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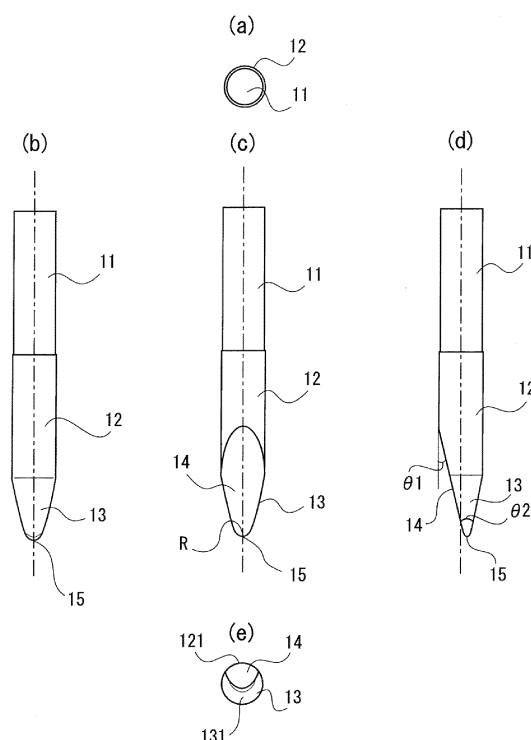
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(54) **COSMETIC APPLICATOR**

(57) A cosmetic applicator is provided so as to have such good usability that it allows satisfactorily spreading a cosmetic material to beautifully finish application boundary areas, and detailed parts such as the corners of the mouth and the corners of the eyes, without applying a feeling of excessively soft or hard touch to the applied parts.

The cosmetic applicator includes a fixed part, a base part extending in a rod shape from the fixed part, and a tapered part extending further from the base part while reducing in diameter. The cosmetic applicator also includes an application surface formed so as to have a slant cut shape from a side surface of the base part to a side surface on an opposite side of the tapered part.

FIG. 1



## Description

### Technical Field

**[0001]** The present invention relates to a cosmetic applicator that is attached to a cosmetic applying tool and that is used for applying cosmetics on the skin.

### Background Art

**[0002]** Containers having a cosmetic applying tool are conveniently used because they eliminate the need to take a cosmetic material directly by hand in applying it to the skin. Application surfaces of applicators have been devised in shape and material so as to enable applying an appropriate amount of a cosmetic material and beautifully finishing the applied skin.

**[0003]** Application surfaces of applicators are mostly used for application to detailed areas of various facial parts, such as lips, eyelids, eyebrows, cheeks, and nose. In consideration of this, applicators suitable for such fine application are disclosed; PTL 1 discloses one having a thin applying part, and PTLs 2 and 3 disclose one having a tip with a slant cut at each side.

**[0004]** Unfortunately, these applicators have a wide tip and are thereby not appropriate for fine work (PTLs 1 and 3), and these applicators themselves do not have sufficient rigidity due to thin shapes (PTLs 1 and 2) and thereby make it difficult to accurately transmit power of hand to a tip of the applicators. As a result, a cosmetic material may not be spread as expected and may become thick and cause creasing.

### Citation List

### Patent Literature

#### [0005]

PTL 1: JP-A-2006-094892

PTL 2: Japanese Patent No. 3811458

PTL 3: Japanese Utility Model Registration No. 3174060

### Summary of Invention

### Technical Problem

**[0006]** In view of these circumstances, an object of the present invention is to overcome such drawbacks of existing cosmetic applicators and thereby provide a cosmetic applicator having such good usability that it allows satisfactorily spreading a cosmetic material to beautifully finish application boundary areas, and detailed parts such as the corners of the mouth and the corners of the eyes, without applying a feeling of excessively soft or hard touch to the applied parts.

## Solution to Problem

**[0007]** The present invention solves the above-described problems and provides a cosmetic applicator including a fixed part, a base part extending in a rod shape from the fixed part, and a tapered part extending further from the base part while reducing in diameter. The cosmetic applicator also includes an application surface formed so as to have a slant cut shape from a side surface of the base part to a side surface on an opposite side of the tapered part.

