

DESCRIPTION

Title of Invention: DOUBLE EYELID FORMING LIQUID APPLICATOR
AND CONTAINER

Technical Field

[0001]

The present invention relates to an applicator for applying liquid type cosmetics which are used to form a double eyelid, such as double eyelid forming glue, to skin of eyelid, and a double eyelid forming liquid container having the applicator. More specifically, the present invention relates to a double eyelid forming liquid applicator which includes an integrally formed operating portion for determining a position where a double eyelid crease is to be formed, that is, a position where the liquid is to be applied to the eyelid, and fixing the shape of the double eyelid after the liquid is applied, and a double eyelid forming liquid container having the applicator.

Background Art

[0002]

Examples of liquid type cosmetics which are used to form a double eyelid are known as described in Patent Literature (PTL) 1, PTL 2, and PTL 3, and are generally divided into those which are applied to skin of eyelid to adhere the skin together and form a double eyelid crease, and those which are applied to skin of eyelid to form a

coating which is harder than the skin of eyelid and allow the skin to be folded along the upper edge of the coating when the eyelid is open so as to form a double eyelid crease. Further, PTL 4 proposes to form a double eyelid crease by using shrinkage of the coating applied to skin of eyelid.

[0003]

Generally, in the above liquid type double eyelid cosmetic articles, a stick and an applicator are separately packaged. When forming a double eyelid, a series of processes needs to be performed. First, the distal end of stick is used to press the eyelid to determine a position where a double eyelid crease is to be formed, that is, a position where the liquid is to be applied. Then, the applicator which is impregnated with the liquid is used to apply the liquid to the eyelid at the determined position. Then, the stick is again used to fix the shape of the double eyelid.

However, since the applicator and the stick of the prior art are separately provided as described above, the manipulation has been often complicated in that the applicator and the stick need to be replaced with each other for each process.

Citation List

Patent Literature

[0004]

PTL 1: Japanese Unexamined Patent Application
Publication No. 2007-106711

PTL 2: Japanese Unexamined Patent Application
Publication No. 11-171728

PTL 3: Japanese Examined Patent Application Publication
No. 6-062384

PTL 4: International Publication No. WO 2010/087365

Summary of Invention

Technical Problem

[0005]

The technical problem to be solved by the present invention is to provide a double eyelid forming liquid applicator which allows for performing a series of processes of forming a double eyelid by using a double eyelid forming liquid, such as processes of determining a position where a double eyelid crease is to be formed, applying the liquid, and fixing the shape of the eyelid, with a single, integrally formed device, and which is capable of improving operability by eliminating complexity of replacing a plurality of devices for each process, and a double eyelid forming liquid container having the applicator.

Solution to Problem

[0006]

In order to solve the above problem, a double eyelid forming liquid applicator according to the present invention

includes a stem that is integrally molded of a synthetic resin and has a distal end and a proximal end on each end of the stem in a longitudinal direction, and a grip connected to a proximal portion of the stem, wherein the stem includes an operating portion disposed at a distal portion which includes the distal end with a surface of the stem being exposed so that the surface is directly brought into contact with the eyelid and an impregnation portion which is disposed on the outer peripheral surface of the stem located on the side of the proximal portion relative to the operating portion and is configured to be impregnated with a double eyelid forming liquid for applying the liquid to the eyelid, and the stem located on the side of the distal end relative to the proximal portion has flexibility to elastically bend when the impregnation portion is pressed against the eyelid.

[0007]

In a preferable embodiment of the double eyelid forming liquid applicator according to the present invention, the distal end of the stem is formed of a curved surface, and the stem located on the side of the distal end relative to the proximal portion is formed in a tapered shape which decreases in diameter toward the distal end. Further, the stem is formed in a straight shape, and the stem has a circular cross section and the distal end of the stem is

formed of a spherical surface. Further, the stem is made of low density polyethylene, and the impregnation portion is formed of flocking, sponge, an impregnation groove which extends in the circumferential direction on the outer peripheral surface of the stem or a combination of two or more thereof.

