

TITLE OF THE INVENTION

HAIR INCREASING TOOL AND METHOD FOR ATTACHING THE SAME

FIELD OF THE INVENTION

5 **[0001]** The present invention relates to a hair increasing tool for increasing hairs with using user's own hairs which remains on the head, and a method for attaching the hair increasing tool.

10 DESCRIPTION OF THE RELATED ART

[0002] If a bald head tends to stand out by losing hairs from the head, a hairpiece is generally used in order to cover it. However, in the case that the status that hairs come out is under the beginning stage, a bald portion is relatively small, or a
15 person having a bald head feels resistance to wear the hairpiece, there is a method to use user's own hairs which remain on the head, so called "increasing hairs".

[0003] For example, Patent document 1 disclosed a hair increasing tool in which hair-thickening hairs to be configured
20 by human natural hairs or artificial hairs are directly knotted to a single own hair on the head, and a method for attaching such hair increasing tool. Further, as a method that a user can realize increase of hairs more than that of Patent document 1, Patent document 2 discloses a method to fix a line member

to a user's head. In such line member, hairs are fixed to the member having many hollow rings.

PROBLEM TO BE SOLVED

5 **[0004]** However, in the method described in Patent document 1, since the hair-thickening hairs are knotted to each of the single own hair on the head, there is a case that camouflage of the bald portion is insufficient or feeling of increase of hairs to satisfactory level cannot be obtained according to the
10 remaining condition of own hairs on the head.

Further, there is a case that it takes a long time because many hair-thickening hairs need to be knotted to own hairs in order to obtain camouflage of the bald portion or feeling of increase of hairs to a desired level. Otherwise, it can be
15 considered to increase the number of hairs knotted to a single own hair. However, this case has a problem such that the knotted portions of the hair-thickening hairs become so large that it stands out, and the hair-thickening hairs are easily removed because knotted strength becomes weak between the
20 hair-thickening hairs and the own hairs.

[0005] In Patent document 2, feeling of increase of hairs can be obtained in a short time without considering remaining condition of the own hairs such as Patent document 1. However, there is a difficulty in the method to fix the member for
25 increasing hairs to the head. Specifically, Patent document

2 discloses the method to fix by using an adhesive agent such as an instant adhesive agent for medical use. In the case of using the adhesive agent, although fixing strength of the member for increasing hairs can be enhanced, removing work using an organic solvent is required for removing the member, and therefore an adverse impact to user's head skin is seriously concerned.

[0006] Accordingly, as a method to fix without using an adhesive agent, Patent document 3 discloses a hair increasing member and a method thereof where a loop is placed at a predetermined position of a filament made of a synthetic resin to which hair-thickening hairs are fixed, and own hairs on the head are inserted into the loop and fixed by knotting the own hairs together. Further, Patent document 4 discloses a method to insert a plurality of own hairs into a fixing member and fix them as pinching the fixing tool by the own hairs.

[0007] In both Patent documents 3 and 4, while high safety can be obtained because no adhesive agent is used to fix the member for increasing hairs, there is a problem that the member for increasing hairs is removed for a short time only by fixing with using the own hairs because the member is exposed under severe conditions caused by movement of the head, sebum, shampooing, brushing or the like.

Further, since the fixing member is used in Patent document 4, there is a problem such that uncomfortable feeling

of the head or sticking at brushing hairs tend to occur easily, thereby facilitating removal of the member for increasing hairs.

[0008] Patent document 1: JP H09-268414A

5 Patent document 2: JP H05-230705A

Patent document 3: JP H11-131313A

Patent document 4: JP H07-118907A

SUMMARY OF THE INVENTION

10 **[0009]** The present invention is made for solving the above mentioned problems of the related arts. The purpose thereof is to provide a hair increasing tool using user's own hairs, which can be fixed to the user's head with sufficient strength and safety without using an adhesive agent, and a method for
15 attaching the hair increasing tool.

[0010] In a hair increasing tool according to the present invention, two large-diameter portions are provided on a line-member having a predetermined length with a certain distance, thereby defining a line-member portion between said
20 two large-diameter portions as a plant-area and defining line-member portions located outside said large-diameter portions as assist-areas. And, first false hairs are fixed to a plurality of positions of said plant-area with predetermined interval(s), and tube-members which can be plastically deformed
25 are fixed to the near location of said large-diameter portions

on the line-member.

[0011] While said two large-diameter portions define the plant-area which exists between said two large-diameter portions, and prevent the false hairs from being sliding off, said large-diameter portions can be omitted and the function of said large-diameter portions can be performed by said tube-members as well as the original function of said tube-members.

[0012] According to the present invention, there is provided a method for attaching said hair increasing tool as mentioned above to the head.

In said method, at first, own hairs remaining on the head are inserted into one of the tube-members, and then said tube-member is collapsed to fix said tube-member to the own hairs.

Next, the line-member portion which configures the plant-area is placed along the surface of the head, the own hairs located at both sides of said line-member portion are knotted together to fix said line-member portion such as pinching said line-member portion by the own hairs, and such knotting work is performed at a plurality of positions with predetermined distance(s).