**[0008]** In one aspect of the present invention, the cosmetic applicator may be characterized in that a tip of the applicator deviates from an extension of an axis of the base part toward a side surface on a side opposite to the application surface.

**[0009]** In another aspect of the present invention, the cosmetic applicator may be characterized in that a slant angle relative to a vertical direction of the application surface is preferably in the range of 8 to 20 degrees and is more preferably in the range of 10 to 20 degrees.

**[0010]** In still another aspect of the present invention, the cosmetic applicator may be characterized in that a radius of curvature of the tip of the applicator is in the range of 0.2 to 0.9 mm in a front view.

**[0011]** In still another aspect of the present invention, the cosmetic applicator may be characterized in that an angle between the application surface of the applicator and a slope surface of the tapered part is in the range of 15 to 35 degrees in a side view.

**[0012]** In yet another aspect of the present invention, in the cosmetic applicator, an outline on a base part side of the application surface may be formed into an approximately U-shape, and an outline on a tapered part side of the application surface may be formed into an approximately V-shape that bends into a circular arc in the vicinity of the tip.

## Advantageous Effects of Invention

**[0013]** In the cosmetic applicator of the present invention, the application surface is formed continuously over the base part and the tapered part, which enables obtaining an area of the application surface that allows applying a sufficient amount of a cosmetic material. Moreover, the tip is provided with the slant cut shape in addition to the tapered part, whereby it has a thin sharp point that is suitable for fine work. Thus, finishing that requires delicate application work, and so on, can be appropriately performed.

**[0014]** Furthermore, the cosmetic applicator of the present invention has the tip that is provided with the slant cut shape in addition to the tapered part, which structure makes it possible to obtain a thickness necessary to maintain rigidity of the vicinity of the tip. As a result, power of hand is accurately transmitted to the tip in applying a cosmetic material, whereby the cosmetic material is sufficiently spread.

## Brief Description of Drawings

**[0015]**

FIG. 1(a) is a top view of a cosmetic applicator of the present invention, FIG. 1(b) is a back view thereof, FIG. 1(c) is a front view thereof, FIG. 1(d) is a side view thereof, and FIG. 1(e) is a bottom view thereof. FIG. 2 is a partial sectional view illustrating a front side and a sectional structure on the front side of a cosmetic container and a cosmetic applying tool having the cosmetic applicator of the present invention. FIG. 3(a) is a front view of other embodiment of the cosmetic applicator of the present invention, and FIG. 3(b) is a side view thereof.

FIG. 4(a) is a front view of other embodiment of the cosmetic applicator of the present invention, and FIG. 4(b) is a side view thereof.

FIG. 5(a) is a front view of other embodiment of the cosmetic applicator of the present invention, and FIG. 5(b) is a side view thereof.

## Description of Embodiments

**[0016]** The following specifically describes embodiments of a cosmetic applying tool of the present invention, based on the drawings. Note that the present invention is by no means limited to these embodiments.

**[0017]** As illustrated in FIG. 2, the cosmetic applicator of the present invention is attached to an end of a support shaft 2 that is suspended from a cap 3 detachable from a container body 4 of a cosmetic container. The cosmetic container of the embodiments of the present invention includes a scraping part 41 in a neck of the container body 4 and thereby allows scraping off an extra cosmetic material that adheres to an applicator 1. However, the shape and the structure of the cosmetic container is not limited thereto. In addition, the cosmetic applicator of the present invention is not limited to one that is attached to the cap 3 via the support shaft 2. The cosmetic applicator of the present invention may be used as an independent applicator by attaching a fixed part 11 to an additionally provided grip, or it may be used as an independent applicator by directly using the fixed part as a grip. The following describes details of the applicator 1 of the present invention.

**[0018]** As illustrated in FIGs. 1(a) to 1(e), the applicator 1 of the present invention includes a fixed part 11 that is formed so as to be mounted to the support shaft 2, a base part 12 that extends from the fixed part 11, and a tapered part 13 that extends further from the base part 12.