According to the present invention, a double eyelid forming liquid container is provided, wherein the grip is formed as a cap detachable from a bottle that stores the double eyelid forming liquid, and the stem is disposed in the bottle.

Advantageous Effects of Invention

[0008]

According to the present invention, a series of processes of forming a double eyelid by using a double eyelid forming liquid, such as processes of determining a position where a double eyelid crease is to be formed, applying the liquid, and fixing the shape of the eyelid, can be performed with a single device having a operating portion and an impregnation portion which are integrally formed. Accordingly, operability can be improved by eliminating complexity of replacing devices with each other for each process. Further, since the stem is configured to be elastically deformed when the impregnation portion disposed on the outer periphery of the stem is pressed against the

eyelid, the liquid can be accurately applied to a line on the eyelid along which a double eyelid crease is to be formed with a simple operation, which enables a clear double eyelid to be easily formed.

Brief Description of Drawings

[0009]

[Fig. 1] Fig. 1 is a half sectional view of a container which includes a double eyelid forming liquid applicator according to the present invention.

[Fig. 2] Fig. 2 is an enlarged sectional view of an essential part of the double eyelid forming liquid applicator according to the present invention.

[Fig. 3] Fig. 3 is an explanatory view which shows a series of processes of forming a double eyelid by using the double eyelid forming liquid applicator according to the present invention. Fig. 3(a) shows a state of determining a position where a double eyelid crease is to be formed. Fig. 3(b) shows a state of applying a double eyelid forming liquid which is impregnated in an impregnation portion to an eyelid. Fig. 3(c) shows a state of fixing the shape of the double eyelid.

Description of Embodiments

[0010]

A configuration of a double eyelid forming liquid applicator 1A according to the present invention and a

double eyelid forming liquid container 1 having the applicator 1A will be described in detail with reference to the drawings.

As shown in Figs. 1 and 2, the double eyelid forming liquid applicator 1A includes an integrally molded stem 10 which is made of a synthetic resin and has a shaft shape with a distal end 10a and a proximal end 10b disposed at each end of the stem 10 in the longitudinal direction, and a grip 40 connected to a proximal portion 13 which includes the proximal end 10b of the stem 10. The stem 10 is composed of the proximal portion 13 and a stem body 14 that is formed of the entire portion located on the side of the distal end 10a relative to the proximal portion 13. Further, the stem body 14 includes an operating portion 11 and an impregnation portion 12, which will be described later.

In this embodiment, the grip 40 of the applicator 1A is formed as a cap that is detachable from a bottle 1B which stores a double eyelid forming liquid. That is, the container 1 is composed of the bottle 1B and the applicator 1A which includes the grip 40 that serves as a cap of the bottle 1B. However, the grip 40 may not necessarily serve as a cap of the bottle 1B.

[0011]

The entire surface of the distal portion which includes the distal end 10a of the stem 10 is exposed and forms the

operating portion 11 so that the surface of the stem 10 is allowed to be directly brought into contact with the eyelid during determining the position where the double eyelid crease is to be formed and fixing the shape of the double eyelid. Further, the impregnation portion 12 which is impregnated with the double eyelid forming liquid for applying the liquid to the eyelid is disposed on the outer periphery of the stem 10 which is located on the side of the proximal portion 13 relative to the operating portion 11. Specifically, the impregnation portion 12 is disposed adjacent to the proximal portion 13 of the operating portion 11.

The stem 10 has a straight shape which extends in the entire axial direction and has a circular cross section. Since the distal end 10a of the stem 10, that is, the distal end of the operating portion 11 is a portion which is directly brought into contact with the eyelid as described above, the distal end 10a is formed of a curved convex surface, more preferably, a spherical surface which is smoothly continuous to the outer periphery of the stem 10, in consideration of safety.

