



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

(43) Date of publication:
03.11.2021 Bulletin 2021/44

(51) Int Cl.:
A41G 3/00 (2006.01) A41G 5/00 (2006.01)

(21) Application number: **19905947.8**

(86) International application number:
PCT/JP2019/049932

(22) Date of filing: **19.12.2019**

(87) International publication number:
WO 2020/137833 (02.07.2020 Gazette 2020/27)

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

(71) Applicant: **Hirano, Ryuki**
Nagoya-shi, Aichi 460-0002 (JP)

(72) Inventor: **Hirano, Ryuki**
Nagoya-shi, Aichi 460-0002 (JP)

(74) Representative: **Vossius & Partner**
Patentanwälte Rechtsanwälte mbB
Siebertstraße 3
81675 München (DE)

(30) Priority: **28.12.2018 JP 2018247876**

(54) **HAIR EXTENSION**

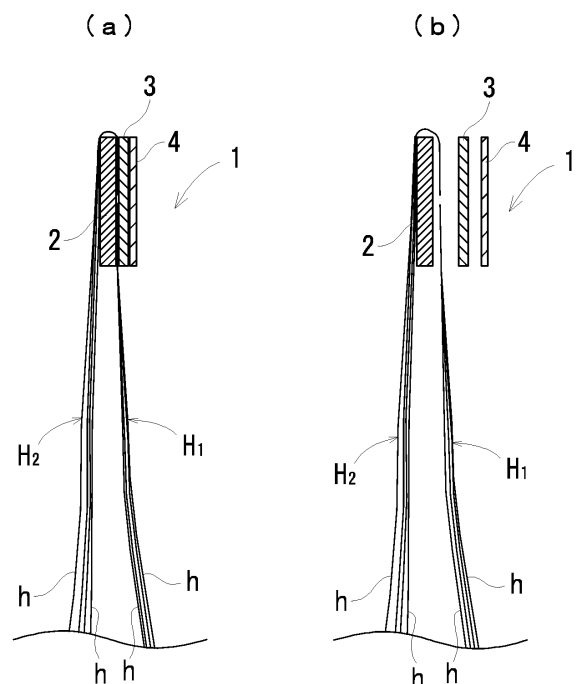
(57) Problem

Provided is a practical hair extension configured to be very easily attached to head hair (natural hair) and attachment of which on the head hair is less likely to be noticed by other people.

Solution

A hair extension 1 includes a base member 2, a first hair bundle H_1 , a second hair bundle H_2 , a double-sided adhesive tape 3, and a release paper 4. The first hair bundle H_1 is secured to a lower side of an inner surface of an approximately rectangular plate-shaped base member 2 in a state where hair ends are projected downward. The second hair bundle H_2 is secured to an upper side of the inner surface of the base member 2 in a state where hair ends are projected upward, and the second hair bundle H_2 is folded back at an upper end edge of the base member 2 having the hair ends drooped downward.

【FIG. 2】



Description

TECHNICAL FIELD

[0001] The present invention relates to a hair extension (hairpiece) attached to natural hair for a purpose such as giving a voluminous look to the head hair.

BACKGROUND ART

[0002] As a conventional hair extension, there has been known a hair extension in which a metal tube is disposed to a base end of a hair bundle to be attached, and the hair extension is attached to natural hair by crushing the tube in a state where the natural hair is internally inserted through the metal tube. There has been developed a hair extension in which an outside of a cylindrical body including a hair bundle immersed in an adhesive is coated with a heat shrinkable tube, and the heat shrinkable tube is heated by an iron and the like in a state where natural hair is internally inserted through the cylindrical body, thereby attaching the hair extension to the natural hair with the shrunk tube and the melted adhesive (Patent Document 1).

[0003] Furthermore, recently, for easier attaching to the head hair in a shorter time, there has been developed a hair extension of a type of being adhered to natural hair using a double-sided adhesive tape (that is, hair is adhered to one surface of the double-sided adhesive tape, and the other surface of the double-sided adhesive tape is adhered to the natural hair) (Patent Document 2).

[0004]

Patent Document 1: Japanese Unexamined Patent Application Publication No. 2008-202199

Patent Document 2: Japanese Registered Utility Model No. 3198852

DISCLOSURE OF THE INVENTION

PROBLEMS TO BE SOLVED BY THE INVENTION

[0005] However, while the hair extension of the type of being adhered to the natural hair using the double-sided adhesive tape as Patent Document 2 can be very easily attached to head hair (natural hair), there is a problem in that wearing it on the head hair is instantly noticed by other people because the double-sided adhesive tape is seen from a gap in the adhered hair. There is also a problem in that the natural hair is bonded to the double-sided adhesive tape from the gap in the adhered hair.