**[0019]** The fixed part 11 is formed into a cylindrical shape with a size that can be inserted from an end of the support shaft 2 into an opening hole 21. However, the method of fixing the fixed part 11 is not limited to insertion on the condition that the applicator 1 can be fixed to the support shaft 2.

**[0020]** The base part 12 having a rod shape is extend-

ed from an end of the fixed part 11. The base part 12 of the embodiments of the present invention is basically formed into a cylindrical shape, except for a part that is slant-cut in order to form an application surface 14. However, the shape is not limited thereto and may be an elliptic cylinder shape or another polygonal columnar shape, such as a hexagonal columnar shape, as illustrated in FIGs. 3(a) to 5(b). FIGs. 4(a) and 4(b) and FIGs. 5(a) and 5(b) each illustrate a base part 12 having a hexagonal columnar shape, and the positions of the vertex angles of the hexagonal columns in FIGs. 4(a) and 4(b) and FIGs. 5(a) and 5(b) are deviated from each other in the circumferential direction by approximately 30 degrees.

**[0021]** The tapered part 13 is extended at an end of the base part 12 and reduces in diameter in such a manner as to taper down to a point. The tapered part 13 of the embodiments of the present invention is basically formed into a cone shape, except for the slant cut part. However, the shape is not limited thereto and may be an elliptical cone shape, as illustrated in FIGs. 3(a) and 3(b).

**[0022]** That is, the applicator 1 of the present invention is formed into a pencil shape due to the combination of the base part 12 and the tapered part 13, except for the slant cut part. Herein, the "pencil shape" means that a diameter-reducing tapered part 13 is extended on a base part 12 having a cylindrical shape or a polygonal columnar shape with a uniform diameter and that an outline along a slope surface of the tapered part 13 is formed into a straight shape. A cut surface is formed by slant-cutting from a side surface of the base part 12 having such a shape to a side surface on an opposite side of the tapered part 13, and it constitutes the application surface 14. Herein, the "side surface on an opposite side" means a slope surface of the tapered part 13, which is under a side surface of the base part 12 on a back side of any part of the side surface of the base part 12. Although the "slant-cutting" is performed herein, cutting is not necessarily performed in a manufacturing process on the condition that a slant cut shape is finally formed, and other general manufacturing method, such as injection molding, may be employed.

**[0023]** In this manner, the applicator 1 is formed so as to have the slant cut shape from a front side surface 121 of the base part 12 to a back side surface 131 of the tapered part 13, and the application surface 14, which corresponds to the cut surface of the slant cut part, forms a slant surface that continues over the base part 12 and the tapered part 13. In a front view, such an application surface 14 has an outline that is formed into an approximately U-shape of a parabola that is gentle as a whole, on a base part 12 side, but it has an outline that is formed into an approximately V-shape that bends into a circular arc in the vicinity of a tip 15 of the applicator 1, on a tapered part 13 side. Such a shape on the base part 12 side of the application surface 14 enables retaining a sufficient amount of a cosmetic material, and the sharper shape on the tapered part 13 side of the application sur-

face 14 enables appropriately applying to detailed parts.

**[0024]** Moreover, it is structured so that an extension of an axis of the base part 12 and the application surface 14 will cross each other, in the embodiments of the present invention. The tip 15 of the applicator 1 is formed so as to deviate from the extension of the axis of the base part 12 toward the back side surface 131 on the side opposite to the application surface 14. The tip 15 is preferably formed into a circular arc shape with a slightly rounded corner, instead of a slant cut shape left as it is.

**[0025]** The position of the tip 15 of the applicator 1 is an element that affects a slant angle of the application surface 14 and a curvature of the circular arc of the tip 15. Thus, it is preferable to form the tip 15 of the applicator 1 so as to deviate from the extension of the axis of the base part 12 toward the back side surface 131 on the side opposite to the application surface 14, as in the embodiments of the present invention, because the slant angle of the application surface 14 and the curvature of the circular arc of the tip 15 are optimized.

