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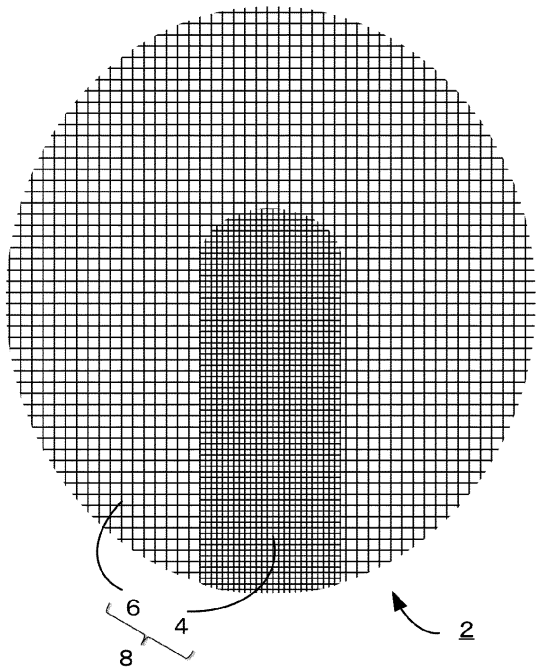
(54) WIG BASE, WIG, AND METHOD OF MANUFACTURING WIG BASE

(57) In order to provide a wig base having little difference in height at boundaries between regions of different mesh density, thereby exhibiting superior comfort when worn, and capable of being easily manufactured at low cost, a wig obtained by implanting synthetic hair in the wig base, and a method of manufacturing the wig base, the present invention provides a wig base, comprising a base fabric, which is an etched fabric, having a dense mesh region formed of two or more kinds of fibers including a first fiber and a second fiber and a coarse mesh region in which the first fiber is removed as compared with the dense mesh region, wherein a single fiber fineness of the first fiber is 1 to 4 decitex and a single fiber fineness of the second fiber is 1 to 6 decitex, a wig and a method of manufacturing the wig base.

FIG.1



EP 3 527 093 A1

Description

Technical Field

[0001] The present invention relates to a wig base using a fabric, a wig obtained by implanting false hair on a wig base, and a method of manufacturing a wig base.

Background Art

[0002] For wigs to be worn on the head of a person, a fabric formed in mesh form is used for many wig bases in consideration of air permeability and wear comfort. In order to obtain a more natural appearance, there is known a wig in which artificial skin made from synthetic resin is used for a hair parted portion of a wig base or the like. However, since wigs are usually formed by directly joining false hair with a filament constituting a mesh of a wig base, a location for implantation is restricted. This may cause difficulty in providing a desired amount of hair or forming a flow of hair for hair whorl, a hair parted portion, or the like.

[0003] In order to cope with this, there has been proposed a wig in which a fabric having a dense mesh in a hair parted portion of hair is placed on a fabric having a coarse mesh and sewn together. (See, for example, Patent Literature 1).

Citation List

Patent Literature

[0004]

Patent Literature 1: JP 1997(H09)-228129 A
Patent Literature 2: JP 2015-137425 A

Summary of Invention

Technical Problem

[0005] According to the wig described in Patent Literature 1, a sufficient amount of hair can be obtained in the hair parted portion while air permeability is secured. However, since the coarse and dense fabrics are placed on top of each other, a difference in height, distortion, or the like occurs in a wig base, a gap is generated between a wearer's head and the wig being worn, and fitting comfort is impaired. Further, since a process of joining the fabrics is performed, quality stability and productivity may be lowered.

[0006] Therefore, there has also been proposed a wig in which net structures of different squares are integrally knitted together on an entire surface (see, for example, Patent Literature 2). According to the wig described in Patent Literature 2, it is possible to obtain an effect similar to that of the invention described in Patent Literature 1, and it is also possible to suppress a difference in height in a wig base.

[0007] However, since a complicated process is required when net structures having different squares are integrally knitted together on an entire surface, productivity is extremely lowered.

[0008] The present invention has been made to solve the above-mentioned problems, and it is an object of the present invention to provide a wig base in which a difference in height at a boundary between regions having different mesh densities is suppressed, thereby improving fitting comfort, the wig base capable of being easily manufactured at low cost, a wig obtained by implanting false hair on the wig base, and a method of manufacturing the wig base.

Solution to Problem

[0009] In order to achieve the above object, a wig base according to one embodiment of the present invention includes a base fabric, which is an etched fabric, having a dense mesh region formed of two or more kinds of fibers including a first fiber and a second fiber and a coarse mesh region in which the first fiber is removed as compared with the dense mesh region.

[0010] A wig according to one embodiment of the present invention obtained by implanting false hair on the wig base.

[0011] A method of manufacturing a wig base according to one embodiment of the present invention is a method of manufacturing the wig base, the method including: a first step of preparing a fabric formed of two or more kinds of fibers including a first fiber and a second fiber; a second step of applying an etching agent that dissolves or decomposes the first fiber and does not dissolve or decompose the second fiber to a region of part of the fabric and heating the fabric if necessary; and a third step of washing the fabric after the second step to remove the first fiber having been dissolved or decomposed. Advantageous Effects of Invention

[0012] As described above, the present invention can provide a wig base in which a difference in height at a boundary between regions having different mesh densities is suppressed to improve fitting comfort, the wig base capable of being easily manufactured at low cost, a wig obtained by implanting false hair on the wig base, and a method of manufacturing the wig base.

Brief Description of Drawings

[0013]

FIG. 1 is a plan view showing a wig base according to one embodiment of the present invention.
FIG. 2 is a plan view showing a wig base according to another embodiment of the present invention.
FIG. 3 is a plan view showing a wig base according to still another embodiment of the present invention.
FIG. 4 is a plan view showing a fabric in which a first

fiber and a second fiber are knitted in a dense mesh form.

FIG. 5 is a flowchart showing a method of manufacturing a wig base according to one embodiment of the present invention.

FIG. 6 is a perspective view (photograph) showing an example of a wig base according to the present invention.

FIG. 7 is a plan view (photograph) showing an example of a wig according to the present invention.