[0006] The present invention has an object to solve the above-described problems of the conventional hair extensions and provide a practical hair extension that can be very easily attached to head hair (natural hair) and attachment of which on the head hair is less likely to be noticed by other people.

SOLUTIONS TO THE PROBLEMS

[0007] In the present invention, the invention described in claim 1 is a hair extension that includes a hair bundle and adhering means on a base end thereof. The adhering means attaches the hair bundle to natural hair. The hair extension includes: a first hair bundle secured to a lower side of an inner surface of an approximately rectangular plate-shaped base member in a state where hair ends are projected downward; and a second hair bundle secured to an upper side of the inner surface of the base member in a state where hair ends are projected upward, and the second hair bundle is folded back at an upper end edge of the base member having the hair ends drooped downward.

[0008] According to the invention described in claim 2, in the invention described in claim 1, the base member has a color identical to a color of the second hair bundle.

[0009] According to the invention described in claim 3, in the invention described in claim 1 or claim 2, the inner surface of the base member has an adherence property, and the first hair bundle and the second hair bundle are adhered to the inner surface of the base member.

EFFECTS OF THE INVENTION

[0010] The hair extension according to claim 1 can be very easily attached to the head hair in a very short period using the adhering means, and has a structure in which the second hair bundle covers the base member and the double-sided adhesive tape from outside. Therefore, since the double-sided adhesive tape is less likely to be seen from outside, its attachment is less likely to be noticed by other people. Additionally, a case where the natural hair is bonded to the double-sided adhesive tape from the gap in the adhered hair as the conventional hair extension does not occur at all.

[0011] In the hair extension according to claim 2, the base member has the same color as the second hair bundle. Therefore, since it is very difficult to recognize the double-sided adhesive tape from outside, its attachment is much less likely to be noticed by other people.

[0012] The hair extension according to claim 3 can be very easily manufactured only by adhering the first hair bundle and the second hair bundle to the inner surface of the base member and attaching the adhering means to its inner side (side attached to the natural hair).

BRIEF DESCRIPTION OF THE DRAWINGS

[0013]

Fig. 1 is an explanatory drawing illustrating an appearance of a hair extension (**a** is a front view, and **b** is a back view).

Fig. 2 is an explanatory drawing (side view) illustrating the appearance of the hair extension (**a** illustrates an assembled state, and **b** illustrates an exploded

state).

Fig. 3 is an explanatory drawing (front view) illustrating a method for manufacturing the hair extension.

Fig. 4 is an explanatory drawing (side view) illustrating a state where the hair extension is attached to head hair (natural hair) (**a** illustrates a state before attaching, **b** illustrates a state where a release paper is removed, and **c** illustrates a state of being adhered to natural hair).

Fig. 5 is an explanatory drawing (drawing of head hair viewed from above) illustrating a state where the hair extension is attached to the head hair (natural hair).

DESCRIPTION OF PREFERRED EMBODIMENTS

[0014] The following describes one embodiment of a hair extension according to the present invention in detail based on the drawings.

<Structure of Hair Extension>

[0015] Fig. 1 and Fig. 2 illustrate the appearance of the hair extension according to the present invention and the state where the hair extension is attached to head hair (natural hair), respectively, and a hair extension 1 includes a base member 2, a first hair bundle (collective body) H_1 , a second hair bundle (collective body) H_2 , a double-sided adhesive tape 3, and a release paper (peeling paper) 4.

[0016] The base member 2 is made of synthetic resin (polyester resin) sheet that is colored in black and has a thickness of about 1.0 mm, and is formed into a rectangular shape with width of about 7.0 mm $\times$ height of about 6.0 mm. On each of an inner surface (surface on the side attached to the natural hair, surface on the right side in Fig. 2) and an outer surface (surface on the opposite side of the side attached to the natural hair, surface on the left side in Fig. 2), a gluing agent made of synthetic resin (acrylic-based resin) with an adherence property is laminated. The outer surface is subjected to a texturing process (surface roughening process such as matting) through an etching process, and does not become shiny even when irradiated with a light.

[0017] Then, on the slightly lower side from the center in the inner surface of the base member 2, the first hair bundle H_1 is adhered so as to project downward. Respective hairs h , $h..$ constituting the first hair bundle H_1 are in a state where base ends are positioned in the upper side from a lower end edge of the base member 2 by about 2.5 mm and the base end portions are arranged to be almost parallel.

