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(54) **POWDER PUFF**

(57) The handling of a cosmetic puff is improved, and soiling of user's fingers holding the cosmetic puff is prevented. Accordingly, cosmetic puff 1A is formed with a bottom surface 3 and a slant surface 6, which has no

unevenness and is used as the cosmetic applicator surface, and the thickness of cosmetic puff 1A increases gradually along slant surface 6 from the peripheral portion of bottom surface 3 towards the center part of the puff.

Fig. 1 A

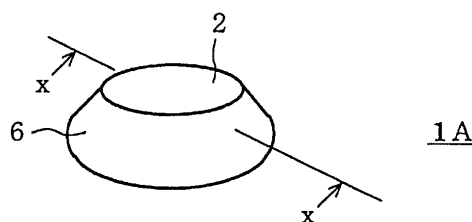


Fig. 1 B

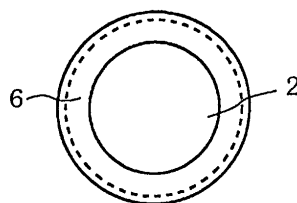
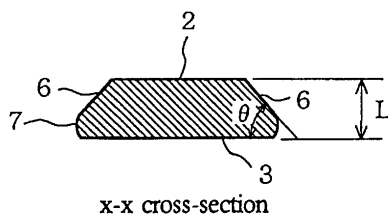


Fig. 1 C



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Description

TECHNICAL FIELD

[0001] The present invention relates to a cosmetic puff used for applying cosmetics, etc.

BACKGROUND ART

[0002] As shown in Figs. 7A and 7B, a widely used cosmetic puff 1X used for applying foundation and other cosmetics to the skin is made of foam materials such as resin foam or sponge, and formed to a uniform thickness with both top surface 2 and bottom surface 3 being flat. Another cosmetic puff 1Y is shown in Figs. 8A and 8B, in which a projecting portion 4 is included in part of a top surface 2, forming in one cosmetic puff both a thick part 4 of the projection portion, which is suitable for applying cosmetics to large, flat areas such as the forehead, and a thin part 5, which is suitable for applying cosmetics to small, uneven areas such as around the nostrils, with flat bottom surface 3 as the applicator surface (Japanese Patent Application Laid-open No. H11-206447). Cosmetic puffs designed to facilitate application of cosmetics on both large and small areas include cosmetic puff 1Z in Fig. 9, which is formed in a conical shape from tangled cotton, rayon or other fibers (Japanese Utility Model Application Laid-open No. S64-33918).

[0003] With conventional cosmetic puffs such as those shown in Figs. 7A, 7B, 8A and 8B, the cosmetic puffs as a whole are made thin so that they will be wrapped around user's fingers and bent to apply cosmetics, making the cosmetic puffs difficult to hold, even in the case of the cosmetic puff 1Y shown in Figs. 8A and 8B that has protruding portion 4.

[0004] Moreover, with such cosmetic puffs, the cosmetic applicator surface is a top surface 2 or bottom surface 3, but the top surface 2 and bottom surface 3 are also the surfaces grasped by the user's fingers, creating the problem that when a single cosmetic puff is used more than once, cosmetics already adhered on the puff will soil the user's fingers.

[0005] With the cosmetic puff 1Z shown in Fig. 9, bottom surface 3 is held while using the acute-angled tip 2z for application, or tip 2z is held while using bottom surface 3 for application, so user's fingers are readily soiled since tip 2z is both the cosmetic applicator surface and the surface held by the user's fingers. Moreover, because the conical shape of cosmetic puff 1Z is formed by winding cotton fibers, etc. around a core steel pin, this cosmetic puff 1Z lacks flexibility and does not apply cosmetics well. Moreover, cosmetic puff 1Z itself tends to soak up cosmetics, making it difficult to apply cosmetics because they do not remain on the applicator surface of the cosmetic puff 1Z.

[0006] Accordingly, an object of the present invention is to provide a cosmetic puff which is easy to hold when applying cosmetics, which can easily apply cosmetics

both to large, flat areas such as the forehead, and small, uneven areas such as around the nostrils and eyes, and which does not soil user's fingers even when the same puff is used repeatedly.

DISCLOSURE OF THE INVENTION

[0007] The inventor discovered that by forming slant sides on a cosmetic puff in such a way that the slant sides can be used for applying cosmetics, it becomes possible to differentiate the cosmetic applicator surface from the surface to be held with the fingers when applying cosmetics, thus preventing user's fingers from being soiled when a cosmetic puff is used repeatedly, while rendering it unnecessary to bend the cosmetic puff so as to be wrapped around a finger when applying cosmetics, thus making the cosmetic puff more comfortable to hold.