Description of Embodiments

[0014] A wig base according to a first embodiment of the present invention includes a base fabric, which is an etched fabric, having a dense mesh region formed of two or more kinds of fibers including a first fiber and a second fiber and a coarse mesh region in which the first fiber is removed as compared with the dense mesh region.

[0015] In the present embodiment, since the dense mesh region and the coarse mesh region can be obtained by one etched fabric, it is possible to suppress a difference in height at the boundary between the regions having different mesh densities. Therefore, a misalignment hardly occurs between a wearer's head and the wig base when the wig is worn, and excellent fitting comfort is obtained. Further, by an etching process, it is possible to easily form the wig base at low cost without a complicated knitting process or the like.

[0016] A second embodiment of the present invention provides the wig base, according to the first embodiment, in which a knot of a fiber is not included in a boundary portion between the dense mesh region and the coarse mesh region.

[0017] The present embodiment does not have a knot of fibers, which has conventionally been formed when a hair parted portion and a mesh portion are sewn, at the boundary portion between the dense mesh region and the coarse mesh region. Accordingly, a wig using the base fabric does not cause uncomfortable feeling or discomfort due to a wearer's head hitting the knot, and a wig excellent in fitting comfort can be obtained.

[0018] A third embodiment of the present invention provides the wig base, according to the first or second embodiment, in which the dense mesh region is disposed in a hair parted portion.

[0019] In the present embodiment, since the dense mesh region is disposed in the hair parted portion, wearing of a wig is hardly found out and a more natural appearance can be obtained.

[0020] A fourth embodiment of the present invention provides the wig base, according to any one of the first to third embodiments, in which the dense mesh region is disposed in an edge portion of the base fabric.

[0021] In present embodiment, since the dense mesh region is disposed in the edge portion of the base fabric, it is possible to increase the strength of the edge portion of the base fabric and to provide a wig base excellent in durability with less deformation.

[0022] A fifth embodiment of the present invention provides the wig base, according to any one of the first to fourth embodiments, in which at least part of the base fabric is colored to a color similar to a color of a wearer's scalp.

[0023] In the present embodiment, since at least part of the base fabric is colored to a color similar to a color of a wearer's scalp, the wig base fits the skin, and a natural appearance that does not cause visual discomfort can be obtained.

[0024] A wig according to a six embodiment of the present invention is obtained by implanting false hair on the wig base according to any one of the first to fifth embodiments.

[0025] In the present embodiment, any optional function and effect described above can be obtained.

[0026] A method of manufacturing a wig base according to a seventh embodiment of the present invention is a method of manufacturing the wig base according to any one of the first to fifth embodiments, the method including: a first step of preparing a fabric formed of two or more kinds of fibers including a first fiber and a second fiber; a second step of applying an etching agent that dissolves or decomposes the first fiber and does not dissolve or decompose the second fiber to a region of part of the fabric and heating the fabric if necessary; and a third step of washing the fabric after the second step to remove the first fiber having been dissolved or decomposed.

[0027] In the present embodiment, it is possible to obtain the dense mesh region and the coarse mesh region with a simple process by the etching process using the etching agent without requiring a complicated knitting process or the like. Accordingly, the wig base can be easily manufactured at low cost.

[0028] Next, the wig base, the wig obtained by implanting false hair on the wig base, and the method of manufacturing the wig base according to embodiments of the present invention will be described in detail below with referring to the drawings.

(Description of a wig base according to embodiments of the present invention)

[0029] First, with referring to FIGS. 1 to 3, the wig base according to some embodiments of the present invention will be described. FIG. 1 is a plan view showing a wig base according to one embodiment of the present invention, and FIGS. 2 and 3 are plan views showing the wig base according to another embodiment of the present invention.

[0030] In all the embodiments shown in FIGS. 1 to 3, a wig base 2 includes a base fabric 8, which is an etched fabric, having a dense mesh region 4 formed of two or more kinds of fibers including a first fiber and a second fiber, and a coarse mesh region 6 in which the first fiber is removed as compared with the dense mesh region 4. In FIGS. 1 to 3, a shape of the mesh is schematically

shown.

[0031] The etched fabric is a fabric formed by an etching process and also referred to as an etched cloth. In the etching process, an etching agent is applied to a predetermined region of a fabric, in which a fiber that is to be dissolved or decomposed by the etching agent and a fiber that is not to be dissolved or decomposed by the etching agent are combined, to remove one of the fibers.

[0032] In the present embodiment, the first fiber is a fiber which is dissolved or decomposed by etching, and the second fiber is a fiber which is not dissolved or decomposed by etching. It is noted that the first fiber may include a plurality of fibers, and the second fiber may include a plurality of fibers.

[0033] Here, FIGS. 4(a) to 4(d) show an example of a fabric formed into a dense mesh form using the first fiber and the second fiber. FIG. 4 is a plan view showing a fabric in which the first fiber and the second fiber are knitted in a dense mesh form. As is apparent from the drawings, the first fiber 10 is knitted between coarse meshes made of the second fiber 12 to form a dense mesh.

[0034] By removing the first fiber 10 by applying a etching agent to a predetermined region of the fabric having such a dense mesh form, an etched fabric having a dense mesh-like region and a coarse mesh-like region can be formed. It is noted that the fabric shown in FIGS. 4(a) to 4(d) is merely an example, and a fabric in which the first fiber 10 and the second fiber 12 are knitted in other optional patterns can be used.

[0035] In the present embodiment, by applying an etching agent to (if necessary, by heating) a region corresponding to the coarse mesh region 6, the first fiber in the applied region is removed, and the base fabric 8 having the dense mesh region 4 and the coarse mesh region 6 as shown in FIGS. 1 to 3 is formed.

[0036] In the etched fabric formed in the above manner, filaments are hardly scattered in a boundary between a region of the first fiber applied with the etching agent and a region not applied with the etching agent, and the sharpness of the boundary is excellent. Particularly, the fabric is preferably formed with a structure by which the fabric is hardly frayed even if some threads melt (or are decomposed) in the design of a knitting structure and a weaving structure.