[0018] Furthermore, on the slightly upper side from the center in the inner surface of the base member 2, the second hair bundle H_2 is adhered so as to project upward. Respective hairs h , $h..$ constituting the second hair bundle H_2 are in a state where base ends are positioned in the lower side from an upper end edge of the base mem-

ber 2 by about 2.5 mm and the base end portions are arranged to be almost parallel. Therefore, a clearance of about 1.0 mm is formed between the base ends of the respective hairs h , $h..$ constituting the first hair bundle H_1 and the base ends of the respective hairs h , $h..$ constituting the second hair bundle H_2 . The hairs h , $h..$ constituting the second hair bundle H_2 adhered to the inner surface of the base member 2 are each folded back at the upper end edge of the base member 2, the hair end sides are drooped downward, and fold-back end portions are attached (adhered) to the outer surface of the base member 2 with the adhesive (one containing a polyurethane-based resin as a main component).

[0019] Furthermore, the double-sided adhesive tape 3 is adhered to the outside of the first hair bundle H_1 and the second hair bundle H_2 adhered to the inner surface of the base member 2 as described above. The double-sided adhesive tape 3 is one in which the gluing agent made of synthetic resin (acrylic-based resin) with the adherence property is laminated on both surfaces of a film made of synthetic resin (polyester) having a thickness of about 50 μ m, and is cut out in the same size (rectangular shape of width of about 7.0 mm $\times$ height of about 6.0 mm) as the base member 2. Then, on the inner side (side attached to the natural hair, right side in Fig. 2) of the double-sided adhesive tape 3, the release paper (peeling paper) 4 having the same size as the double-sided adhesive tape 3 is adhered.

<Method for Manufacturing Hair Extension>

[0020] Fig. 3 illustrates an exemplary method for manufacturing the hair extension 1 configured as described above. In manufacturing the hair extension 1, first, the first hair bundle H_1 and the second hair bundle H_2 are placed so as to be perpendicular to a longitudinal direction of a base member 2a, and placed such that a linearly aligned end edge of the first hair bundle H_1 faces a linearly aligned end edge of the second hair bundle H_2 to be parallel with a predetermined distance (about 1.0 mm). The first hair bundle H_1 and the second hair bundle H_2 are each separated up and down by an orthogonally disposed separation thread (one or a plurality of threads) N for approximately constant number for disposing them to be flat. Then, the base member 2a (the inner surface and the outer surface have the adherence property) is orthogonally bonded to the upper surfaces of the end edge portion of the first hair bundle H_1 and the end edge portion of the second hair bundle H_2 thus disposed up and down (Fig. 3(a)).

[0021] Next, the first hair bundle H_1 and the second hair bundle H_2 thus bonded to the base member 2a are reversed (turned inside-out), and the double-sided adhesive tape 3 is orthogonally bonded to the upper surfaces of the end edge portion of the first hair bundle H_1 and the end edge portion of the second hair bundle H_2 (Fig. 3(b)). Furthermore, after removing the separation threads N from the first hair bundle H_1 and the second

hair bundle H_2 , the first hair bundle H_1 and the second hair bundle H_2 bonded to the base member 2a and the double-sided adhesive tape 3 are reversed (turned inside-out) again, and subsequently, the second hair bundle H_2 is folded back downward at the upper end edge of the base member 2a, and the fold-back end portion is bonded to the outer surface of the base member 2a (Fig. 3(c)).

[0022] Subsequently, the first hair bundle H_1 and the second hair bundle H_2 bonded to the base member 2a and the double-sided adhesive tape 3 are reversed (turned inside-out) again, the release paper (peeling paper) 4 is bonded to the outer surface of the double-sided adhesive tape 3 positioned outside the end edge portion of the first hair bundle H_1 and the end edge portion of the second hair bundle H_2 (Fig. 3(d)). Then, the base member 2a and the double-sided adhesive tape 3 protruding outside the first hair bundle H_1 and the second hair bundle H_2 are cut out, thus completing the manufacture of the hair extension 1.

<Method for Using Hair Extension>

[0023] Fig. 4 and Fig. 5 illustrate the method for attaching the hair extension 1 to the head hair (natural hair), and when the hair extension 1 is attached to the head hair, for example, by lifting the surface natural hairs (ones growing from near the top of the head) upward, the inner natural hairs (ones growing from the middle in the height position of the head) are exposed. Then, as illustrated in Fig. 4(b), the release paper 4 of the hair extension 1 is removed to expose the double-sided adhesive tape 3. Subsequently, as illustrated in Fig. 4(c), the adhesive surface of the double-sided adhesive tape 3 is adhered to a natural hair bundle (bundle of the inner natural hairs) G, thus attaching the hair extension 1. Then, the desired number of hair extensions 1, 1.. are adhered to the natural hair bundles G at approximately the same height position of the head hair along a lateral direction (width direction) at regular intervals by the above-described method (see Fig. 5). Subsequently, the surface natural hairs in the lifted state are drooped back.