[0008] Namely, the present invention provides a cosmetic puff including a bottom surface and a slant surface without unevenness which constitutes the cosmetic application surface, wherein the thickness of the cosmetic puff increases gradually along the slant surface from the peripheral portion of the bottom surface towards the center portion of the puff.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009]

Figs. 1A, 1B and 1C are a perspective view, a top view and an x-x cross-section of a cosmetic puff, respectively;

Fig. 2 is an explanatory drawing of a method of using the cosmetic puff;

Figs. 3A and 3B are a perspective view and a cross-section of a cosmetic puff, respectively;

Figs. 4A and 4B are a top view and a cross-section of a cosmetic puff, respectively;

Figs. 5A -5J are cross-sections of cosmetic puffs; Figs. 6A and 6B are a perspective view showing a cosmetic puff removed from a foundation container with the outer and inner lids opened, and a cross-section showing the cosmetic puff inside the foundation container, respectively;

Figs. 7A and 7B are a perspective view and an x-x cross-section of a conventional cosmetic puff, respectively;

Figs. 8A and 8B are a perspective view and an x-x cross-section of a conventional cosmetic puff, respectively; and

Fig. 9 is a perspective view of a conventional cosmetic puff.

BEST MODE FOR CARRYING OUT THE INVENTION

[0010] The present invention is explained in detail below with reference to the drawings. In each drawing, the

same symbol indicates an identical or equivalent component.

[0011] Figs. 1A, 1B and 1C are a perspective view, a top view and a cross-section of cosmetic puff 1A of one embodiment of the present invention, respectively, and Fig. 2 is an explanatory drawing of its method of use.

[0012] This cosmetic puff 1A has a flat top surface 2, a flat bottom surface 3 and a flat slant surface 6, with an edge 7 of bottom surface 3 and slant surface 6 rounded. The thickness of the cosmetic puff 1A increases gradually along slant surface 6 from the peripheral portion of bottom surface 3 towards the center portion of the puff, and slant surface 6 is formed flat, without any partially projecting areas.

[0013] In the present invention, the absence of unevenness in the slant surface 6 of the cosmetic puff 1A does not necessarily mean that the slant surface is formed precisely flat, but only means that there are no partial convex portions or partial concave portions on the slant surface 6. Consequently, a shape formed with an overall curve as in slant surface 6 of cosmetic puff 1A is included in the category of slant surfaces without unevenness.

[0014] If a convex or concave portion is formed on part of a surface forming the cosmetic puff, cosmetics will accumulate unnecessarily in the concave portion or on the edge of the convex part; this can be prevented by forming the surfaces flat.

[0015] This cosmetic puff 1A is thick enough and slant surface 6 is wide enough that slant surface 6 can be used as an applicator surface for cosmetics. Consequently, when using this cosmetic puff 1A to apply cosmetics, cosmetic puff 1A is grasped by placing a user's thumb against top surface 2 of cosmetic puff 1A and the index and middle fingers against bottom surface 3 as shown in Fig. 2, so that cosmetics can be applied using slant surface 6 as the applicator surface. In this way the cosmetic applicator surface is inevitably distinguished from the surfaces in contact with the user's fingers, preventing cosmetics adhering to cosmetic puff 1A from soiling the user's fingers when the cosmetic puff 1A is used repeatedly. It is also unnecessary to bend cosmetic puff 1A as when wrapping it around a user's finger, making it easier to hold cosmetic puff 1A when applying cosmetics. Furthermore, the center portion of slant surface 6 is suitable for applying cosmetics to wide, flat areas such as the forehead, while the area near edge 7 of slant surface 6 is suitable for applying cosmetics to small areas that are much uneven, such as around the nostrils and eyes, so the same cosmetic puff can be used on various surfaces.

[0016] Considering the ease of handling cosmetic puff 1A when using slant surface 6 to apply cosmetics, as well as the feel of the cosmetic puff 1A in a user's hand and ease of applying cosmetics, the maximum thickness L of cosmetic puff 1A should be preferably about 10-40 mm, and from the standpoint of ease of handling and improved portability it should be more preferably

about 10-25 mm, with 12-16 mm being most desirable.