[0037] The formed base fabric 8 does not have a knot of fibers, which has conventionally been formed when a hair parted portion and a mesh portion are sewn, at the boundary portion between the dense mesh region 4 and the coarse mesh region 6. Accordingly, a wig using the base fabric 8 does not cause uncomfortable feeling or discomfort due to a wearer's head hitting the knot, and a wig excellent in fitting comfort can be obtained.

[0038] In all the embodiments shown in FIGS. 1 to 3, the dense mesh region 4 is disposed in a hair parted portion. In the wig base 2, it is possible to bind false hair with a filament of the coarse mesh region 6, and also to bind false hair of an amount corresponding to a hairline with a filament in the dense mesh region 4 in the hair parted portion. At this time, since the dense mesh region 4 is disposed in the hair parted portion, wearing of a wig becomes inconspicuous and a more natural appearance can be obtained.

[0039] Furthermore, it is possible to color the dense mesh region 4 disposed in the hair parted portion to a color similar to that of a scalp. In such a case, a more natural appearance can be obtained. Other than the above, it is also possible to color the entire base fabric 8 to a color similar to that of a scalp. In a case where at least part of the base fabric 8 is colored to a color similar to that of the scalp of a wearer, the wig base 2 fits the skin, a natural appearance that does not cause visual discomfort can be obtained.

[0040] In the other embodiments shown in FIGS. 2 and 3, the dense mesh region 4 is disposed not only in a hair parted portion but also in an edge portion of the base fabric 8. In this manner, it is possible to increase the strength of the edge portion of the base fabric, and the wig base 2 with less deformation and excellent durability can be provided.

[0041] In another embodiment shown in FIG. 3, a reinforcing member 20 is further sewn to the edge portion of the base fabric 8 on which the dense mesh region 4 is disposed. By an increase in the strength by the reinforcing member 20 in addition to the increase in the strength by the dense mesh region 4, the wig base 2 with even less deformation and excellent durability can be provided.

[0042] As the reinforcing member 20, a cloth member having a denser mesh can be used. Further, the reinforcing member can be obtained by sewing thick threads, and other optional members can be used as reinforcing members.

[0043] In all the embodiments shown in FIGS. 1 to 3, the wig base for an entire head wig is shown. However, the present invention is not limited to the embodiments, and there may be a case of a wig base for a partial wig. Further, in the embodiments shown in FIGS. 1 to 3, the dense mesh region 4 is disposed in the hair parted portion and the edge portion of the base fabric. However, the present invention is not limited to this, and the dense mesh region 4 can be placed at other optional positions in accordance with purposes.

[0044] As described above, the wig base 2 according to the embodiment of the present invention includes the base fabric 8 made from an etched fabric having the dense mesh region 4 formed of two or more kinds of fibers including the first fiber 10 and the second fiber 12, and the coarse mesh region 6 obtained by removing the first fiber 10 from the dense mesh region 4.

[0045] Accordingly, since the dense mesh region 4 and the coarse mesh region 6 can be obtained by one etched fabric, it is possible to suppress a difference in height at the boundary between the regions having different mesh densities. Therefore, a misalignment hardly occurs between a wearer's head and the wig base when the wig

is worn, and excellent fitting comfort is obtained. Further, by an etching process, it is possible to easily form the wig base at low cost without a complicated knitting process or the like.

<Fabric>

[0046] Examples of the fabric used in the present invention include a knitted fabric and a woven fabric. Examples of the knitted fabric include weft knitted fabric, such as plain stitch, rib stitch, pearl stitch, or the like and a warp knitted fabric, such as tricot stitch, cord stitch, atlas stitch, or the like. Examples of the woven fabric include plain weave, twill weave, satin weave, or the like. However, the fabric is not limited to the above. Among them, a knitted fabric is preferably used from the viewpoint of elasticity and emphasis on appropriate see-through sensation and comfort.

[0047] Further, since it is possible to flexibly design a structure, a composite structure combining two or more kinds of structures is preferably used.

[0048] Further, denbigh stitch that allows knitting to be performed evenly over an entire surface is preferably used, without limitation, as a structure of the first fiber. The first fiber can be combined with the second fiber by a method, such as interknitting, combined weaving, mixed spinning, intertwisting, or the like. Among them, combination by interknitting and combined weaving is preferably used, so that the strength after etching is improved, and a coarse portion and a dense portion can be more clearly formed.

[0049] Further, as the structure of the second fiber, in order to enhance durability, the second fiber is preferably knitted with atlas stitch or two needle stitch of a knitting structure. Furthermore, combination by interknitting is preferably used for improving elasticity.

[0050] Further, preferably the first fiber is 20% to 75% by weight and the second fiber is 25% to 80% by weight, and more preferably, the first fiber is 30% to 70% by weight and the second fiber is preferably 30% to 70% by weight.

[0051] Further, if the first fiber is 20% by weight or more, that is, the second fiber is 80% by weight or less, the form of the fabric can be secured at the time of etching.

[0052] Further, when the first fiber is 75% by weight or less, that is, the second fiber is 25% by weight or more, the strength as a wig base material can be easily secured.

[0053] An aperture ratio in the coarse mesh region 6 is preferably 20% to 90%, and more preferably 50% to 80%. If the opening ratio is 90% or less, a hair implanted area that looks naturally can be secured. Further, if the opening ratio is 20% or more, sufficient air permeability can be obtained and the wig can be worn comfortably without the feeling of stuffiness.

<Yarn of the first fiber>

[0054] A single fiber fineness of the first fiber is preferably 1 to 4 decitex, and more preferably 1 to 3 decitex. When the single fiber fineness is 4 decitex or less, flexibility is sufficiently obtained, and variations in dissolution or decomposition are reduced. If the single fiber fineness is 1 decitex or more, sufficient flexibility is obtained and wearing comfort for a wearer is improved.

[0055] A total fineness of the first fiber is preferably 11 to 110 decitex, more preferably 33 decitex or less, so that sufficient flexibility is obtained, variations in dissolution or decomposition of the first fiber are reduced, and also wearing comfort for a wearer is improved. Further, if the total fineness of the first fiber is 11 decitex or more, sufficient strength can be obtained, and breakage, split, or the like at the time of production can be reduced.