[0024] In the hair extension 1 attached to the natural hair as described above, since the base member 2 of the same color (black) as the natural hair is positioned on the outer side (opposite side of the natural hair as an attached body) of the double-sided adhesive tape 3 and the base member 2 is covered with the hairs h, h.. of the second hair bundle H_2 from outside, the double-sided adhesive tape 3 is hardly seen from outside. Accordingly, other people cannot recognize the hair extensions 1, 1.. attached to the head hair at all.

<Effect of Hair Extension>

[0025] In the hair extension 1, as described above, the first hair bundle H_1 is secured to the lower side of the inner surface of the approximately rectangular plate-

shaped base member 2 in the state where the hair ends are projected downward, and the second hair bundle H_2 is secured to the upper side of the inner surface of the base member 2 in the state where the hair ends are projected upward and the second hair bundle H_2 is folded back at the upper end edge of the base member 2 having the hair ends drooped downward. Accordingly, the hair extension 1 can be very easily attached to the head hair in a very short period using the double-sided adhesive tape 3 as the adhering means, and in addition, since the second hair bundle H_2 covers the base member 2 and the double-sided adhesive tape 3 from outside, the double-sided adhesive tape 3 is less likely to be seen from outside, thus making its attachment less likely to be noticed by other people. Additionally, the case where the natural hair is bonded to the double-sided adhesive tape 3 from the gap in the adhered hair as the conventional hair extension does not occur.

[0026] In the hair extension 1, since the base member 2 has the same color (black) as the second hair bundle H_2 , and it is extremely difficult to recognize the double-sided adhesive tape 3 from outside, its attachment is much less likely to be noticed by other people.

[0027] Furthermore, with the structure in which the first hair bundle H_1 and the second hair bundle H_2 are adhered to the adhesive surface of on the inner side of the base member 2, the hair extension 1 can be very easily manufactured only by adhering the first hair bundle H_1 and the second hair bundle H_2 to the inner surface of the base member 2 and attaching the double-sided adhesive tape 3 to its inner side (side attached to the natural hair) in manufacturing.

[0028] In addition, in the hair extension 1, since the fold-back end portions (portions positioned in the outer surface of the base member 2) of the respective hairs h, h.. constituting the second hair bundle H_2 are attached (bonded) to the outer surface of the base member 2 by the adhesive, even when the wearing person moves hard, the base member 2 is less likely to be seen, thus making its attachment extremely less likely to be noticed by other people.

<Modifications of Hair Extension>

[0029] The hair extension according to the present invention is not limited to one that includes the black base member as the above-described embodiment, and the base member may be colored in a color other than black, or need not to be colored. For example, when the hair extension according to the present invention is attached to the natural hair of brown or gold, the hair extension that includes the first hair bundle H_1 , the second hair bundle H_2 , and the base member of brown or gold can be used according to the color of the natural hair.

[0030] The hair extension according to the present invention is not limited to one that includes the double-sided adhesive tape with the base material of the synthetic-resin film as the above-described embodiment,

and the base material of the double-sided adhesive tape can be changed to paper or the like. When the base material of the double-sided adhesive tape is the synthetic-resin film as the above-described embodiment, there is a merit that the double-sided adhesive tape is less likely to tear in washing the hair in the attached state.

[0031] Furthermore, the hair extension according to the present invention is not limited to one in which the gluing agent of the base member and the gluing agent of the double-sided adhesive tape are the gluing agent made of acrylic-based resin as the above-described embodiment, and the gluing agent can be changed to a rubber-based gluing agent or a gluing agent made of resin other than acrylic-based resin, such as a gluing agent made of silicone-based resin. When the gluing agent of the base member and the gluing agent of the double-sided adhesive tape are the gluing agent made of acrylic-based resin as the above-described embodiment, there is a merit that the adhesive capacity is less likely to decrease even when the hair is washed using a surfactant (shampoo and the like) in the attached state (that is, the first hair bundle and the second hair bundle are less likely to be removed, and less likely to come off the natural hair).

[0032] In addition, the aspect of attaching a plurality of hair extensions is not limited to the aspect of attaching at approximately the same height position of the head hair along the lateral direction (width direction) at regular intervals as the above-described embodiment, and can be changed as necessary according to the volume of the natural hair and the desired hairstyle.