[0012]

A plurality of projections 13a, 13b are disposed on the proximal portion 13 of the stem 10 so as to be locked to the grip 40 in an engagement state. Further, the stem body 14

of the stem 10 which extends from the proximal portion 13 to the distal end 10a has elastic flexibility and is adapted to bend in an arc shape, particularly when the impregnation portion 12 is pressed against the eyelid. Accordingly, the impregnation portion 12 can be efficiently and accurately pressed against the eyelid by using an elastic force of bending and apply the liquid. Moreover, a portion of the stem body 14 around which the impregnation portion 12 is formed has a bending rigidity which is slightly larger than that of a portion of the stem having the surface exposed between the impregnation portion 12 and the proximal portion 13, and thus a bending curvature which is slightly smaller. As a result, application can be performed while the substantially entire portion of the impregnation portion 12 in the longitudinal direction is pressed against the skin of eyelid.

The stem body 14 is preferably formed in a tapered shape which generally decreases in diameter toward the distal end 10a. Further, the stem 10 is preferably made of a material including low density polyethylene, but not limited thereto.

[0013]

The impregnation portion 12 of the stem 10 is formed of flocking which covers the entire circumference of the stem 10. The flocking is provided to be impregnated with the

double eyelid forming liquid and preferably has a length in the order of 0.3 mm. Fibrous materials of the flocking may advantageously include nylon, rayon, acrylic, silk, polyester, polybutylene terephthalate, polypropylene, aramid (polyamid), jute fiber, nano fiber, PET, cotton powder and the like. Further, the thickness of the impregnation portion 12 is not specifically limited, but is preferably sufficiently smaller than the diameter of the stem 10 and is generally substantially uniform. The impregnation portion 12 may be formed of, as well as the flocking, sponge, an impregnation groove which extends in the circumferential direction on the outer periphery of the stem 10 or a combination of two or more thereof.

[0014]

In a more specific embodiment, for example, the length of the operating portion 11, that is, the length of the stem 10 from the distal end 10a to the interface with the impregnation portion 12 may be in the order of 1.6 mm. Further, the length of the stem 10 of the impregnation portion 12 may be in the order of 16 mm. When the length of a portion of the stem 10 which is located on the side of the distal end 10a relative to the proximal portion 13, that is, the length of the stem body 14 is in the order of 26.3 mm, the diameter of the stem body 14 at the end of the proximal portion 13 may be in the order of 1.5 mm, while the diameter

of the spherical surface of the distal end 10a may be in the order of 1.0 mm. However, the dimensions are not limited thereto.

[0015]

The grip 40 includes an inner cap 20 that is configured to securely hold the stem 10 and to be threaded with a bottle 1B which stores the double eyelid forming liquid, and an outer cap 30 that is directly held by a hand of a user using the applicator 1A with the inner cap 20 securely engaged inside the outer cap 30.

[0016]

The inner cap 20 is integrally molded of a synthetic resin such as polypropylene and includes a cylinder portion 21 having a threaded inner peripheral surface, a top plate 22 that closes the upper end of the cylinder portion 21, and a shaft 23 that hangs from the center of the top plate 22 and extends downward across the lower end of the cylinder portion 21. Further, an engagement hole 24 which is open to the distal end (lower end) of the shaft 23 is disposed on the shaft 23 such that the proximal portion 13 of the stem 10 is allowed to engage in the engagement hole 24 and a plurality of projections 13a, 13b formed on the outer periphery of the proximal portion 13 are allowed to engage with the inner peripheral surface of the engagement hole 24.

[0017]

The outer cap 30 is formed to be elongated in the vertical direction and has a curved outer surface with the diameter reducing from the lower end to the upper end from a viewpoint of design. Further, the outer cap 30 is integrally molded of a synthetic resin such as polypropylene and is formed as a hollow body with the upper end closed and the lower end open. Moreover, an engagement groove 31 is disposed on the circumference of the inner surface of the lower end opening of the outer cap 30 so that the cylinder portion 21 of the inner cap 20 is engaged and secured at the lower end opening. The width of the engagement groove 31 in the up and down direction is substantially equal to the height of the cylinder portion 21 such that the lower end of the cylinder portion 21 is aligned with the lower end of the outer cap 30.