<Yarn of the second fiber>

[0056] A single fiber fineness of the second fiber is preferably 1 to 9 decitex, and more preferably 1 to 6 decitex. If the single fiber fineness is 6 decitex or less, sufficient flexibility is obtained and also wearing comfort for a wearer is improved. Further, if the single fiber fineness is 1 decitex or more, sufficient strength can be obtained even in the coarse mesh region 6 which has been subject to an etching process.

[0057] Further, the total fineness of the second fiber is preferably 20 to 100 decitex. When the total fineness of the second fiber is 100 decitex or less, the second fiber is thin and lightweight, furthermore flexibility is sufficiently obtained, and wearing comfort for a wearer is improved. Further, if the total fineness of the second fiber is 20 decitex or more, occurrence of thread breakage due to external stress can be reduced.

<Kinds of the etching agent and the first and second fibers>

[0058] The first fiber is not limited in particular as long as the first fiber is a fiber that is etched by an etching process, that is, a fiber that is dissolved or decomposed by the etching agent. The first fiber can be determined based on a type of the etching agent to be used.

[0059] To give an example, in a case where the etching agent is an alkaline aqueous solution containing guanidine weak acid salt, sodium hydroxide, alkali metal hydroxide, alkaline earth hydroxide, or the like, alkaline soluble cation dyeable polyester fiber or the like is exemplified as the first fiber.

[0060] In this case, as the second fiber, a nylon-based fiber, a regular polyester-based fiber, a polyurethane-based fiber, cotton, a cellulose-based fiber for rayon, and composite fibers of these can be used.

[0061] In a case where the etching agent is an acidic aqueous solution containing phenols, alcohols, aluminum sulfate, sodium acidic sulfate or the like, a cellulose-

based fiber, such as rayon, Bemberg (registered trademark), lyocell, cotton, hemp, acetate-based fiber, or the like, a nylon-based fibers, such as nylon 6, nylon 66, or the like is exemplified as the first fiber.

[0062] In this case, as the second fiber, a polyester-based fiber, a polyurethane-based fiber, an animal-based natural fiber, such as wool and silk, which are fibers other than the above fibers can be used.

[0063] When the etching agent is water, a water-soluble fiber, such as vinylon, is exemplified as the first fiber. In this case, as the second fiber, a fiber other than a water-soluble fiber can be used.

[0064] As a combination of the first fiber, the second fiber, and the etching agent, a combination, in which the first fiber is a cation dyeable polyester fiber, the second fiber is nylon 6 or nylon 66, the etching agent is an acrylic aqueous solution, is preferably used. According to such a configuration, even when processing is performed with an alkaline aqueous solution, strength of the non-etched second fiber is not lowered, and breakage or the like in the coarse mesh region 6 can be reduced. Further, by using a polyester-based fiber and a nylon-based fiber as fiber types, excellent durability is obtained.

[0065] When coloring of a fiber is performed, dyeing with acid dye and disperse dye, or cationic dye can be performed easily. Furthermore, when an alkaline aqueous solution is used as the etching agent, a guanidine weak acid salt is preferable from the viewpoint that coarse and dense formation is easily obtained, and the environment and safety are excellent. Among them, guanidine carbonate is particularly preferable from the viewpoint that pH of an aqueous solution is low, 10 to 13, as compared with other strong alkali, such as sodium hydroxide, the safety of work and the device are hardly corroded, there is less influence on the dye used for coloring the fiber, or the like.

[0066] It is noted that guanidine carbonate is considered to decompose a cation dyeable polyester fiber because the guanidine carbonate is decomposed into urea and ammonia to be changed to strong alkali in a process of heat treatment performed after application of the guanidine carbonate.

(Description of a method of manufacturing the wig base according to the embodiments of the present invention)

[0067] Next, with referring to FIG. 5, a method of manufacturing the wig base according to one embodiment of the present invention will be described. FIG. 5 is a flowchart showing the method of manufacturing the wig base according to one embodiment of the present invention.

[0068] In FIG. 5, at first, a fabric formed of two or more kinds of fibers including the first fiber and the second fiber is prepared (step S1). In this case, there may be a case where a desired fabric is manufactured, or a fabric available on the market can be used. Next, the etching agent which dissolves or decomposes the first fiber and does not dissolve or decompose the second fiber is applied to a region (for example, a hair parted portion) of part of a fabric, and if necessary, the fabric is heated to dissolve or decompose the first fiber (step S2).

[0069] In step S2, for example, the etching agent can be applied to a region of part of the fabric by an inkjet method. In the inkjet method, the etching agent can be applied in a complicated and fine shape. Accordingly, it is possible to obtain a base fabric having optimum coarse and dense patterns in accordance with the purposes. Furthermore, coloring of a fabric can also be carried out in the same process by using an inkjet method, which can contribute to simplification of the manufacturing process and reduction of manufacturing cost.

[0070] However, the application of the etching agent is not limited to the case of using the inkjet method, but it is also possible to use a screen type or roller type printing device, such as silk screen.

[0071] As described above, when the etching agent is a compound, such as guanidine carbonate, the fabric is heated for a predetermined period of time in order to decompose the first fiber in step S2.

[0072] After step S2, the fabric is washed to remove the first fiber having been dissolved or decomposed (step S3). In this manner, the base fabric 8, which is an etched fabric, having the dense mesh region 4 formed of two or more kinds of fibers including the first fiber and the second fiber, and the coarse mesh region 6 in which the first fiber is removed as compared with the dense mesh region can be obtained. Through the above steps, the wig base 2 according to the above embodiment can be manufactured.

[0073] As described above, in the present embodiment, it is possible to obtain the dense mesh region 4 and the coarse mesh region 6 with a simple process by the etching process using the etching agent without requiring a complicated knitting process or the like. Accordingly, the wig base 2 can be easily manufactured at low cost.

(Description of examples)

<Wig base>

[0074] An example of the wig base manufactured as described above is shown in FIG. 6. FIG. 6 is a perspective view (photograph) showing an example of the wig base according to the present invention. In the example shown in FIG. 6, the dense mesh region 4 is disposed in a hair parted portion and an edge portion of the base fabric.