[0033] Meanwhile, the method for manufacturing the hair extension according to the present invention is not limited to one in which the base member is bonded to the first hair bundle and the second hair bundle and subsequently the double-sided adhesive tape is bonded as the above-described embodiment, and can be changed to one, for example, in which the double-sided adhesive tape is bonded to the first hair bundle and the second hair bundle and subsequently the base member is bonded. In addition, the method for manufacturing the hair extension according to the present invention is not limited to one in which the first hair bundle and the second hair bundle are bonded the long base member and double-sided adhesive tape as the above-described embodiment, and can be changed to one, for example, in which the first hair bundle and the second hair bundle are bonded to the base member and/or the double-sided adhesive tape preliminarily cut out in the required length.

INDUSTRIAL APPLICABILITY

[0034] Since the hair extension of the present invention provides the excellent effects as described above, the hair extension can be appropriately used as a member to increase the volume of natural hair.

DESCRIPTION OF REFERENCE SIGNS

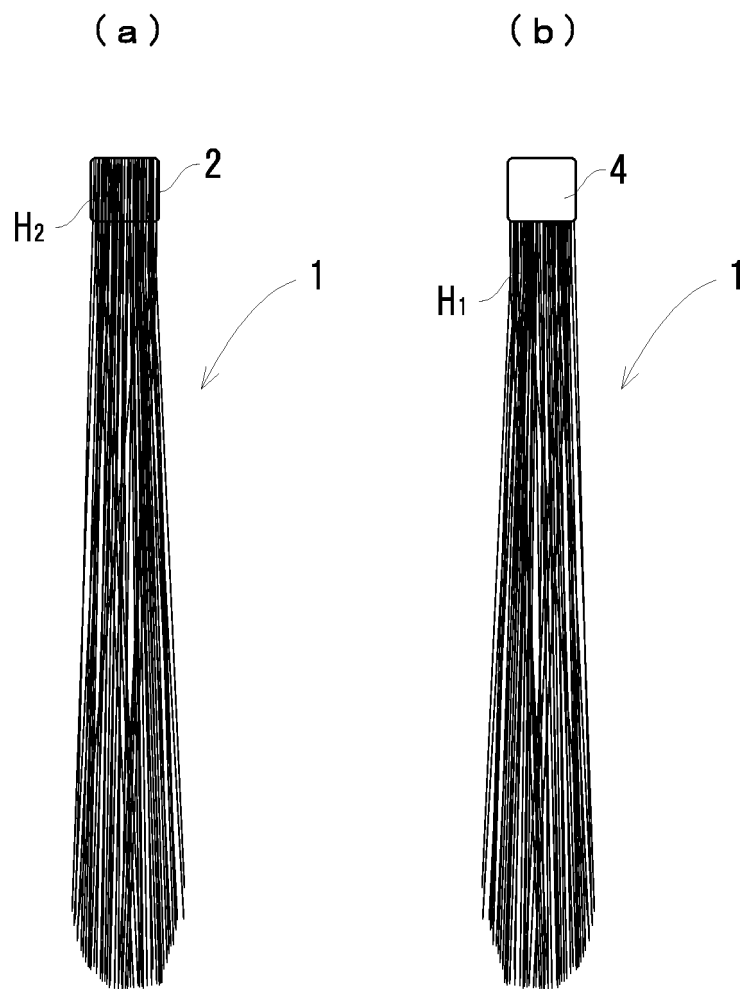
[0035]

- | | | |
|----|----------------|---|
| 5 | 1 | Hair extension |
| | 2 | Base member |
| | 3 | Double-sided adhesive tape (adhering means) |
| | 4 | Release paper (peeling paper) |
| | H ₁ | First hair bundle (collective body) |
| 10 | H ₂ | Second hair bundle (collective body) |
| | h | Hair |

