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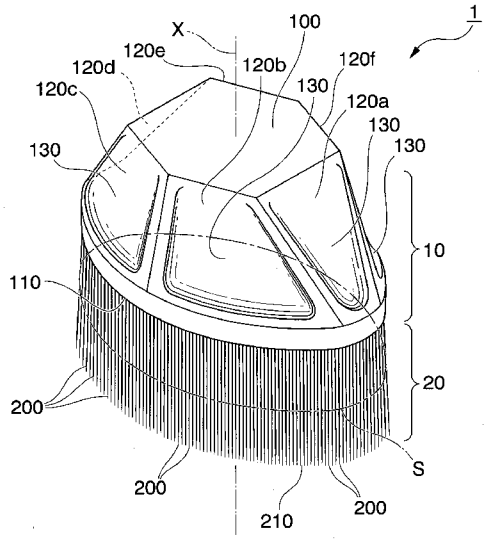
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(54) **Title:** APPLICATION BRUSH FOR COSMETIC FORMULA

(57) **Abstract:** The present invention relates to an application brush (1) for a cosmetic formula. The application brush (1) comprises: i) a base (10) having a central axis (X) and including a top surface (100) that is perpendicular or substantially perpendicular to the central axis (X) and a bottom (110) that is spaced apart from the top surface (100) along the central axis (X); and ii) a bundle of bristles (20) that is mounted on the bottom (110) of the base (10). Tips of bristles (200) forming the bundle of bristles (20) cooperate to define a virtual plane (210) that is perpendicular or substantially perpendicular to the central axis (X), and the virtual plane (210) has an oval shape.

FIG. 1



WO 2018/229997 A1

[DESCRIPTION]

[TITLE OF INVENTION]

APPLICATION BRUSH FOR COSMETIC FORMULA

[TECHNICAL FIELD]

[0001] The present invention relates to an application brush used by a user to apply a cosmetic formula, such as a fluid foundation, to the face of the user, for example.

[BACKGROUND ART]

[0002] Users of a foundation usually apply it to their face with a finger, a puff, a sponge or a brush, for example. When a perfect make-up finish is desired, a plurality of kinds of brushes, such as a wide brush and a narrow brush, are used in many cases. For example, in order to quickly and uniformly apply a foundation to a large application target area, such as the cheeks and the chin, a wide brush having a width of about 27 mm is used. On the other hand, in order to precisely and gently apply the foundation to a small application target area, such as surroundings of the eyes and the nose, a narrow brush having a width of about 10 mm is used.

[0003] Accordingly, there is a demand for a single brush that serves as both a wide brush and a narrow brush and can be used for both a large application target area and a small application target area.

[DISCLOSURE OF INVENTION]

[0004] An object of the present invention is to provide a novel application brush for a cosmetic formula. In particular, an object of the present invention is to provide a novel application brush that can apply a cosmetic formula to both a large application target area and a small application target area so as to provide a more beautiful make-up finish.

[0005] To attain the object described above, the present invention provides an

application brush for a cosmetic formula, comprising: i) a base having a central axis and including a top surface that is perpendicular or substantially perpendicular to the central axis and a bottom that is spaced apart from the top surface along the central axis; and ii) a bundle of bristles that is mounted on the bottom of the base, wherein tips of bristles forming the bundle of bristles cooperate to define a virtual plane that is perpendicular or substantially perpendicular to the central axis, and the virtual plane has an oval shape.

[0006] The application brush according to the present invention can serve as both a wide brush and a narrow brush, since the tips of the bristles of the bundle of bristles cooperate to define an oval virtual plane. For example, to apply a cosmetic formula to a small application target area, such as surroundings of the eyes or the nose, an end region of the oval virtual plane, that is, an end region of the oval virtual plane that intersects with the major axis of the oval, can be used. In this way, the cosmetic formula can be precisely and gently applied to the small application target area. On the other hand, for example, to apply the cosmetic formula to a large application target area, such as the cheeks or the chin, a central region or the whole of the oval virtual plane can be used. In this way, the cosmetic formula can be uniformly and quickly applied to the large application target area. In addition, the application brush according to the present invention differs from conventional application brushes in that the former allows "point application" of the cosmetic formula, rather than "line application" that tends to leave streaks. Thus, the application brush can provide a more beautiful make-up finish without streaks.

[0007] According to a preferred embodiment of the present invention, the bundle of bristles generally has the shape of an oval frustum, and the area of a cross section of the oval frustum that is parallel with the virtual plane increases toward the virtual plane.