[0017] Angle θ of slant surface 6 to bottom surface 3 should be preferably 30° to 60° , with 45° being especially desirable from the standpoint of expanding the applicator surface and strengthening the toughness of the cosmetic puff itself.

[0018] From the standpoint of ease of handling, the size of bottom surface 3 should be preferably between $25\text{ mm} \times 25\text{ mm}$ and $80\text{ mm} \times 80\text{ mm}$, with between $35\text{ mm} \times 35\text{ mm}$ and $60\text{ mm} \times 60\text{ mm}$ being more preferably from the standpoint of ease of use and portability.

[0019] The cosmetic puff of the present invention can take a variety of forms, as long as it includes a slant surface without unevenness that is used to apply cosmetics. For example, cosmetic puff 1A in Figs. 1A, 1B and 1C has a truncated cone shape with a substantially trapezoidal section, but the shape could also be a truncated pyramid with a substantially trapezoidal section as shown in cosmetic puff 1B in Figs. 3A and 3B.

[0020] Furthermore, slant surface 6 of cosmetic puff 1A in Figs. 1A, 1B and 1C is shown as a straight line in cross-section on a plane perpendicular to bottom surface 3, but slant surface 6 could also be formed as a curve in cross section as shown in cosmetic puff 1C in Figs. 4A and 4B. In this case, the radius of curvature of slant surface 6 along top surface 2 may be larger than the radius of curvature R of edge 7.

[0021] As shown in Figs. 5A to 5B, it is also possible to vary the relative proportions of top surface 2 and bottom surface 3, or to alter the curvature of the edge between bottom surface 3 and slant surface 6. A semi-spherical shape without any flat top surface is also possible, as shown in Fig. 5C. With this semispherical cosmetic puff, the slant surface which is the applicator surface when applying cosmetics is not distinguishable as a surface forming the cosmetic puff from the area near the peak of the semicircle which is grasped by user's fingers, but the two areas can be clearly distinguished as areas, and soiling of the user's fingers can be prevented. In this case, reducing the radius of curvature R of the area near the peak to about 2 mm results in something similar to the cone shape of the conventional cosmetic puff 1Z in Fig. 9, but at this size it is difficult to differentiate the slant surface which is the cosmetic applicator surface from the area near the peak which is grasped with the user's fingers, which detracts from ease of handling. Therefore, radius of curvature R of the area near the peak should be preferably larger than the R of a circular arc having the width of the cosmetic puff as its radius, and should be more preferably at least 10 mm.

[0022] The cosmetic puff of the present invention need not have a cross-section with bilateral symmetry, so multiple slant surfaces 6a and 6b with different angles may be formed as shown in Fig. 5D. Also, the slant surface which is the cosmetic applicator surface need not be formed on all sides of the cosmetic puff, so side 8 can be formed perpendicular to bottom surface 3 as in

Fig. 5E.

[0023] In addition, the cosmetic puff of the present invention is not limited to a truncated cone or truncated pyramid shape or to a cone or semicircle, but can also be made with slant surfaces 6 parallel to each other in cross-section as shown in Figs. 5F and 5G.

[0024] It is also possible for bottom surface 3 to be a concave surface as shown in Figs. 5H and 5I, or a convex surface as shown in Fig. 5J.

[0025] A sponge or foam, etc. made of polyurethane rubber, silicone rubber, nitril butadiene rubber or other resin may be used as the material forming the cosmetic puff of the present invention. Such sponges and foams, etc. may be the same foam materials as those used in known cosmetic puffs. By contrast, formation by wrapping cotton or other fibers is most often not desirable because cosmetics such as the powder, cream and foundation may not be taken up as well by the cosmetic puff, and may be more difficult to apply.

[0026] The method of manufacturing the cosmetic puff of the present invention may be the same as for a conventional cosmetic puff. In this case, the cosmetic puff of the present invention is easy to manufacture because it does not require special convex or concave parts on the top, bottom or slant surface.

[0027] There are no particular limitations on how the cosmetic puff of the present invention is contained, but as shown in Figs. 6A and 6B, cosmetic puff 1A can be contained as shown in Fig. 6B by placing it on inner lid 23 of foundation container 25, which includes container 21 packed with foundation 20, inner lid 23 connected to container 21 with hinge 22, and outer lid 24 which screws into container 21, thus pressing the peripheral condition of inner lid 23 against container 21 so that the container 21 is sealed.