<Wig>

[0075] A wig can be manufactured by binding false hair with a filament constituting a mesh of the wig base 2. As the false hair, human hair can be used, or artificial hair made from a synthetic fiber can also be used. In order to bind the false hair with the filament, a known optional

binding method can be employed.

[0076] FIG. 7 shows an example of a wig 30 in which false hair 32 is implanted in the wig base 2 shown in FIG. 6 as described above. FIG. 7 is a plan view (photograph) showing an example of the wig according to the present invention.

[0077] It goes without saying that the wig according to the present invention can exhibit the above optional action and effect.

[0078] Although the embodiment of the present invention has been described, the disclosed content may be changed in details of the configuration, and a change or the like of the combination and order of elements in the embodiment may be made without deviating from the scope and spirit of the claimed present invention.

Reference Signs List

[0079]

2	wig base
4	dense mesh region
6	coarse mesh region
8	base fabric
10	first fiber
12	second fiber
20	reinforcing member
30	wig
32	false hair

Claims

1. A wig base, comprising a base fabric, which is an etched fabric, having a dense mesh region formed of two or more kinds of fibers including a first fiber and a second fiber and a coarse mesh region in which the first fiber is removed as compared with the dense mesh region, wherein
a single fiber fineness of the first fiber is 1 to 4 decitex and a single fiber fineness of the second fiber is 1 to 6 decitex.

2. The wig base according to claim 1, wherein a knot of a fiber is not included in a boundary portion between the dense mesh region and the coarse mesh region.

3. The wig base according to claim 1 or 2, wherein the dense mesh region is disposed in a hair parted portion.

4. The wig base according to any one of claims 1 to 3, wherein the dense mesh region is disposed in an edge portion of the base fabric.

5. The wig base according to any one of claims 1 to 4, wherein at least part of the base fabric is colored to a color similar to a color of a wearer's scalp.

6. A wig obtained by implanting false hair on the wig base according to any one of claims 1 to 5.

7. A method of manufacturing the wig base according to any one of claims 1 to 5, the method comprising:

a first step of preparing a fabric formed of two or more kinds of fibers including a first fiber and a second fiber;
a second step of applying an etching agent that dissolves or decomposes the first fiber and does not dissolve or decompose the second fiber to a region of part of the fabric and heating the fabric if necessary; and
a third step of washing the fabric after the second step to remove the first fiber having been dissolved or decomposed.