[0008] According to a preferred embodiment of the present invention, the top surface of the base has a hexagonal shape, the bottom of the base has an oval shape, the top surface lies within a contour line of the bottom when viewed from the direction of the central axis, and the top surface and the bottom are connected to each other by first to sixth side surfaces that are connected in a ring around the central axis. In particular,

according to a preferred embodiment of the present invention, the first and fourth side surfaces opposed to each other are positioned to intersect with a major axis of the oval virtual plane of the bundle of bristles, and the areas of the first and fourth side surfaces are smaller than the areas of the second and fifth side surfaces opposed to each other and than the areas of the third and sixth side surfaces opposed to each other. Thus, the user can hold the base of the application brush in at least two ways: the user can hold the base only at the second, third, fifth and sixth side surfaces having the larger area or at the first (or fourth) side surface having the smaller area and the second and sixth (or third and fifth) side surfaces on the opposite sides of the first (or fourth) side surface. The way in which the user holds the application brush can be chosen according to the part to which the cosmetic formula is to be applied, and this improves the usability of the application brush.

[0009] According to a preferred embodiment of the present invention, when the application brush is placed on a horizontal surface in such a manner that the first side surface or the fourth side surface is in contact with the horizontal surface, the center of gravity of the application brush lies within a region corresponding to the first side surface or the fourth side surface and above the region. Thus, the application brush can be placed on a horizontal surface, such as a surface of a table, in an inclined position in such a manner that the bundle of bristles does not come into contact with the horizontal surface.

[0010] According to a preferred embodiment of the present invention, at least one of the first to sixth side surfaces, or preferably all of the side surfaces, is provided with a recess that receives a fingertip of the user. Thus, the user can more reliably hold the application brush.

[BRIEF DESCRIPTION OF THE DRAWINGS]

[0011] Non-limiting and representative embodiment of the present invention will now be explained in detail below referring to the attached drawings.

[0012] Fig. 1 is a perspective view of an application brush according to an embodiment of the present invention.

[0013] Fig. 2 is a plan view of the application brush shown in Fig. 1.

[0014] Fig. 3 is a bottom view of the application brush shown in Fig. 1.

[0015] Fig. 4 is a side view of the application brush shown in Fig. 1.

[0016] Fig. 5 shows the application brush shown in Fig. 1 placed on a horizontal surface in an inclined position.

[0017] Figs. 6 and 7 show the application brush shown in Fig. 1 held in a hand of a user.

[BEST MODE FOR CARRYING OUT THE INVENTION]

[0018] With reference to Figures 1 to 7, an application brush according to an embodiment of the present invention will be described. Without limitation, the application brush described below is intended to be used for applying a cosmetic formula, such as a fluid foundation, to the face of a user.

[0019] As can be seen from Figure 1, the application brush denoted by reference numeral 1 in the drawings includes a base 10 that serves as a grip during use of the application brush and a bundle of bristles 20 fixedly mounted on the base 10.

[0020] The base 10 has a central axis X and includes a top surface 100 that is perpendicular to the central axis X and a bottom 110 that is spaced apart from the top surface 100 along the central axis X and positioned in parallel with the top surface 100. The bundle of bristles 20 is mounted on the bottom 110. The base 10 further includes first to sixth side surfaces 120a to 120f, which connect the top surface 100 and the bottom 110 to each other. Although not specifically shown in the drawings, according to this embodiment, the base 10 is composed of an inner part in which the roots of the bristles of the bundle of bristles 20 are implanted and an outer part, referred to also as a cover, that houses the inner part. According to another embodiment, the top surface 100 may be inclined with respect to the central axis X to some extent.

[0021] As can be seen from Figure 2, the top surface 100 of the base 10 has a hexagonal shape, while the bottom 110 of the base 10 has an oval shape. Viewed from the direction of the central axis X, the top surface 100 lies within the contour line P of the bottom 110. Furthermore, the first to sixth side surfaces 120a to 120f extending

from the six sides of the top surface 100 are connected in a circle around the central axis X. As a result, the base 10 excluding a part thereof close to the bottom 110 has the shape of a truncated hexagonal pyramid that tapers from the bottom 110 toward the top surface 100.

[0022] More specifically, the first and fourth side surfaces 120a and 120d opposed to each other are disposed to intersect with a major axis Y (see Figures 2 and 3) of a virtual plane 210 of the bundle of bristles 20 described later. The areas of the first and fourth side surfaces 120a and 120d are smaller than the areas of the second and fifth side surfaces 120b and 120e opposed to each other. Similarly, the areas of the first and fourth side surfaces 120a and 120d are smaller than the areas of the third and sixth side surfaces 120c and 120f opposed to each other.