INDUSTRIAL APPLICABILITY

[0028] With the cosmetic puff of the present invention, the ease of use of the cosmetic puff is improved, cosmetics can be easily applied both to large, flat areas such as the forehead and small, uneven areas such as around the nostrils and eyes, and soiling of the user's fingers holding the cosmetic puff can be prevented.

Claims

1. A cosmetic puff comprising a bottom surface and a slant surface without unevenness which constitutes the cosmetic applicator surface, wherein the thickness of the cosmetic puff increases gradually along the slant surface from the peripheral portion of the bottom surface towards the center portion of the puff.
2. The cosmetic puff of Claim 1, having a flat top surface and a substantially trapezoidal cross-section.

3. The cosmetic puff of Claim 1, having a semispherical shape and no flat upper surface.

4. The cosmetic puff of any of Claims 1-3, wherein the maximum thickness is 10-40 mm.

5. The cosmetic puff of any of Claims 1-4, made from a resin foam or sponge.

Fig. 1 A

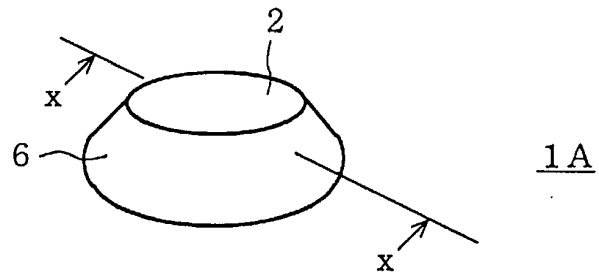


Fig. 1 B

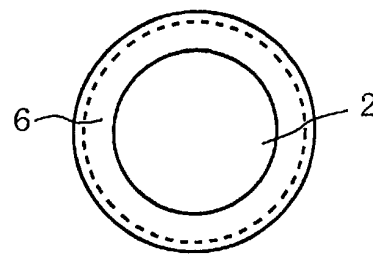


Fig. 1 C

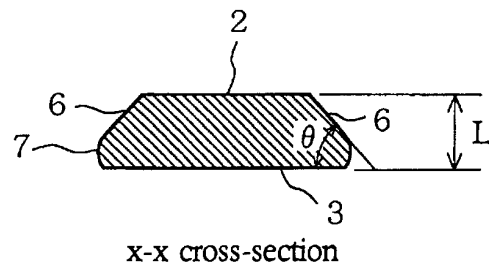


Fig. 2

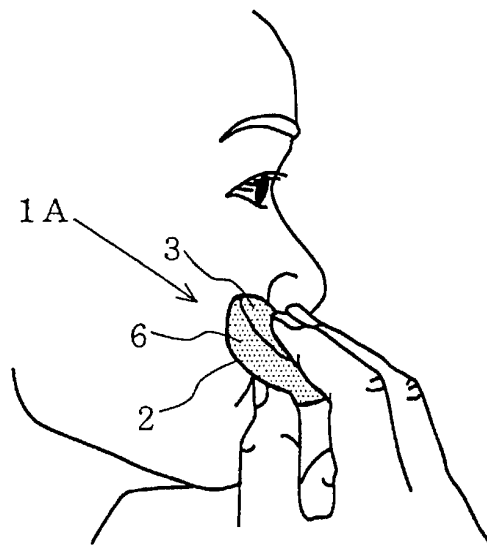
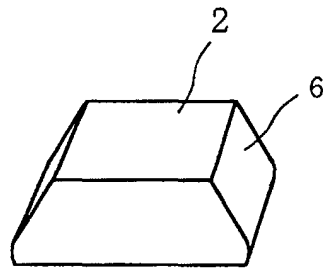


Fig. 3 A



1 B

Fig. 3 B

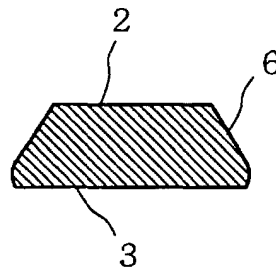
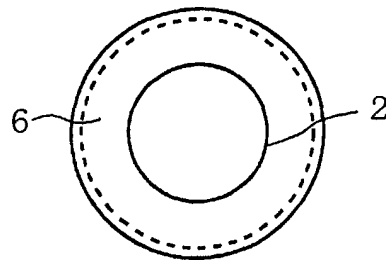


