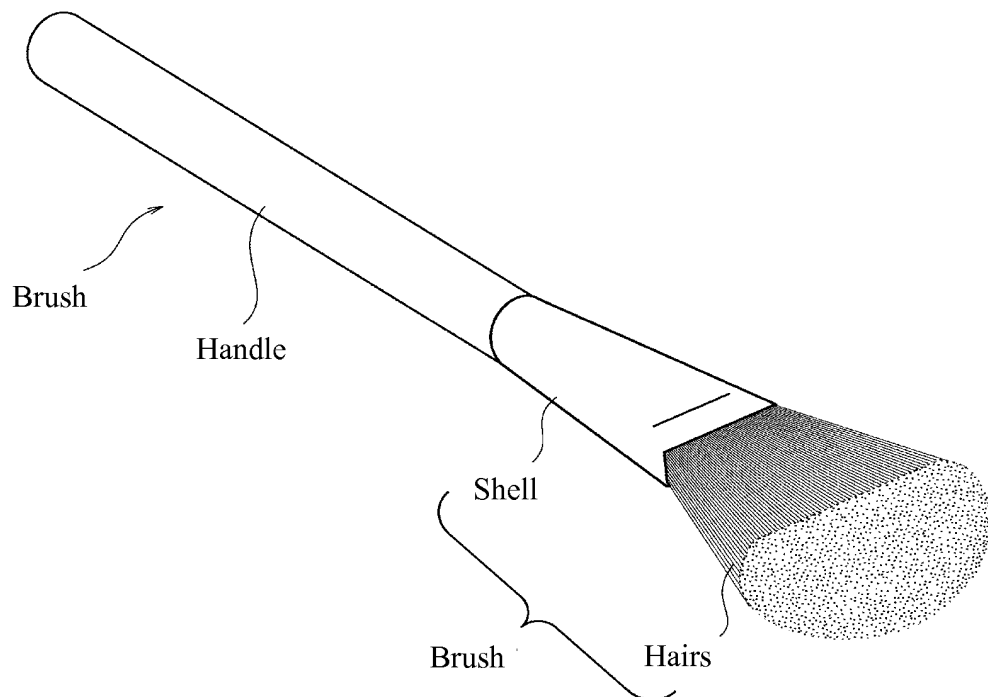


Fig. 8



INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2008/054616

A. CLASSIFICATION OF SUBJECT MATTER

A45D33/36(2006.01) i, A46B9/02(2006.01) i

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A45D33/36, A46B9/02

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

Jitsuyo Shinan Koho	1922-1996	Jitsuyo Shinan Toroku Koho	1996-2008
Kokai Jitsuyo Shinan Koho	1971-2008	Toroku Jitsuyo Shinan Koho	1994-2008

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 180260/1982 (Laid-open No. 085111/1984) (Shiseido Co., Ltd.), 08 June, 1984 (08.06.84), Full text; Figs. 1 to 12 (Family: none)	1-6

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

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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
10 April, 2008 (10.04.08)Date of mailing of the international search report
22 April, 2008 (22.04.08)Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

Form PCT/ISA/210 (second sheet) (April 2007)

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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- JP HEI10295441 B [0005]
- JP 2006069902 A [0005]