**[0026]** A slant angle  $\theta_1$  relative to a vertical direction of the application surface 14 is preferably in the range of 8 to 20 degrees and is more preferably in the range of 10 to 20 degrees. In addition, a radius R of curvature of the tip 15 is preferably in the range of 0.2 to 0.8 mm and is more preferably in the range of 0.4 to 0.6 mm, in a front view. Moreover, an angle  $\theta_2$  between the application surface 14 and the slope surface of the tapered part 13 is preferably in the range of 15 to 35 degrees and is more preferably in the range of 20 to 30 degrees. Note that the "slope surface of the tapered part 13" means the back side surface 131 on the side opposite to the application surface 14.

**[0027]** Thus, the application surface 14 is formed continuously over the base part 12 and the tapered part 13, and moreover, the slant angle of the application surface 14 and the radius of curvature of the tip 15 are set as described above. This structure enables obtaining an area of the application surface 14 that allows applying a sufficient amount of a cosmetic material. Although the application surface 14 of the embodiments of the present invention is formed into a flat surface, the application surface 14 is not necessarily formed into a completely flat surface and may be a slightly concave surface or a slightly convex surface.

**[0028]** The tip 15 is provided with the slant cut shape in addition to the tapered part 13, whereby it has a thin sharp point that is suitable for fine work. Thus, finishing that requires delicate work, and so on, can be appropriately performed by using the tip 15.

**[0029]** Moreover, forming the slant cut shape while providing the tapered part 13 to the tip 15, makes it possible to obtain a thickness necessary to maintain rigidity of the vicinity of the tip 15. As a result, power of hand is accurately transmitted to the tip 15 in applying a cosmetic material, whereby the cosmetic material is sufficiently spread.

**[0030]** Any material that is used for a general cosmetic

applicator can be used in the applicator 1 of the present invention. However, thermoplastic resin having high hardness, such as TPE or TPU (thermoplastic elastomer), is preferable. For example, plastic or rubber such as polyethylene, polypropylene, polyethylene terephthalate, nylon, polyurethane, polyacrylonitrile butadiene styrene, polystyrene, polyacrylonitrile butadiene rubber, polystyrene butadiene rubber, polyisoprene, or silicon rubber, or moreover, elastomer such as of polyester, urethane, olefin, or polycarbonate, can be used. Examples of polyester elastomer that can be used include Hytrel (registered trademark) G3548L, PELPRENE (registered trademark) P30B, and PELPRENE (registered trademark) P40B. Examples of urethane elastomer that can be used include Toyobo Urethane (registered trademark) E-3090A, Toyobo Urethane (registered trademark) E-3070A, and PANDEX (registered trademark) T-8190. An example of olefin elastomer that can be used includes Sarlink (registered trademark) 3170. An example of polycarbonate elastomer that can be used includes PANDEX (registered trademark) T-9290.

**[0031]** The whole or a part of the applicator 1 is preferably flocked, because the amount of a cosmetic material adhering to the applicator 1 is increased, and a touch to an applied area is changed. In addition, the lengths of fibers may be partially varied, and for example, the length of fibers implanted in the application surface 14 and the length of fibers implanted in the base part 12 and the tapered part 13 may be different from each other. The amount of a cosmetic material adhering to the applicator can be set in a wider range from a smaller amount to a larger amount, and easiness of application is improved. Any material that is practicable can be used as fibers for flocking. Examples of the material include synthetic fibers such as of nylon, polyester, acryl, vinylon, or polybutylene terephthalate, regenerated fibers such as of rayon or acetate, and natural fibers such as of wool, silk, cotton, or hemp. Alternatively, fine particles such as natural sponge or cotton sponge can also be used. The fibers are preferably 0.5 to 2 mm in length and 0.01 to 0.1 mm in thickness and are more preferably 0.5 to 1.5 mm in length and 0.01 to 0.06 mm in thickness.