[0018]

The bottle 1B for storing the double eyelid forming liquid includes a bottle body 50 which is integrally molded of a synthetic resin such as polypropylene and includes a cylindrical opening 51 at the upper end, and a cylindrical inner packing 60 which is integrally molded of a synthetic rubber such as NBR (nitrile rubber) and is fitted to the inner peripheral surface of the cylindrical opening 51.

The bottle body 50 is formed of an outer surface which is continuous with an outer surface of the outer cap 30 and

decreases in diameter toward the lower end. Further, a thread is formed on the outer peripheral surface of the cylindrical opening 51 so as to thread with the inner cap 20 of the applicator 1A. In addition, protrusions 52 are disposed on the upper portion of the outer surface of the bottle body 50 at the interval of 90 degrees so as to prevent the bottle from being rotated.

[0019]

The inner packing 60 has an upper end which expands outward and covers an upper end of the cylindrical opening 51. When the applicator 1A is attached on the bottle 1B, the inner packing 60 is brought into press contact with the inner surface of the top plate 22 of the inner cap 20 and prevents liquid leakage.

Further, a smoothing piece 61 is formed around the inner peripheral surface of the inner packing 60 and extends obliquely downward so as to narrow a passage diameter. When the applicator 1A is attached on the bottle 1B, the smoothing piece 61 of the inner packing 60 comes into press contact with the outer peripheral surface of the shaft 23 of the inner cap 20 as shown in Fig. 1, thereby preventing liquid leakage. In this case, a slight gap is maintained between the distal end 10a of the stem 10 and the bottom of the bottle 1B, thereby preventing the stem 10 from being curled.

[0020]

When the applicator 1A is detached from the bottle 1B, the smoothing piece 61 of the inner packing 60 first wipes off the liquid applied on the shaft 23 while coming into sliding contact with the outer periphery of the shaft 23 of the inner cap 20. Then, when the stem body 14 of the stem 10 comes to the smoothing piece 61, the smoothing piece 61 does not come into contact with the entire periphery of the stem body 14 since the diameter of the stem body 14 and the impregnation portion 12 is slightly smaller than the diameter of the inner edge of the smoothing piece 61. Accordingly, when the stem body 14 is drawn from the bottle 1B, the excessive liquid which may cause liquid drop such as the liquid applied on the outer peripheral surface of the stem body 14 is wiped off as necessary by sliding the stem body 14 on the smoothing piece 61.

[0021]

The double eyelid forming liquid applicator according to the present invention has been described with reference to Figs. 1 and 2. However, the double eyelid forming liquid applicator according to the present invention is not limited to the embodiment shown in Figs. 1 and 2. For example, in the double eyelid forming liquid applicator according to the present invention, the grip 40 may be connected to the proximal portion of the stem 10, and connection of the grip

40 and the stem 10 is not limited to the embodiment shown in Figs. 1 and 2. For example, the grip 40 and the stem 10 may be integrally formed.

Further, the stem body 14 of the stem 10 may not be necessarily in a straight shape, and may be slightly curved, for example, depending on the bending rigidity of the stem body 14.

[0022]

Next, a series of processes of forming a double eyelid by using the double eyelid forming liquid applicator 1A will be described with reference to Fig. 3. However, method of using the applicator 1A is not limited to the method which will be described below.

First, as shown in Fig. 3(a), the distal end 10a of the operating portion 11 of the stem 10 of the applicator 1A is pressed against the eyelid as indicated by the arrow in the figure with the eye open to determine a line of double eyelid crease.