FIG.1

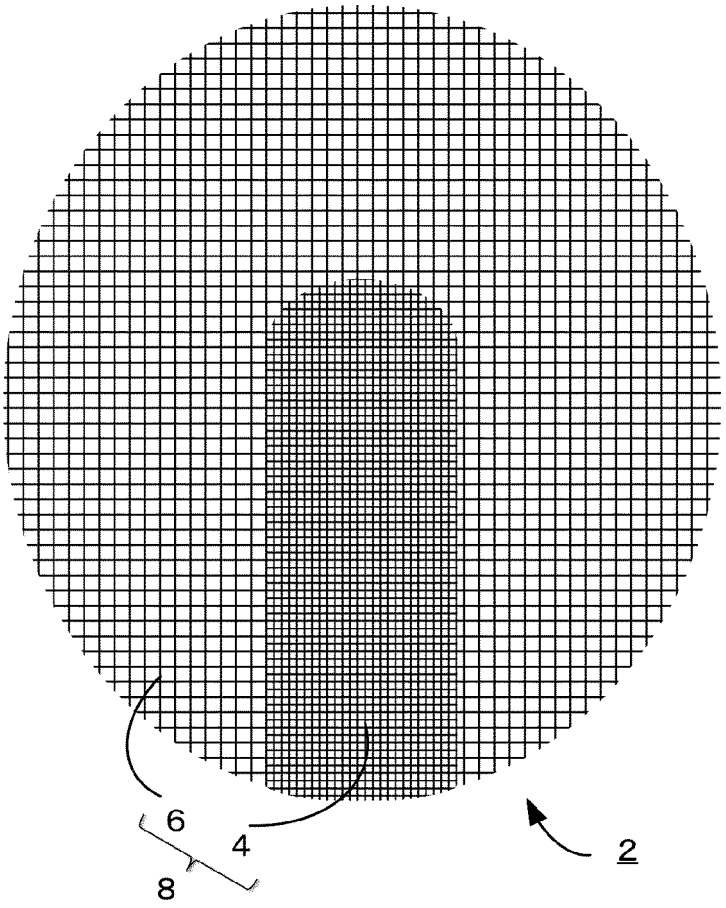


FIG.2

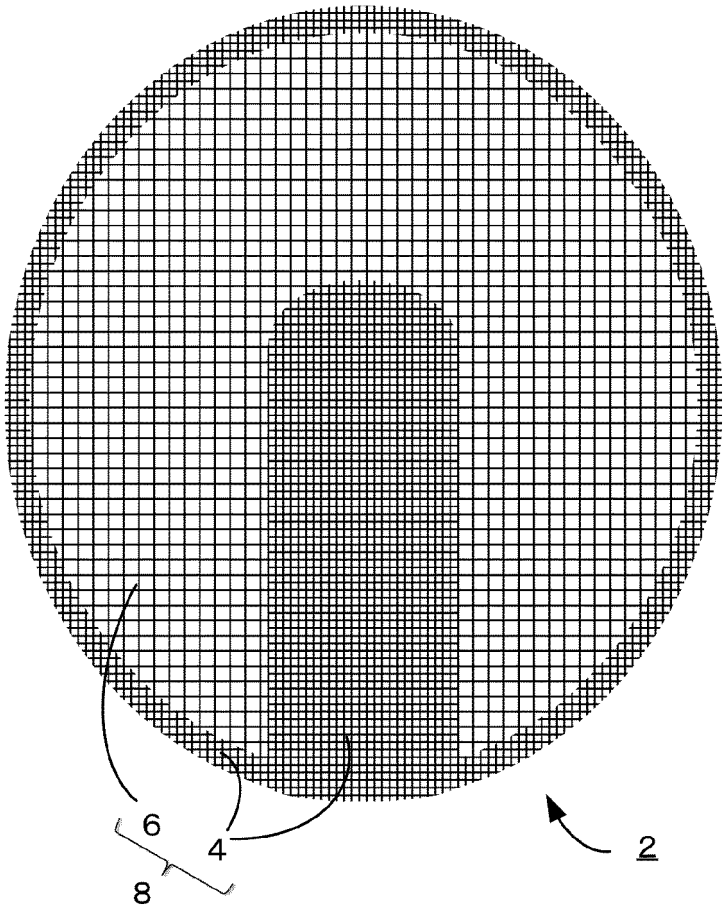


FIG.3

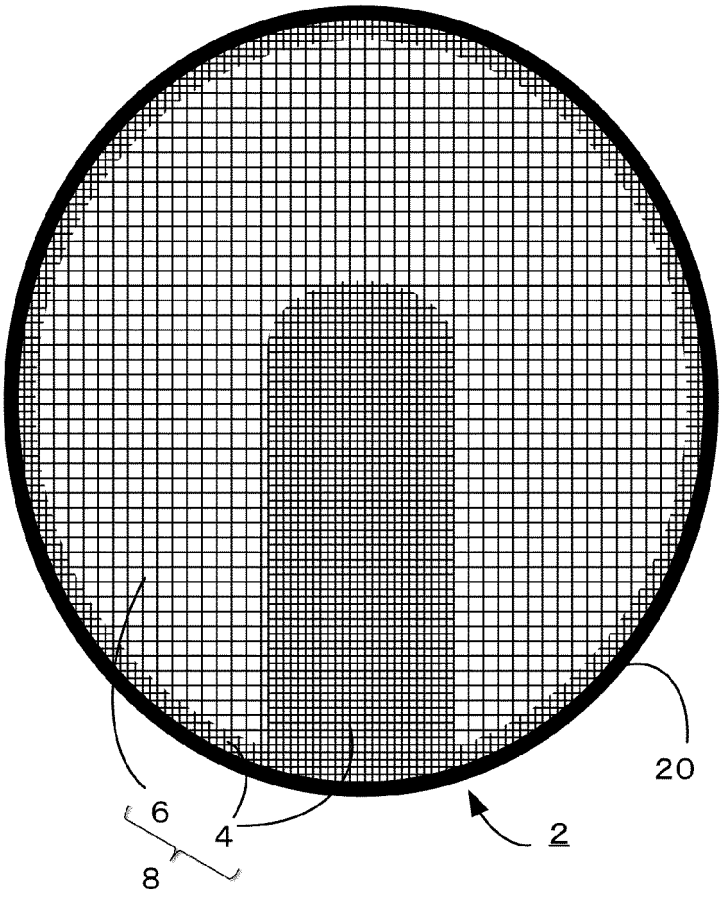


FIG.4

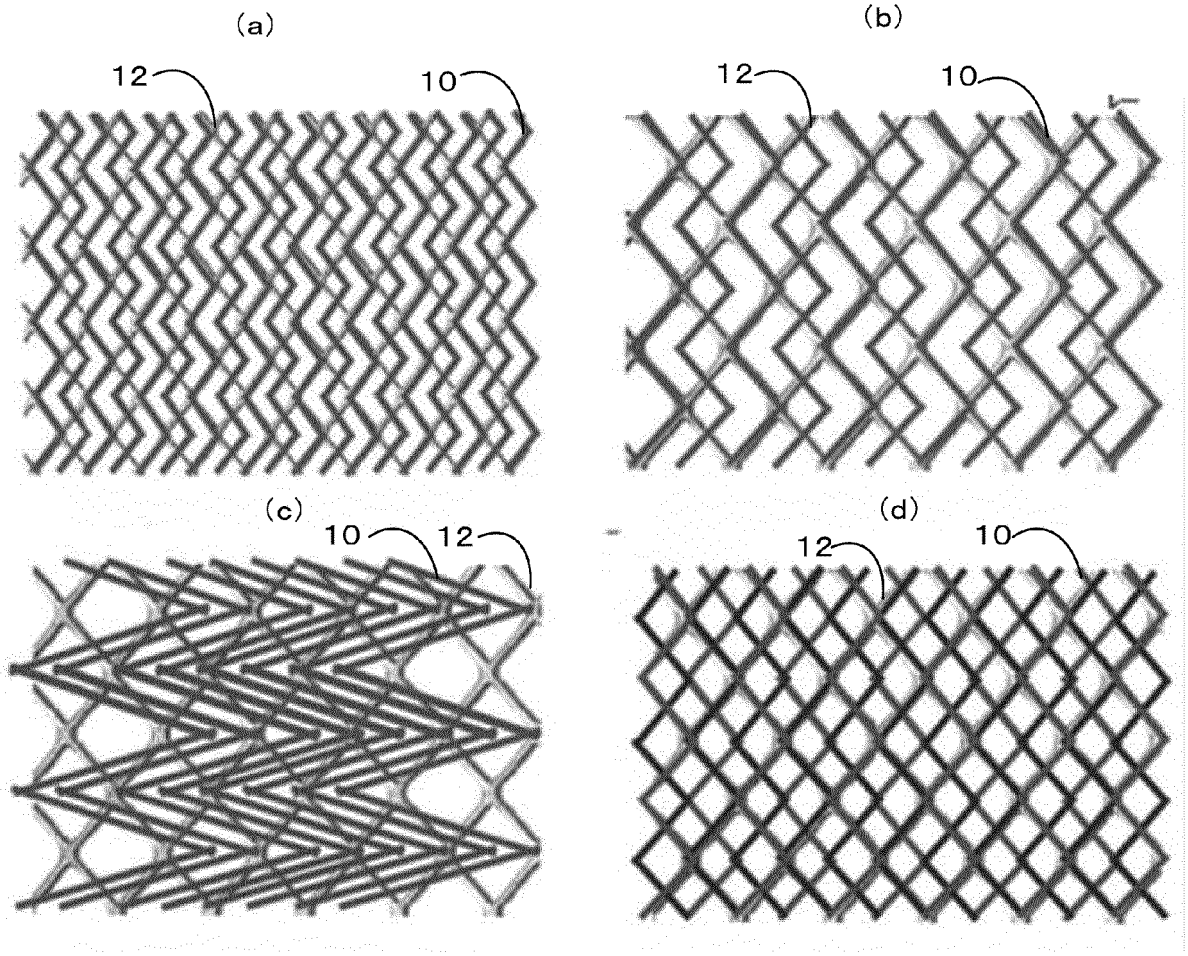


FIG.5