**[0032]** The cosmetic applicator of the present invention can be used for, for example, liquid cosmetics, oil cosmetics, powder cosmetics, etc., and among them, the cosmetic applicator of the present invention can be suitably employed for items that are used for small parts, such as lip cosmetics (lipsticks and lip glosses), concealers, eyebrows, eye shadows, eyeliners, and so on. Moreover, liquid cosmetics that are used by directly coupling to the cap are further preferable.

#### Reference Signs List

**[0033]**

- |   |               |
|---|---------------|
| 1 | Applicator    |
| 2 | Support shaft |

3	Cap		proximately V-shape that bends into a circular arc in
4	Container body		a vicinity of the tip.
11	Fixed part		
12	Base part		
13	Tapered part	5	
14	Application surface		
15	Tip		
21	Hole		
41	Scraping part		
121	Front side surface	10	
131	Back side surface		
01	Slant angle of application surface		
02	Slope angle between application surface and slope surface of tapered part		
R	Radius of curvature of tip (in front view)	15	

### Claims

1. A cosmetic applicator comprising: 20
  - a fixed part;
  - a base part extending in a rod shape from the fixed part;
  - a tapered part extending further from the base part while reducing in diameter; and 25
  - an application surface formed so as to have a slant cut shape from a side surface of the base part to a side surface on an opposite side of the tapered part. 30
2. The cosmetic applicator according to claim 1, **characterized in that** a tip of the applicator deviates from an extension of an axis of the base part toward a side surface on a side opposite to the application surface. 35
3. The cosmetic applicator according to claim 1 or 2, **characterized in that** a slant angle relative to a vertical direction of the application surface is in a range of 8 to 20 degrees. 40
4. The cosmetic applicator according to any one of claims 1 to 3, **characterized in that** a radius of curvature of the tip of the applicator is in a range of 0.2 to 0.9 mm in a front view. 45
5. The cosmetic applicator according to any one of claims 1 to 4, **characterized in that** an angle between the application surface of the applicator and a slope surface of the tapered part is in a range of 15 to 35 degrees in a side view. 50
6. The cosmetic applicator according to any one of claims 1 to 5, wherein an outline on a base part side of the application surface is formed into an approximately U-shape, and an outline on a tapered part side of the application surface is formed into an ap- 55