[0023] According to this embodiment, all of the first to sixth side surfaces 120a to 120f have a recess 130. The recess 130 is intended to receive a fingertip of the user. Thus, the base 10 serves as a "finger fitting grip".

[0024] The bundle of bristles 20 is formed by bundling a large number of soft and delicate bristles 200, such as synthetic fibers, with an ultra-high density. The bundle of bristles 20 is mounted on the bottom 110 of the base 10, or more strictly, on the inner part described above in an appropriate manner.

[0025] The tips of the bristles 200 forming the bundle of bristles 20 cooperate to define the virtual plane 210 that is perpendicular to the central axis X. As can be seen from Figure 3, the virtual plane 210 has the shape of an oval having the major axis Y. According to another embodiment, the virtual plane 210 may be inclined with respect to the central axis X to some extent.

[0026] As can be seen from Figures 1 and 2 as well as Figure 4, the bundle of bristles 20 has the shape of an oval frustum. The area of a cross section (denoted by S in Figure 1) of the oval frustum that is parallel with the virtual plane 210 increases toward the virtual plane 210 from the bottom 110 of the base 10. According to another embodiment, the area of the cross section of the bundle of bristles 20 may be constant.

[0027] The end regions D of the virtual plane 210 intersecting with the major axis Y of the virtual plane 210, which are crosshatched in Figure 3, can be used for

applying a foundation to a small application target area, such as surroundings of the eyes or the nose, in particular. On the other hand, the remaining central region or the whole of the virtual plane 210 of the bundle of bristles 20 can be used for applying the foundation to a large application target area, such as the cheeks or the chin.

[0028] Figure 5 shows the application brush 1 that is placed on a horizontal surface H, such as a surface of a table, in such a manner that the first side surface 120a is in contact with the horizontal surface H. The application brush 1 is configured so that, in this state, the center of gravity CG thereof lies within a region A corresponding to the first side surface 120a that is in contact with the horizontal surface H and above the region A. Thus, the application brush 1 can stay inclined on the horizontal surface H. The same holds true for the fourth side surface 120d. Since the application brush 1 is configured in this way, when the application brush 1 is cleaned after use, the application brush 1 can be placed on a horizontal surface, such as a surface of a table, in such a manner that the bundle of bristles 20 does not come into contact with the horizontal surface. This facilitates quick drying of the brush 1. In addition, the application brush 1 placed on the horizontal surface in this way can be easily picked up by the user.

[0029] Application of a cosmetic formula, such as a fluid foundation, with the application brush 1 described above is performed as described below, for example. To apply the cosmetic formula to a large area, such as the cheeks, the chin, the forehead or the neck of the user, the bristles of the bundle of bristles 20 in the whole or the central region of the virtual plane 210 are used as described above. In this case, as shown in Figure 6, the user holds the base 10 of the application brush 1 with all or four, including the thumb, of the fingers of the user, for example. In this way, the cosmetic formula can be uniformly and quickly applied.

[0030] On the other hand, to apply the cosmetic formula to a small area, such as surroundings of the eyes or the nose, the bristles of the bundle of bristles 20 in the end regions D of the virtual plane 210 are used as described above. In this case, as shown in Figure 7, the user holds the base 10 of the application brush 1 with three of the fingers of the user, the thumb, the index finger and the middle finger, for example. In

this way, the cosmetic formula can be precisely and gently applied.

[0031] Preferred embodiments of the present invention have been explained above with reference to the drawings. However, the present invention is not limited to these embodiments, and various modifications and changes may be made to the above-described embodiments without deviating from the gist and scope of the present invention, and such modifications and changes are included in the scope of the present invention.

[CLAIMS]

1. An application brush (1) for a cosmetic formula, comprising:

a base (10) having a central axis (X) and including a top surface (100) that is perpendicular or substantially perpendicular to the central axis (X) and a bottom (110) that is spaced apart from the top surface (100) along the central axis (X); and

a bundle of bristles (20) that is mounted on the bottom (110) of the base (10),

wherein tips of bristles (200) forming the bundle of bristles (20) cooperate to define a virtual plane (210) that is perpendicular or substantially perpendicular to the central axis (X), and the virtual plane (210) has an oval shape.