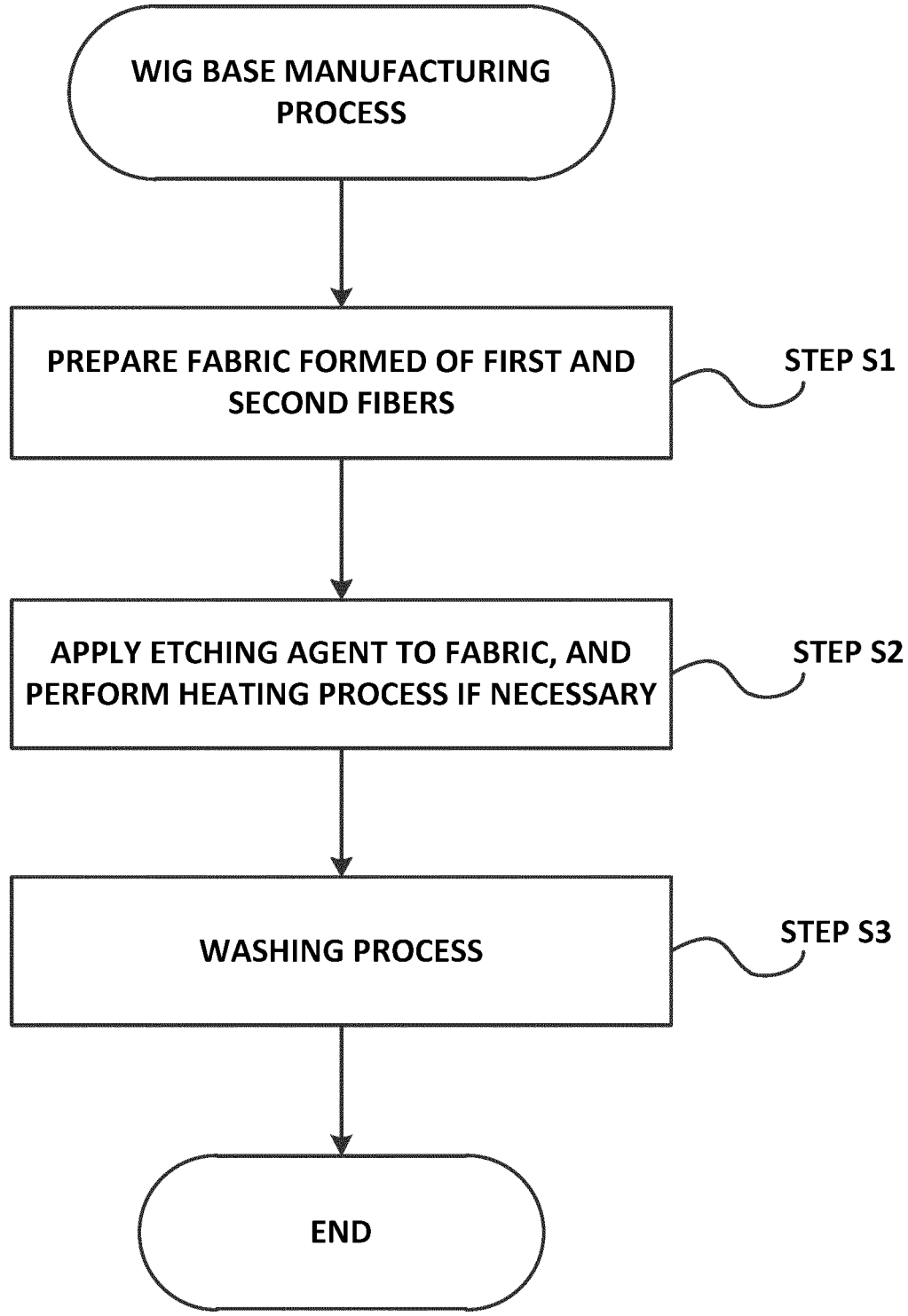

WIG BASE MANUFACTURING PROCESS
PREPARE FABRIC FORMED OF FIRST AND SECOND FIBERS
STEP S1
APPLY ETCHING AGENT TO FABRIC, AND PERFORM HEATING PROCESS IF NECESSARY
STEP S2
WASHING PROCESS
STEP S3
END