Fig. 4 A



1 C

Fig. 4 B

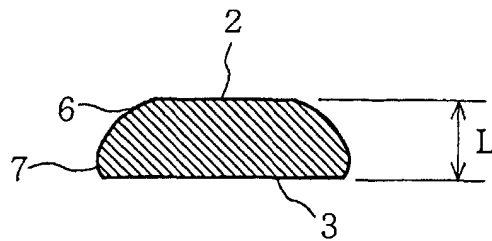


Fig. 5 A

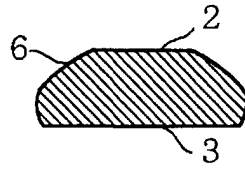


Fig. 5 F

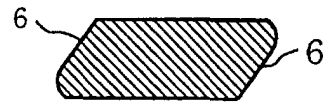


Fig. 5 B

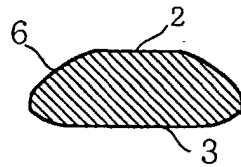


Fig. 5 G



Fig. 5 C

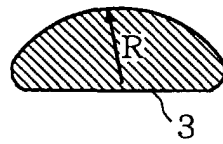


Fig. 5 H

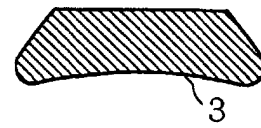


Fig. 5 D



Fig. 5 I



Fig. 5 E

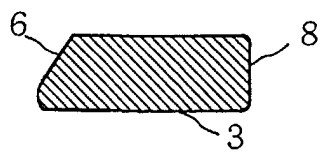


Fig. 5 J

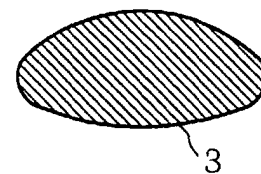


Fig. 6 A

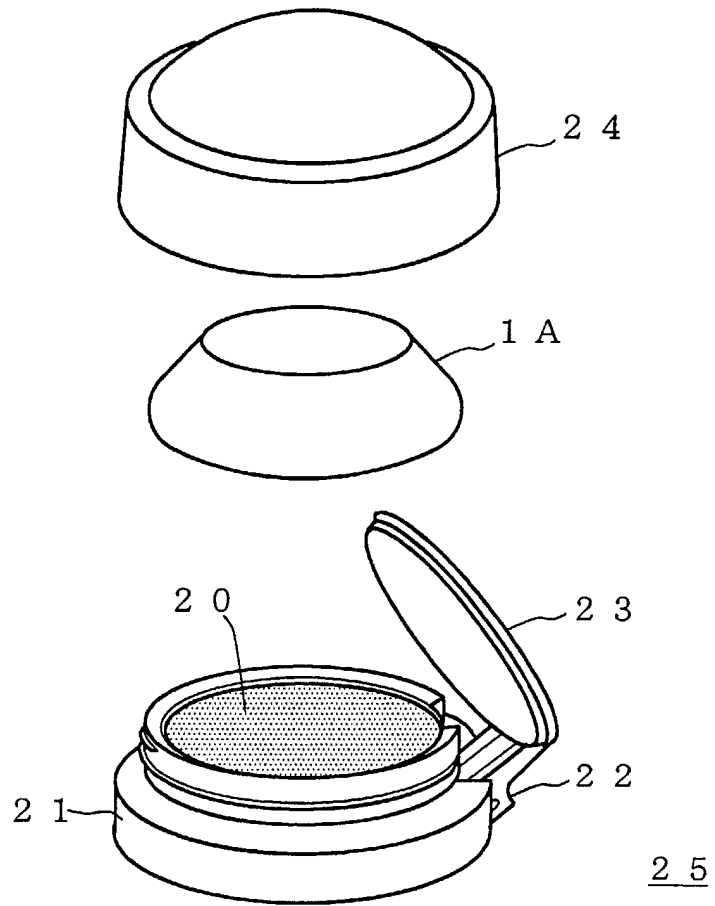


Fig. 6 B

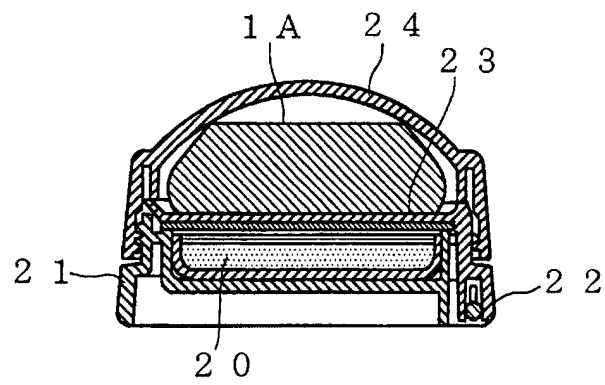


Fig. 7 A

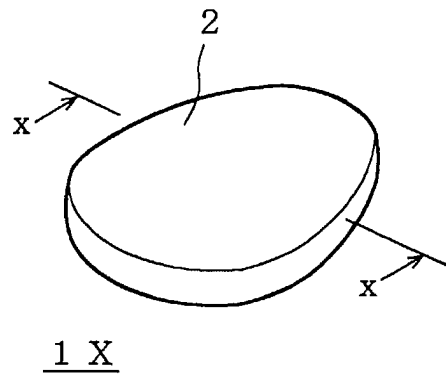


Fig. 7 B

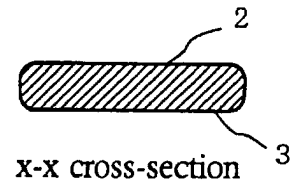


Fig. 8 A

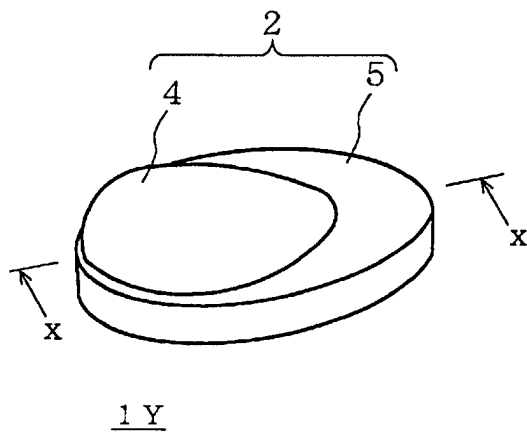


Fig. 8 B

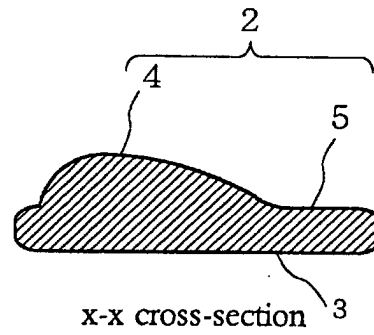
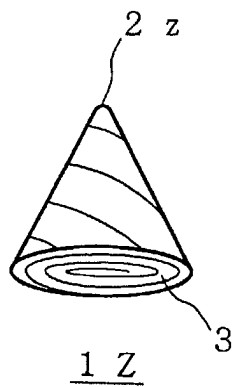


Fig. 9



INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP01/01505

A. CLASSIFICATION OF SUBJECT MATTER Int.Cl. ⁷ A45D33/34		
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. ⁷ A45D33/34, 33/36, 34/04		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Jitsuyo Shinan Koho 1926-1996 Toroku Jitsuyo Shinan Koho 1994-2001 Kokai Jitsuyo Shinan Koho 1971-2001 Jitsuyo Shinan Toroku Koho 1996-2001		
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, 26-12865, Y1 (Torazo MIYATAKE), 12 November, 1951 (12.11.51),	1, 2, 4, 5
Y	Full text; Figs. 1 to 3 (Family: none)	3
Y	JP, 41-6852, Y1 (Tadao NAKAMURA), 07 April, 1966 (07.04.66), Full text; Fig. 1 (Family: none)	3
A	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No.74002/1976 (Laid-open No.165774/1977) (Kenji NAKAMURA), 15 December, 1977 (15.12.77) (Family: none)	1-5
A	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No.152092/1982 (Laid-open No.55918/1984) (Kobayashi Kosei Co., Ltd.), 12 April, 1984 (12.04.84) (Family: none)	1-5
A	JP, 3004333, U (Kabushiki Kaisha Toyo Sansera), 15 November, 1994 (15.11.94) (Family: none)	1-5
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
<p>* Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"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</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"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</p> <p>"&" document member of the same patent family</p>		
Date of the actual completion of the international search 06 June, 2001 (06.06.01)		Date of mailing of the international search report 19 June, 2001 (19.06.01)
Name and mailing address of the ISA/ Japanese Patent Office		Authorized officer
Facsimile No.		Telephone No.

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP01/01505

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP, 11-206447, A (Shiseido Company, Limited.), 03 August, 1999 (03.08.99) (Family: none)	1-5

Form PCT/ISA/210 (continuation of second sheet) (July 1992)