FIG. 1

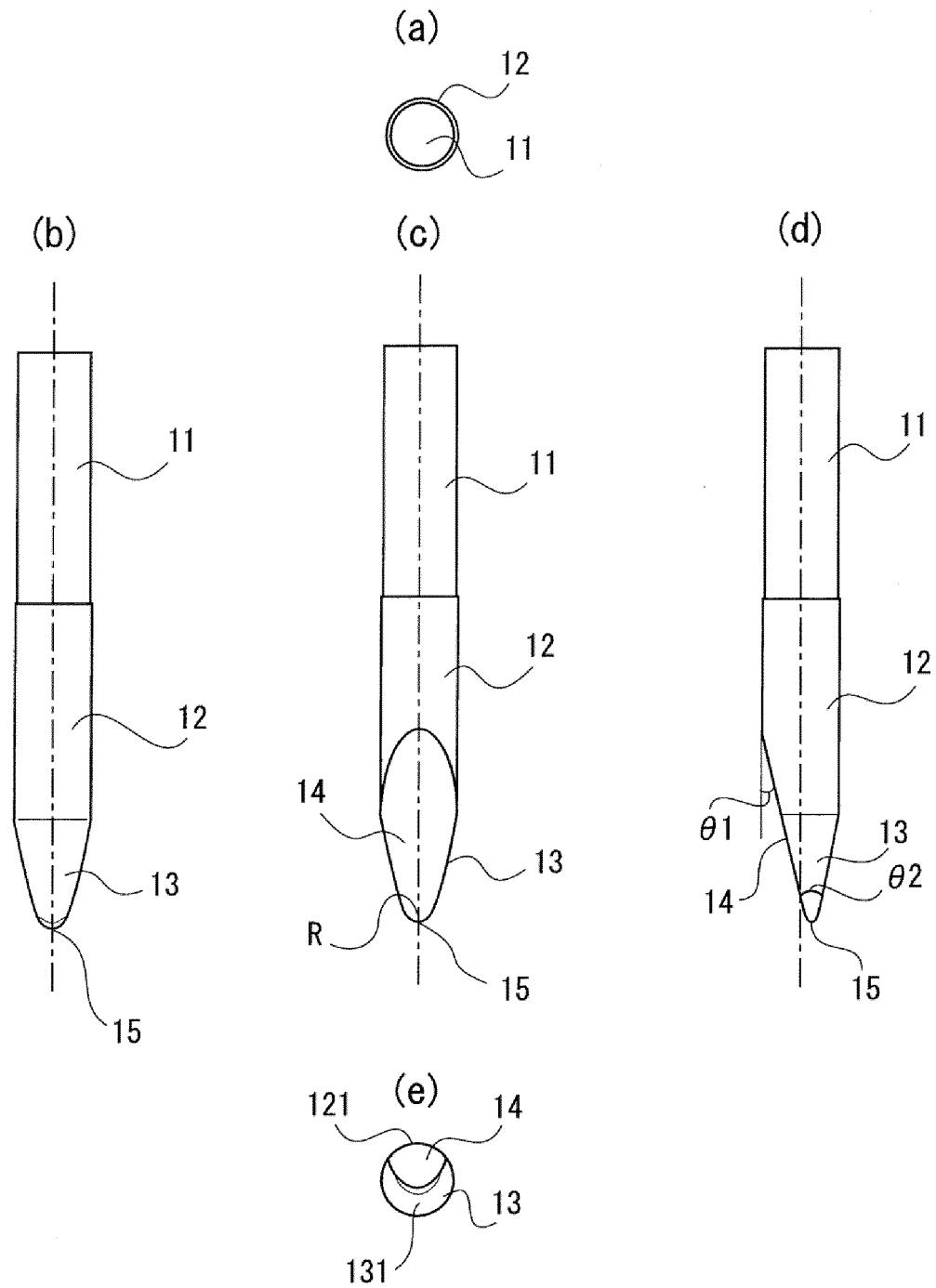


FIG. 2

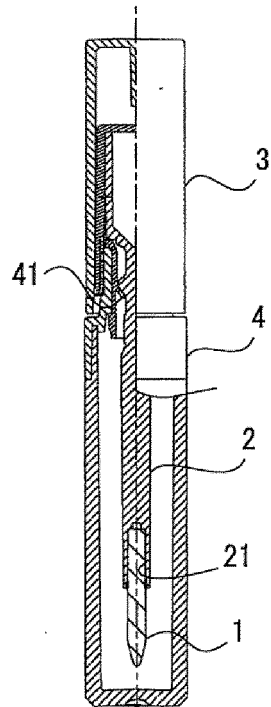
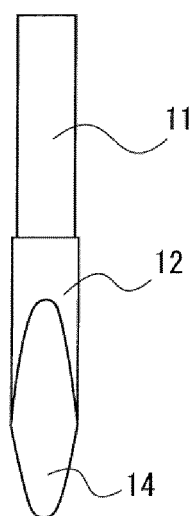


FIG. 3

(a)



(b)