FIG.6

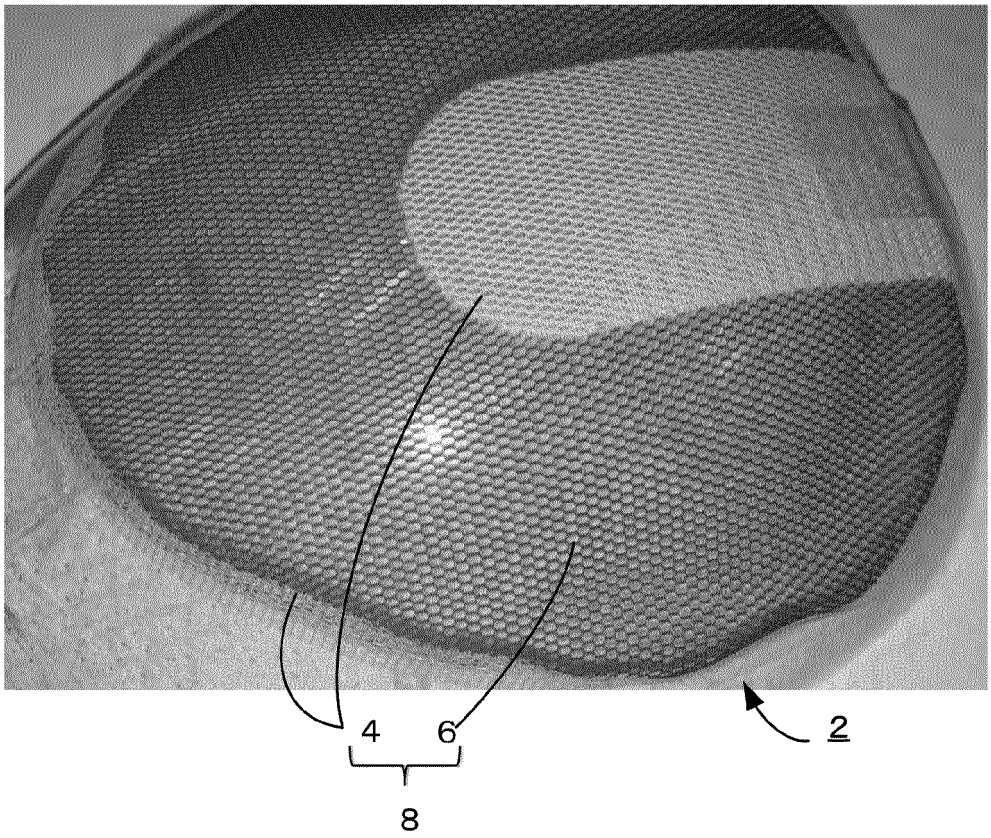
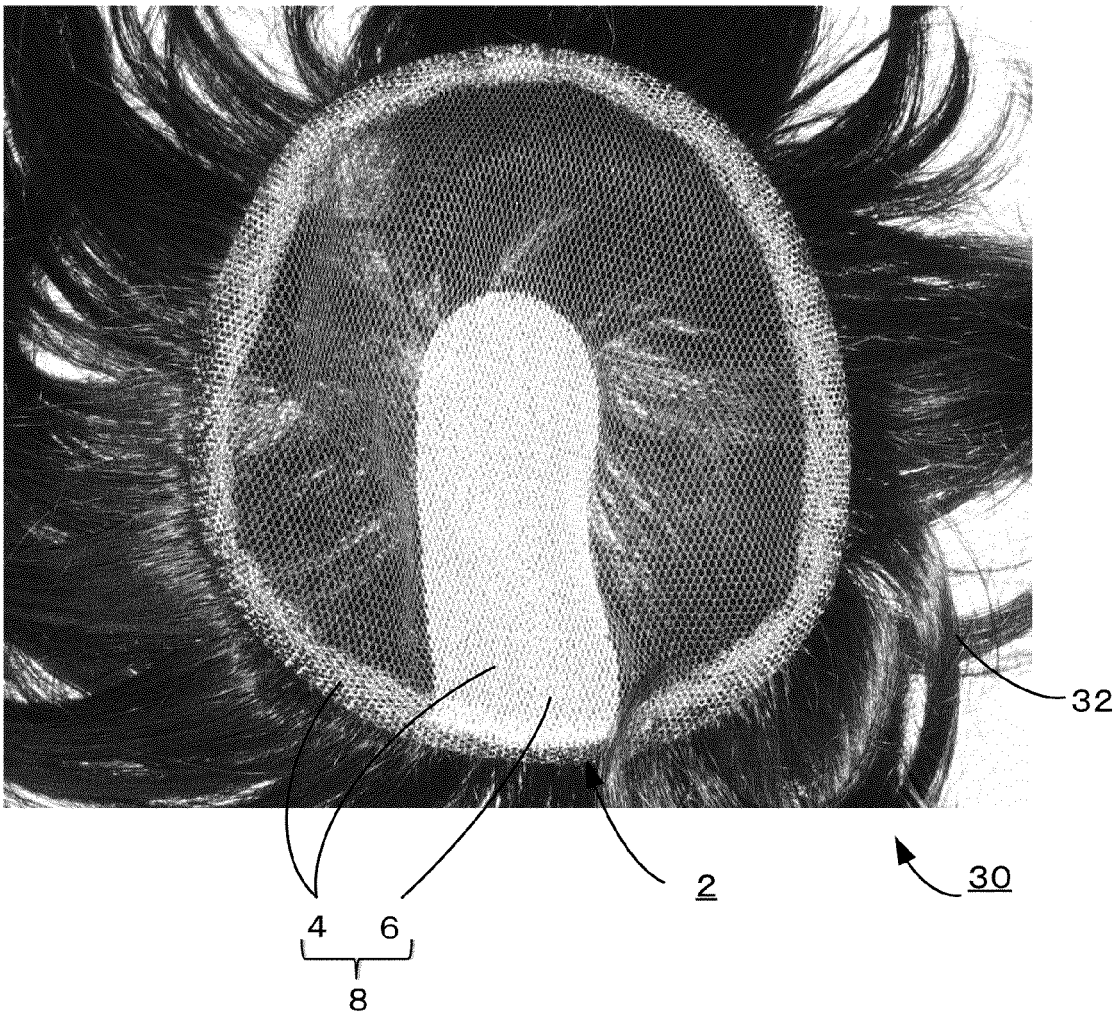


FIG.7



INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2017/036604

A. CLASSIFICATION OF SUBJECT MATTER
Int. Cl. A41G3/00(2006.01)i

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

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 1971-2017
Registered utility model specifications of Japan 1996-2017
Published registered utility model applications of Japan 1994-2017

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.
A	JP 2015-137425 A (ARTNATURE INC.) 30 July 2015, paragraphs [0020]-[0033], fig. 1-6 (Family: none)	1-7
A	JP 2008-38332 A (SEIREN CO., LTD.) 21 February 2008, paragraphs [0002]-[0011], fig. 1-2 (Family: none)	1-7

☒ 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

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

International application No.
PCT/JP2017/036604

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 3019231 U (KK ART HAIR) 12 December 1995, paragraph [0010], fig. 1-4 (Family: none)	1-7
A	JP 2008-266861 A (ARTNATURE INC.) 06 November 2008, paragraphs [0018]-[0032], fig. 1-4 (Family: none)	1-7

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REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- JP 1997H09228129 A **[0004]**
- JP 2015137425 A **[0004]**