2. The application brush (1) according to claim 1, wherein the bundle of bristles (20) generally has the shape of an oval frustum, and the area of a cross section (S) of the oval frustum that is parallel with the virtual plane (210) increases toward the virtual plane (210).

3. The application brush (1) according to claim 1 or 2, wherein the top surface (100) of the base (10) has a hexagonal shape, and the bottom (110) of the base (10) has an oval shape,

the top surface (100) lies within a contour line (P) of the bottom (110) when viewed from the direction of the central axis (X), and

the top surface (100) and the bottom (110) are connected to each other by first to sixth side surfaces (120a to 120f) that are connected in a ring around the central axis (X).

4. The application brush (1) according to claim 3, wherein the first and fourth side surfaces (120a, 120d) opposed to each other are positioned to intersect with a major axis (Y) of the virtual plane (210) of the bundle of bristles (20), and

the areas of the first and fourth side surfaces (120a, 120d) are smaller than the areas of the second and fifth side surfaces (120b, 120e) opposed to each other and than

the areas of the third and sixth side surfaces (120c, 120f) opposed to each other.

5 The application brush (1) according to claim 3 or 4, wherein when the application brush (1) is placed on a horizontal surface (H) in such a manner that the first side surface (120a) or the fourth side surface (120d) is in contact with the horizontal surface (H), the center of gravity (CG) of the application brush (1) lies within a region corresponding to the first side surface (120a) or the fourth side surface (120d) and above the region.

6 The application brush (1) according to any one of claims 3 to 5, wherein at least one of the first to sixth side surfaces (120a to 120f) is provided with a recess (130).