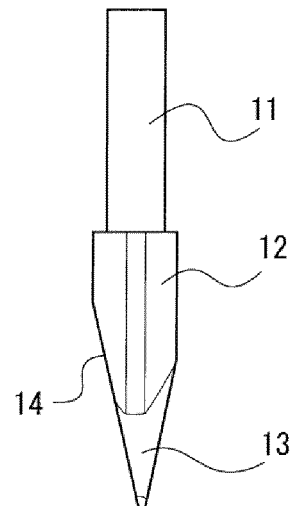


FIG. 4

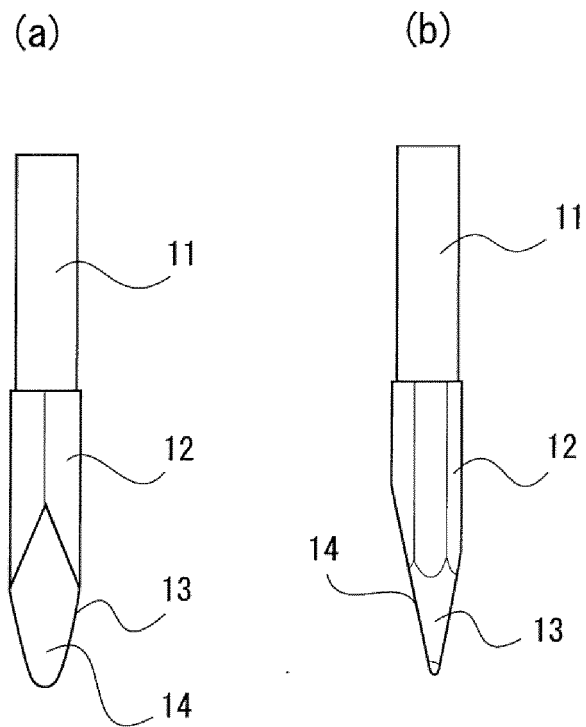
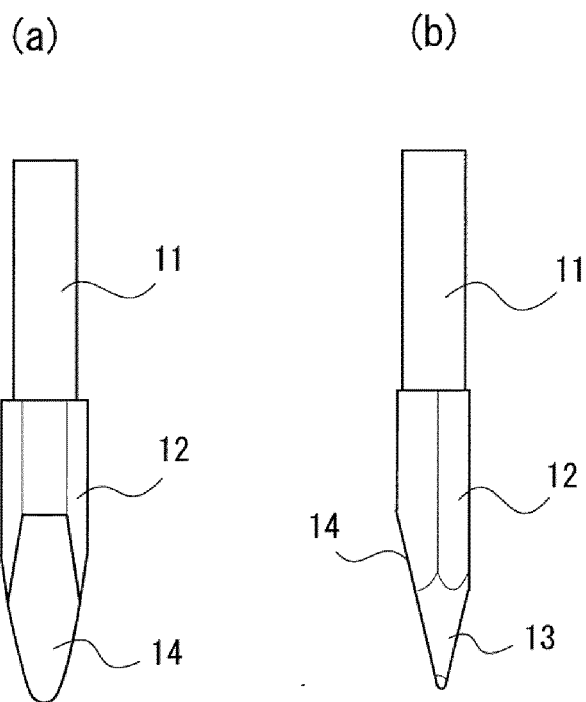


FIG. 5





## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2021/019115

A. CLASSIFICATION OF SUBJECT MATTER  
Int. Cl. A45D34/04 (2006.01) i  
FI: A45D34/04 510Z

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)  
Int. Cl. A45D34/04

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

Published examined utility model applications of Japan 1922-1996  
Published unexamined utility model applications of Japan 1971-2021  
Registered utility model specifications of Japan 1996-2021  
Published registered utility model applications of Japan 1994-2021

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	JP 2019-171014 A (MITSUBISHI PENCIL CO., LTD.) 10 October 2019, fig. 4, 6	1-6
A	US 2007/0181143 A1 (MONTOLI, Antonio) 09 August 2007, entire text, all drawings	1-6
P, X	JP 2020-110399 A (SHISEIDO CO., LTD.) 27 July 2020, fig. 1	1-6



Further documents are listed in the continuation of Box C.



See patent family annex.

\* Special categories of cited documents:

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Date of the actual completion of the international search  
16.06.2021

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Name and mailing address of the ISA/  
Japan Patent Office  
3-4-3, Kasumigaseki, Chiyoda-ku,  
Tokyo 100-8915, Japan

Authorized officer

Telephone No.

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**INTERNATIONAL SEARCH REPORT**  
Information on patent family membersInternational application No.  
PCT/JP2021/019115

Patent Documents referred to in the Report	Publication Date	Patent Family	Publication Date
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JP 2020-110399 A	27.07.2020	CN 101336084 A (Family: none)	

**REFERENCES CITED IN THE DESCRIPTION**

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- JP 3174060 U [0005]