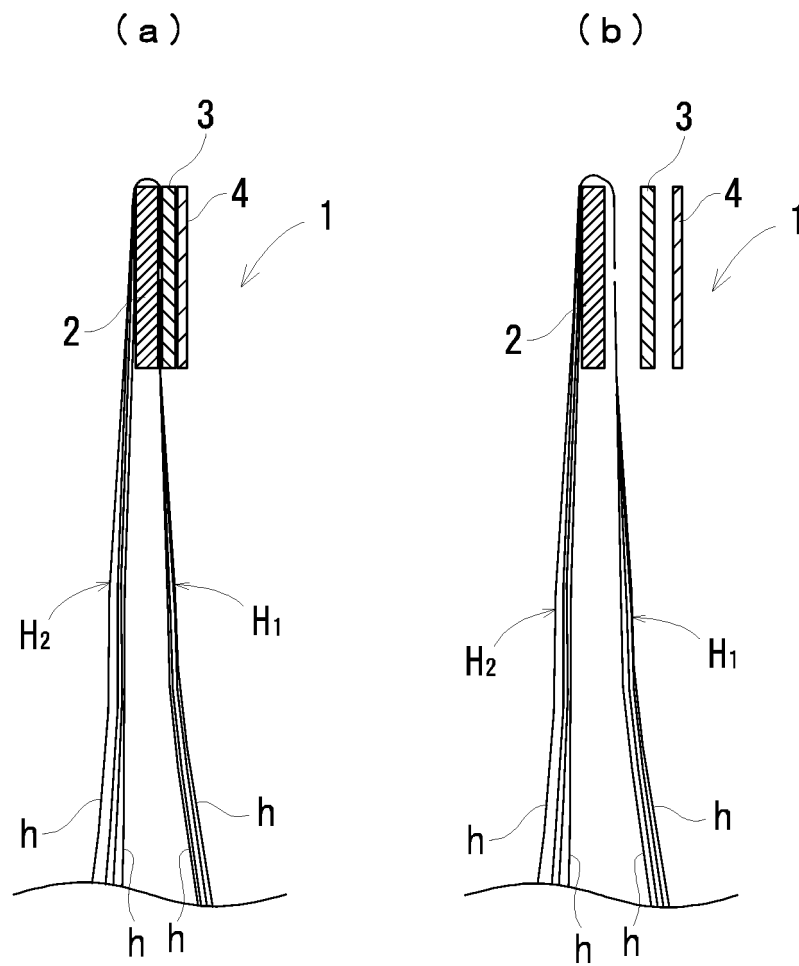
Claims

- | | | |
|----|----|---|
| 15 | 1. | A hair extension that includes a hair bundle and adhering means on a base end thereof, the adhering means attaching the hair bundle to natural hair, the hair extension comprising: |
| 20 | | a first hair bundle secured to a lower side of an inner surface of an approximately rectangular plate-shaped base member in a state where hair ends are projected downward; and |
| 25 | | a second hair bundle secured to an upper side of the inner surface of the base member in a state where hair ends are projected upward, and the second hair bundle is folded back at an upper end edge of the base member having the hair ends drooped downward. |
| 30 | 2. | The hair extension according to claim 1, wherein the base member has a color identical to a color of the second hair bundle. |
| 35 | 3. | The hair extension according to claim 1 or 2, wherein the inner surface of the base member has an adherence property, and the first hair bundle and the second hair bundle are adhered to the inner surface of the base member. |
| 40 | | |
| 45 | | |
| 50 | | |
| 55 | | |

【FIG. 1】

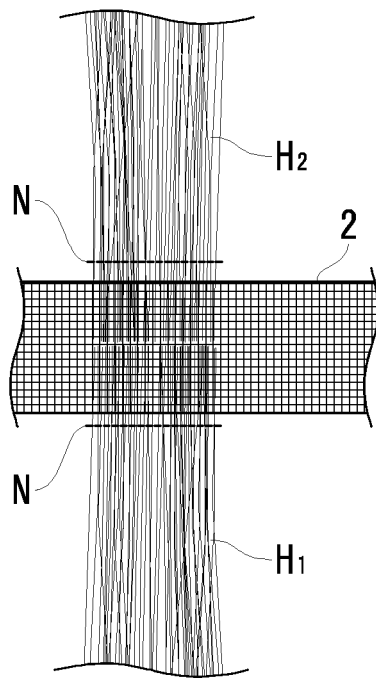


【FIG. 2】

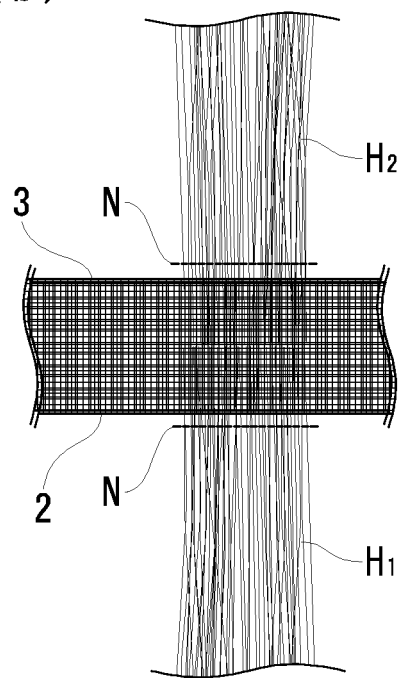


【FIG. 3】

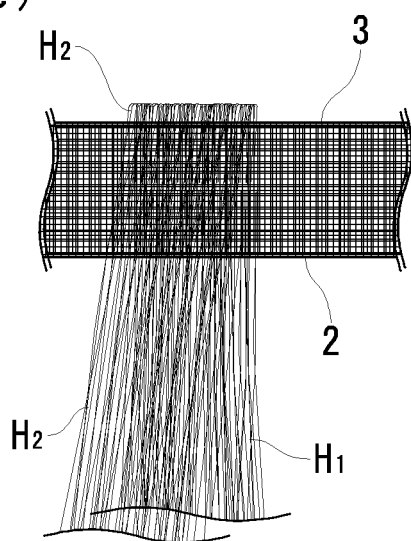
(a)