FIG. 1

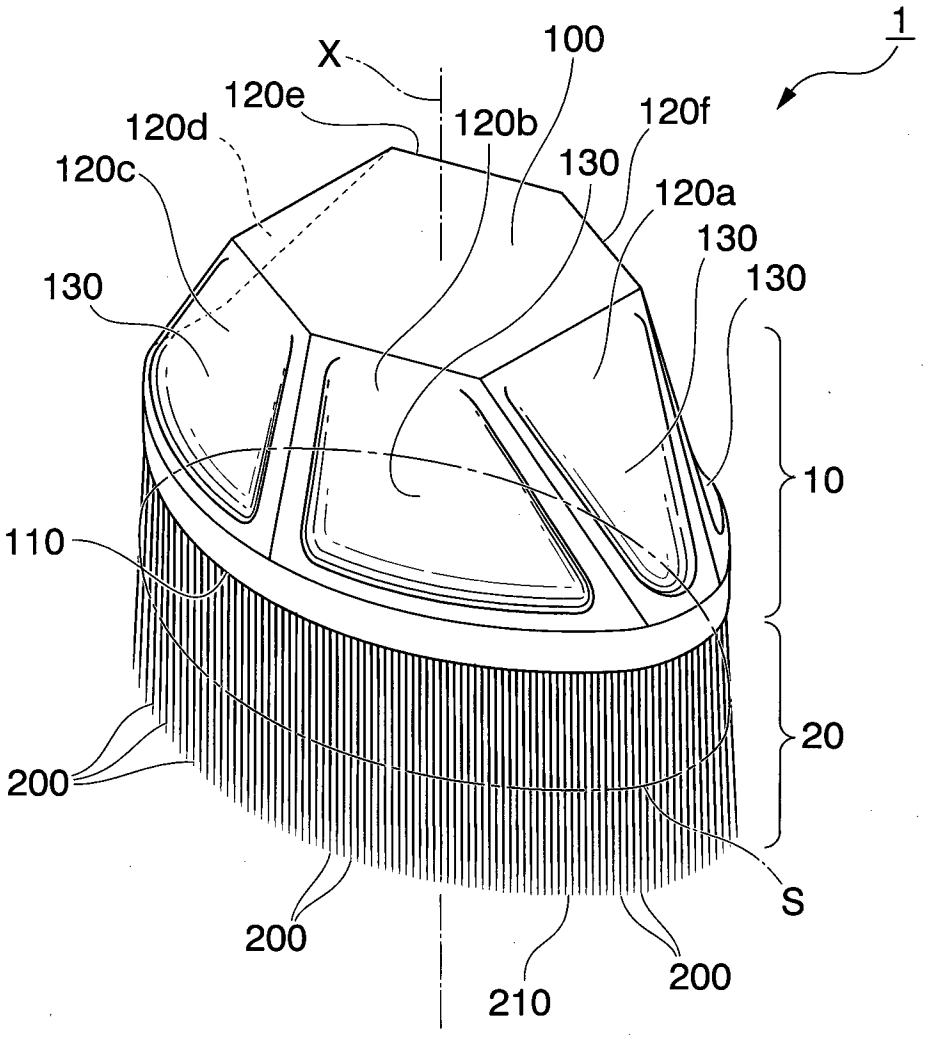

1
X
100
120e
120d
120b
120f
120c
130
120a
130
130
130
10
110
20
200
S
200
210
200

FIG. 2

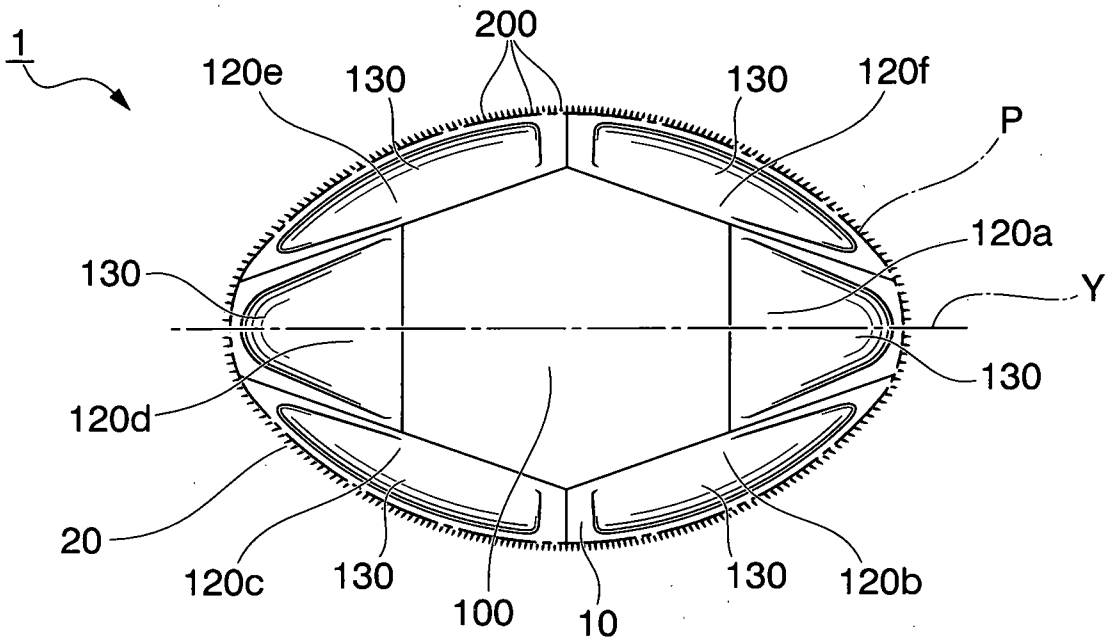

1
200
120e
130
130
120f
P
120a
130
Y
130
120d
20
120c
130
100
10
130
120b

FIG. 3

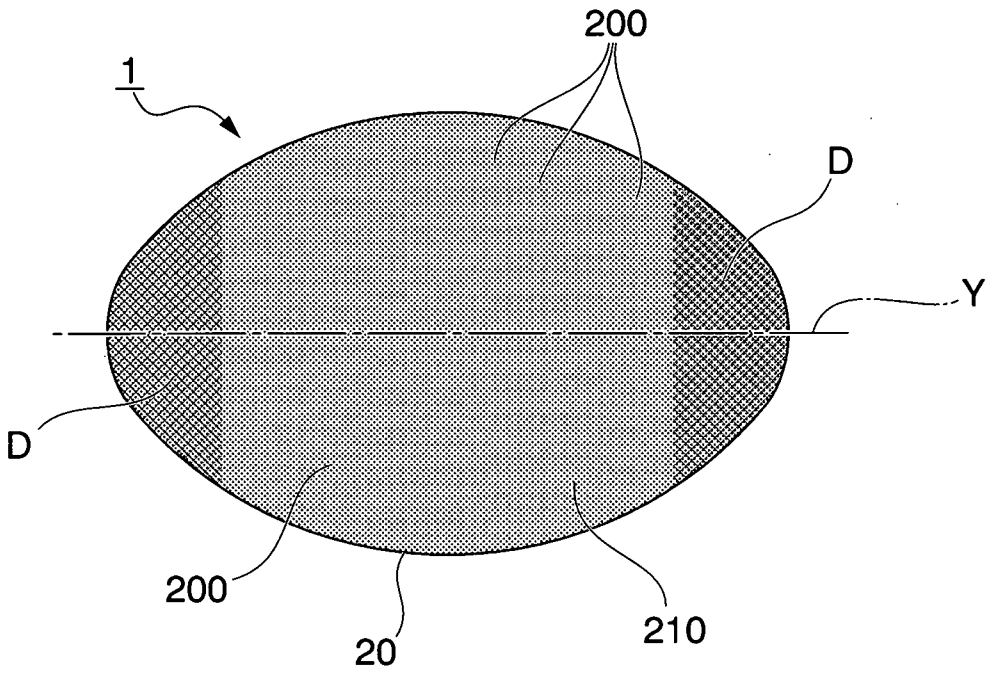

200
1
D
Y
D
200
20
210

FIG. 4

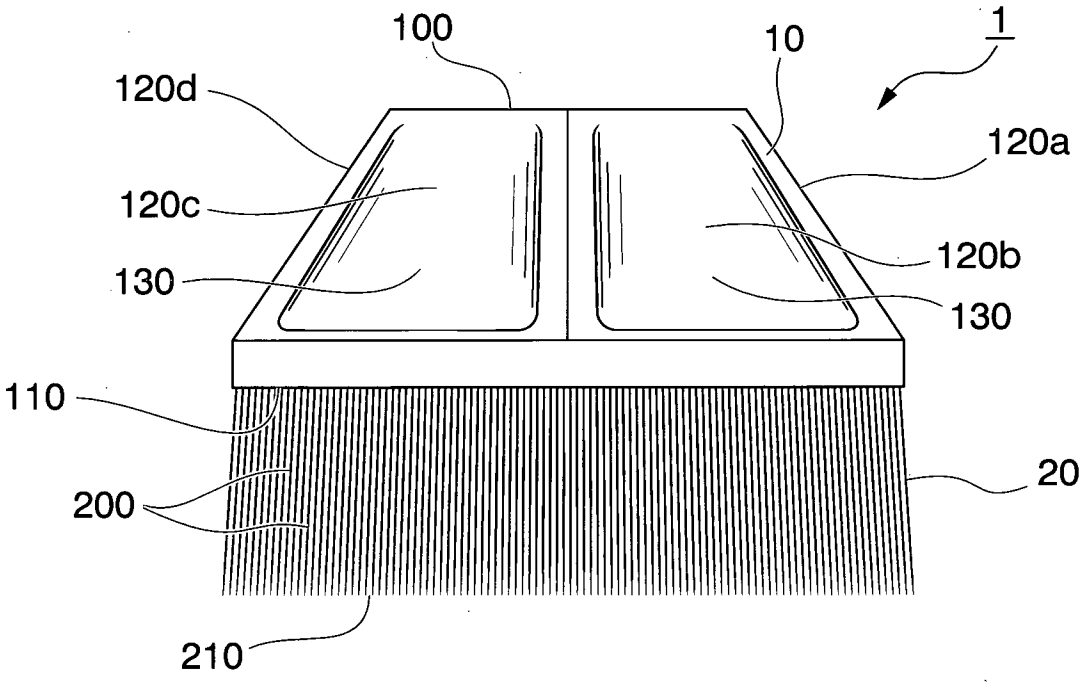

100
10
1
120d
120a
120c
120b
130
130