[0023]

Next, as shown in Fig. 3(b), the impregnation portion 12 of the stem 10 is pressed on the line of double eyelid crease determined in the process of Fig. 3(a) with the eye slightly open, and the double eyelid forming liquid is applied by sliding the impregnation portion 12 as indicated by the arrow in the figure with the stem body 14 of the stem

10 bent in an arc shape.

The double eyelid forming liquid mainly includes a type that forms a double eyelid crease by adhering the skin of eyelid together (hereinafter, referred to as "adhesion type"), a type that forms a double eyelid crease by applying the liquid to the skin of eyelid to form a coating harder than the skin of eyelid and allowing the skin to be folded along the upper edge of the coating when the eyelid is open (hereinafter, referred to as "coating type"), and a type that forms a double eyelid crease by using shrinkage of the coating on the skin of eyelid (hereinafter, referred to as "shrinkage type").

[0024]

In the case where the liquid is the "adhesion type," when the applied liquid starts to dry and becomes viscous, the distal end 10a of the operating portion 11 is used to push the skin of eyelid as shown in Fig. 3(c) along the line of double eyelid on which the liquid has been applied in the direction indicated by the arrow in the figure so as to form the double eyelid crease while fixing the entire shape of the double eyelid.

Alternatively, in the case where the liquid is the "coating type" or the "shrinkage type," after the applied liquid is dried, the distal end 10a of the operating portion 11 is used to push the skin of eyelid as shown in Fig. 3(c)

particularly at the inner and outer corners of the eye so as to fix the entire shape of the double eyelid.

[0025]

The double eyelid forming liquid applicator and the double eyelid forming liquid container according to the present invention have been described in detail. However, the present invention is not limited to the above embodiment, and as a matter of course, various design modifications can be made without departing from the scope of the invention.

Reference Signs List

[0026]

- 1 double eyelid forming liquid container
- 1A double eyelid forming liquid applicator
- 1B bottle
- 10 stem
- 10a distal end
- 10b proximal end
- 11 operating portion
- 12 impregnation portion
- 13 proximal portion
- 14 stem body
- 20 inner cap
- 21 cylinder portion
- 22 top plate
- 23 shaft

24 engagement hole

30 outer cap

40 grip

50 bottle body

60 inner packing

CLAIMS

1. A double eyelid forming liquid applicator comprising:

a stem that is integrally molded of a synthetic resin and has a distal end and a proximal end on each end of the stem in a longitudinal direction; and

a grip connected to a proximal portion of the stem,

wherein the stem includes an operating portion disposed at a distal portion which includes the distal end with a surface of the stem being exposed so that the surface is directly brought into contact with the eyelid and an impregnation portion which is disposed on the outer peripheral surface of the stem located on the side of the proximal portion relative to the operating portion and is configured to be impregnated with a double eyelid forming liquid for applying the liquid to the eyelid, and the stem located on the side of the distal end relative to the proximal portion has flexibility to elastically bend when the impregnation portion is pressed against the eyelid.

2. The double eyelid forming liquid applicator according to claim 1, wherein the distal end of the stem is formed of a curved surface.

3. The double eyelid forming liquid applicator according to claim 1 or 2, wherein the stem located on the side of the distal end relative to the proximal portion is

formed in a tapered shape which decreases in diameter toward the distal end.

4. The double eyelid forming liquid applicator according to claim 1, wherein the stem is formed in a straight shape.

5. The double eyelid forming liquid applicator according to claim 2, wherein the stem has a circular cross section and the distal end of the stem is formed of a spherical surface.

6. The double eyelid forming liquid applicator according to claim 1, wherein the stem is made of low density polyethylene.

7. The double eyelid forming liquid applicator according to claim 1, wherein the impregnation portion is formed of flocking, sponge, an impregnation groove which extends in the circumferential direction on the outer peripheral surface of the stem or a combination of two or more thereof.

8. A double eyelid forming liquid container wherein the grip of the double eyelid forming liquid applicator according to claim 1 is formed as a cap detachable from a bottle that stores the double eyelid forming liquid, and the stem is disposed in the bottle.