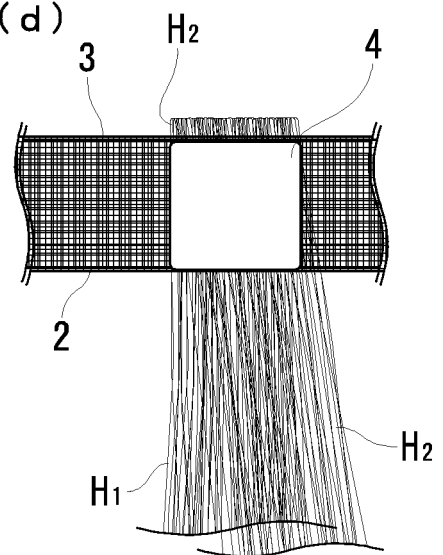
(b)



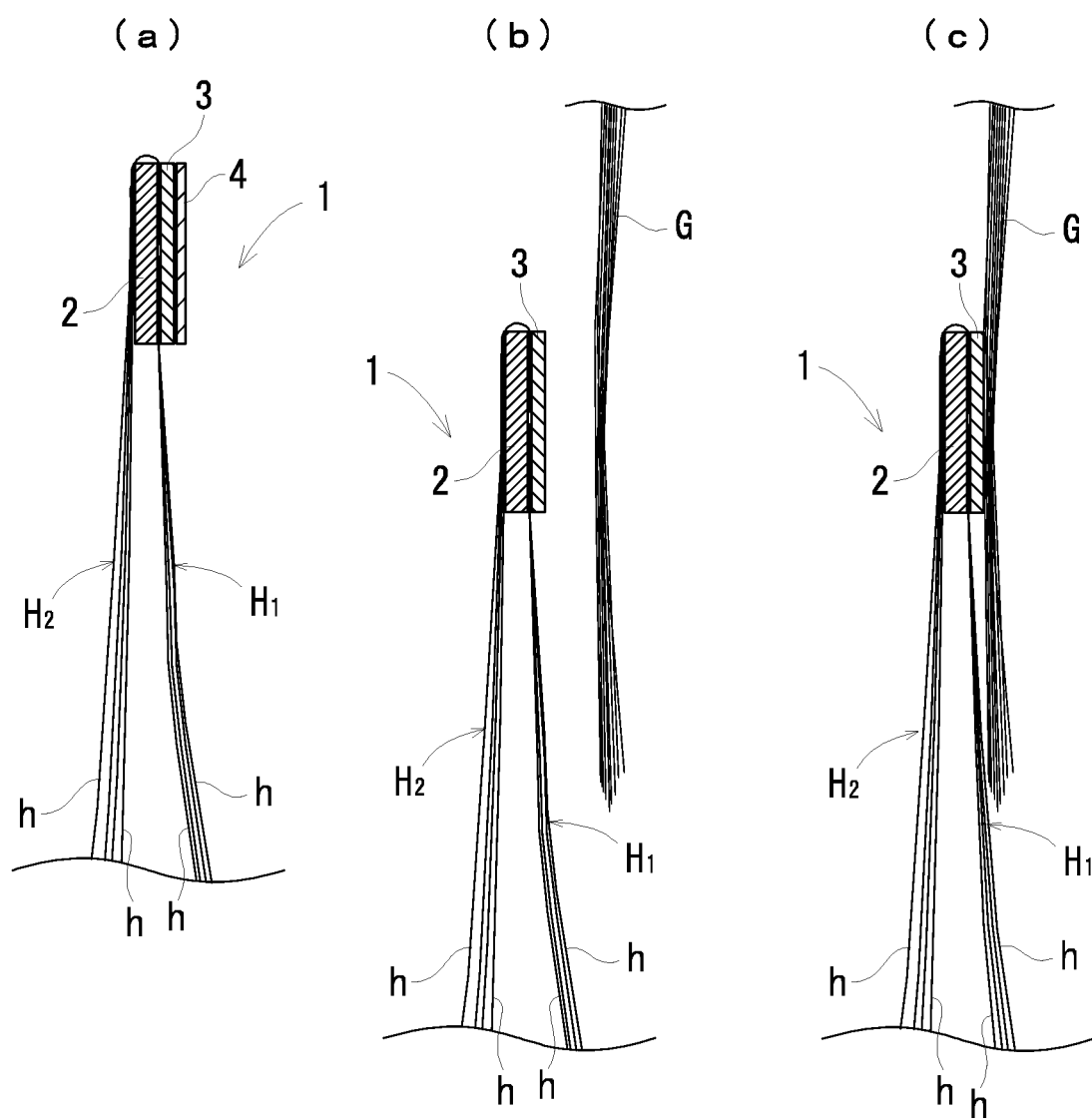
(c)