110
20
200
210

FIG. 5

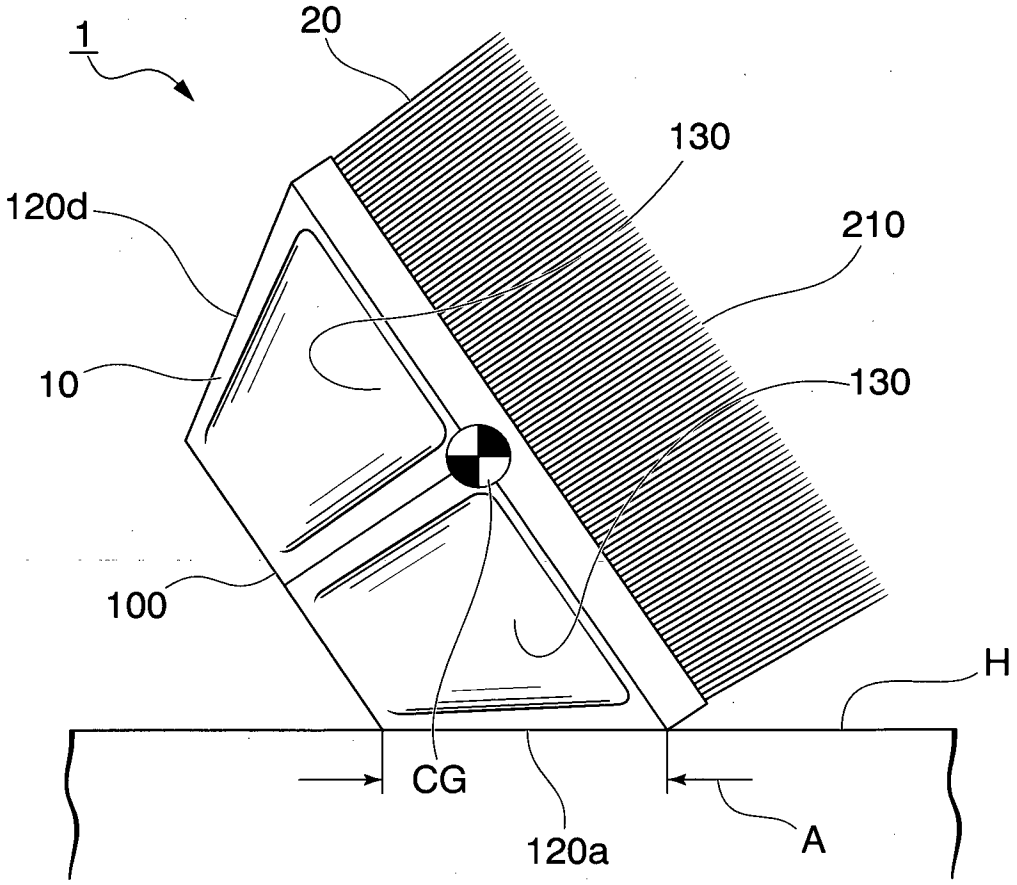

1
20
130
120d
210
10
130
100
H
CG
120a
A

FIG. 6

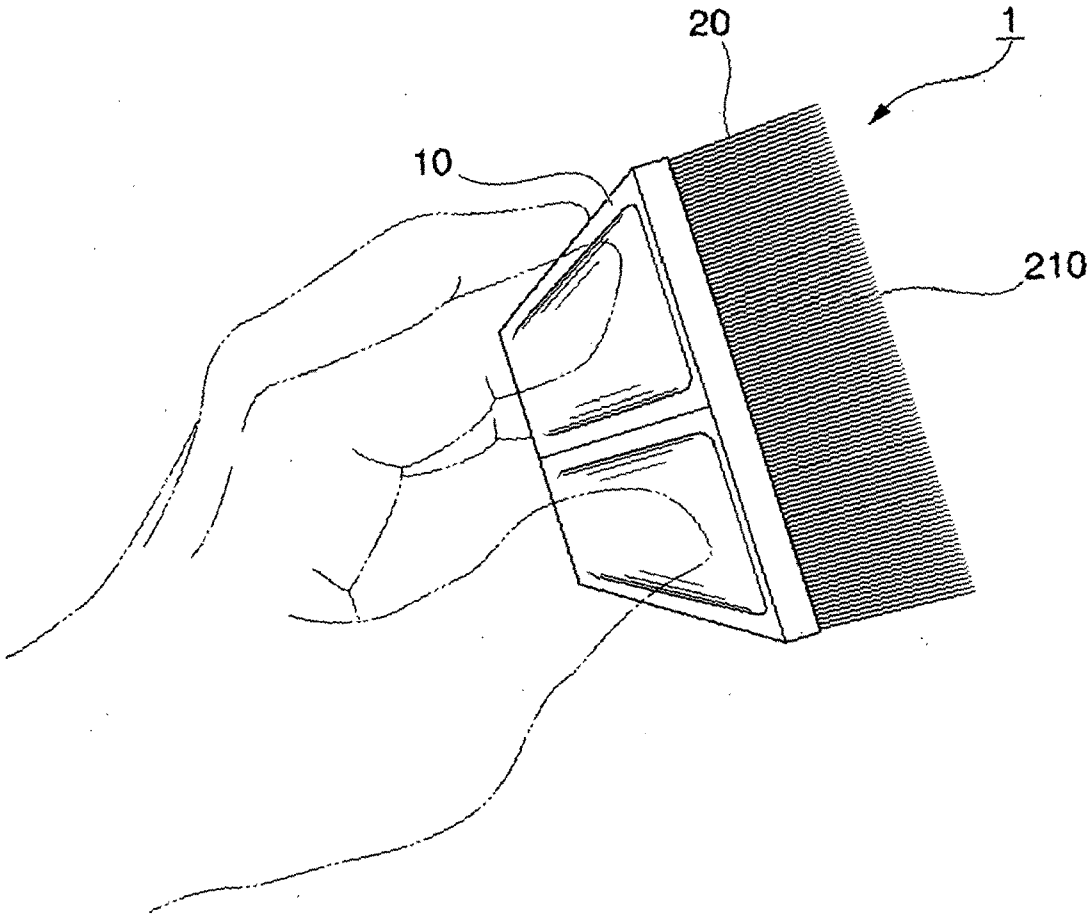
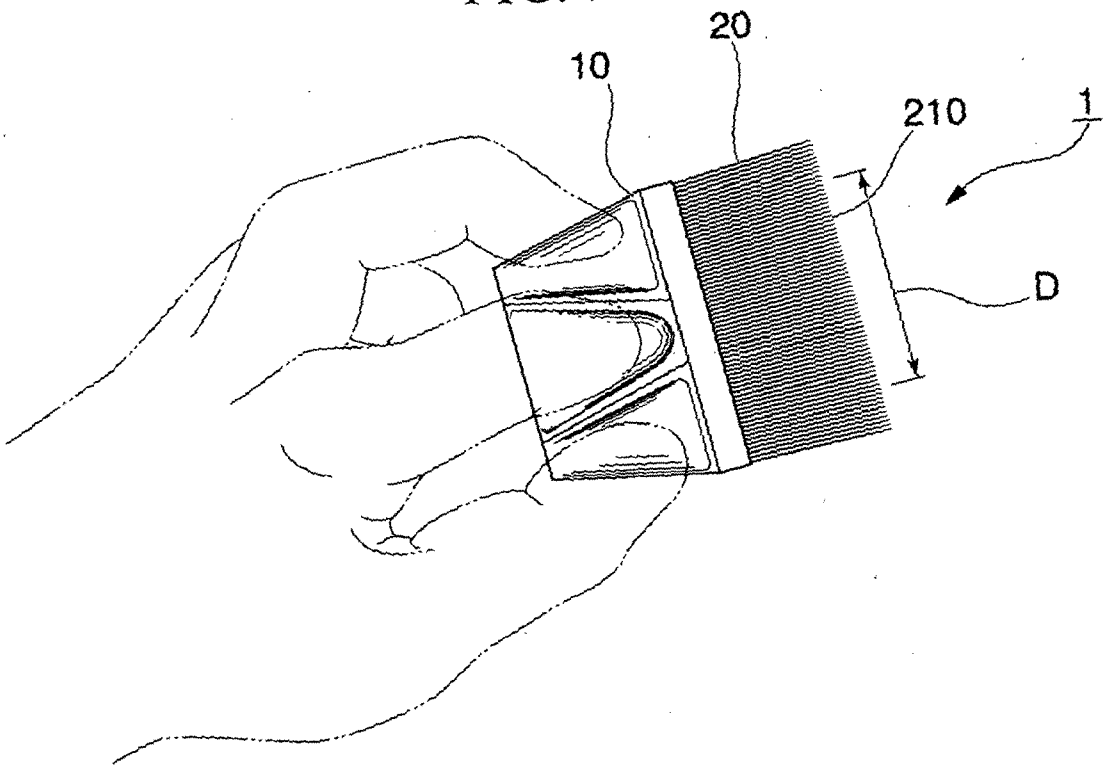


FIG. 7



INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. A46B5/02 A46B9/02
ADD.

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)
A46B A45D

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 039 051 A (DORF PAULA [US]) 21 March 2000 (2000-03-21)	1,2
A	column 4, lines 46-57 figure 7	3-6

X	JP 3 148435 U (KIKUHOSHI KK) 12 February 2009 (2009-02-12) figures 1, 8, 10	1,2

A	US D 475 493 S1 (BARSAMIAN ARAM [US]) 3 June 2003 (2003-06-03) figures 1-6	1-6

A	US 2005/011030 A1 (GONZALEZ BRIDGETT [US]) 20 January 2005 (2005-01-20) paragraphs [0022], [0030] - [0035]; figures 2-7	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	Date of mailing of the international search report
28 February 2018	14/03/2018

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Chabus, Hervé

1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/JP2017/023112

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6039051 A	21-03-2000	NONE	
JP 3148435 U	12-02-2009	NONE	
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US 2005011030 A1	20-01-2005	NONE	