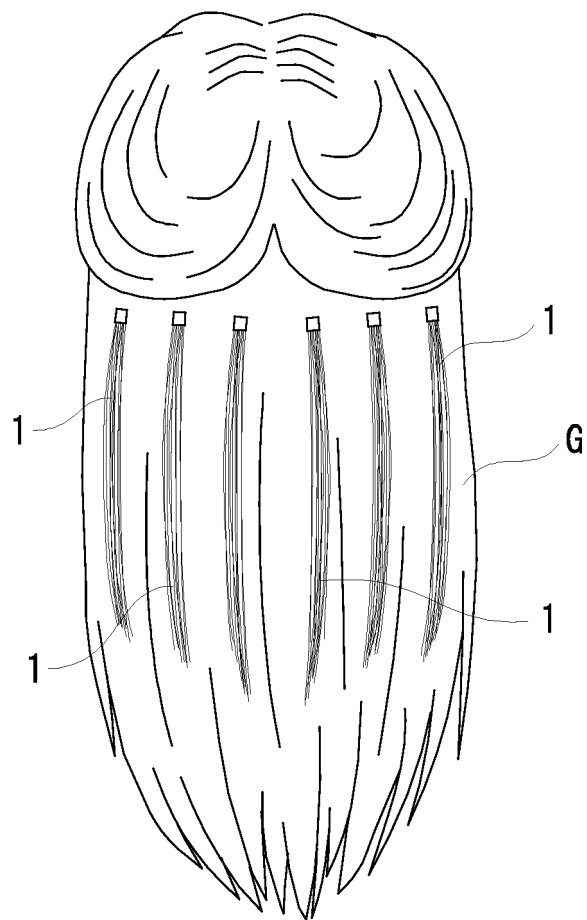
(d)



【FIG. 4】



【FIG. 5】



INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2019/049932

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. A41G3/00 (2006.01) i, A41G5/00 (2006.01) i
 FI: A41G3/00 J, A41G5/00

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. A41G3/00, A41G5/00

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 1971-2020

Registered utility model specifications of Japan 1996-2020

Published registered utility model applications of Japan 1994-2020

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.
Y	US 2001/0037813 A1 (RA, James W.) 08 November 2001, paragraphs [0026]-[0028], fig. 6	1-3
Y	JP 2009-35852 A (BEGE PRIVATSTIFTUNG) 19 February 2009, paragraphs [0012], [0013], fig. 2	1-3
A	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 51672/1988 (Laid-open No. 157123/1989) (MUTOH, Isao) 30 October 1989, claims, fig. 1-4	1-3
A	JP 2007-125115 A (ARTNATURE CO., LTD.) 24 May 2007, abstract, fig. 1	1-3

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"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)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"I" 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

"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

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

"&" document member of the same patent family

Date of the actual completion of the international search
06.02.2020

Date of mailing of the international search report
18.02.2020

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

Authorized officer

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No. PCT/JP2019/049932
--

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 2614736 A1 (LEE, Soung Jun) 17 July 2013, abstract, fig. 1	1-3
A	US 5722434 A (WALKER, Janice M.) 03 March 1998, abstract, fig. 7	1-3

Form PCT/ISA/210 (continuation of second sheet) (January 2015)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/JP2019/049932

Patent Documents referred to in the Report	Publication Date	Patent Family	Publication Date
US 2001/0037813 A1	08.11.2001	(Family: none)	
JP 2009-35852 A	19.02.2009	US 2009/0032041 A1 paragraphs [0014], [0015], fig. 1 EP 2022357 A1 BR PI0803311 A2 MX 2008009933 A AT 516717 T ES 2370007 T3 CA 2630978 A1	
JP 1-157123 U1	30.10.1989	(Family: none)	
JP 2007-125115 A	24.05.2007	(Family: none)	
EP 2614736 A1	17.07.2013	(Family: none)	
US 5722434 A	03.03.1998	(Family: none)	

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- JP 2008202199 A [0004]
- JP 3198852 U [0004]