Next, the remaining own hairs are inserted into another one of the tube-members, and then said tube-member is collapsed to fix said tube-member to the own hairs.

And then, the assist-areas which are located outside said two tube-members are cut off.

EFFECT OF INVENTION

5 **[0013]** In the hair increasing tool according to the present invention having the above mentioned configuration, the own hairs are inserted into the tube-members which locate at the both sides of the line-member, and then the tube-members are collapsed to fix the tube-members to the own hairs, thereby
10 fixing the hair increasing tool to the head. Accordingly, a strong and safe fixing strength can be obtained.

[0014] Further, in the line-member portion (plant-area) which extends between the two tube-members, the line-member is fixed to the own hairs by knotting the own hairs together at
15 the plurality of positions with the predetermined interval(s). Accordingly, it can effectively prevent the hair increasing tool configured by the line-member from leaving upward from the head, thereby obtaining a comfortable wearing feel.

[0015] Further, in the case of using second false hairs to
20 be combined with the first false hairs, a volume of increasing hairs can be increased even if using the hair increasing tool made of a short line member. Further, it can provide a gradation effect that a volume of increasing hairs is changed according to the position of the line-member in the length.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] Fig. 1 is an explanatory view for describing a hair increasing tool according to the first embodiment of the present invention.

5 Fig. 2 is an explanatory view for describing a hair increasing tool according to the second embodiment of the present invention.

Fig. 3 is an explanatory view for describing a hair increasing tool according to the third embodiment of the present invention.
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Fig. 4 is an explanatory view for describing a method for attaching a hair increasing tool of the present invention.

Fig. 5 is an explanatory view for exemplifying a method to plant false hairs 20 to a plant-area 15.

15

DESCRIPTION OF EMBODIMENTS

[0017] Embodiments of the present invention are described in detail below with reference to the attached drawings. Fig. 1 shows a hair increasing tool 1 according to the first embodiment of the present invention.
20

[0018]

<<First Embodiment>>

As shown in fig 1(a), firstly, there is provided one line-member 10 of a predetermined length, and on which two of large-diameter portions 11, 12 are provided with a certain
25

interval. The area between two of the large-diameter portions 11, 12 is used as a plant-area 15, where false hairs are to be fixed, as explained later. Further, the extended portion outside the large-diameter portion 11 is used as an assist-area 16, and the extended portion outside the large-diameter portion 12 is used as an assist-area 17. The assist-areas 16, 17 are portions which an operator or user grasps when he/she attaches the hair increasing tool to the head (that is, they assist the attaching operation), and afterwards they are to be cut away.

10 **[0019]** It may be enough if diameters of the large-diameter portions 11, 12 are larger than those of the remaining portion of the line-member 10. For example, for making the large-diameter portions 11, 12, the line-member 10 can be simply knotted, melted resin can be set on the line-member 10, or
15 otherwise, some separate members can be fixed to the line-member 10.

20 **[0020]** As shown in fig 1(b), in the plant-area 15, the false hairs 20 (artificial or natural hairs) are to be fixed with predetermined interval(s). The interval can be appropriately determined, according to the remaining condition of user's own hairs. For example, the intervals can be a regular interval of 1-3mm, or can be random intervals.

As to the specific manner for fixing the false hairs 20, it is not limited to a particular one. For example, the false
25 hairs 20 can be knotted (planted), welded, or adhered to the

line-member 10. Some examples for knotting the false hairs 20 will be explained later in the second embodiment (refer to Fig. 5).

[0021] At the "near location" of the large-diameter portions 11, 12, tube-members 18, 19 are fixed, for example, by knotting or the like with using the line-member 10 itself. According to the illustrated preferred embodiment, the tube-members 18, 19 are located outside of the large-diameter portions 11, 12. This is because the tube-members 18, 19 prevent the false hairs 20 fixed to the plant-area 15 from sliding out. However, the tube-members 18, 19 can be located inside the large-diameter portions 11, 12.

Relating to the "near location", it is preferable that the distance between the large-diameter portion and the tube-member is at least the same as, or smaller than the distance between each of the false hairs 20.

[0022] The tube-members 18, 19 are used for attaching the hair increasing tool 1 to user's head, for example, by collapsing the tube-members 18, 19 by a plier on the condition that the user's own hairs are inserted into the tube-members 18, 19. Relating to a material of the tube-members 18, 19, it may be enough if it can be plastically deformed and fixed on the user's own hairs, and therefore, for example, a metallic material can be used.

[0023] Relating to an example of the tube-members 18, 19 of metal, in a Japanese Patent Publication No. 2006-63502 filed by the applicant, there is disclosed a short metal tube of three-layered, which is shown in Fig. 1(b) in enlarged scale.

5 This short metal tube is configured such that an "adhesive layer" is provided inside an "outer metal tube", and a "net-material" is placed at an innermost circumferential surface thereof. This short metal tube can be used as the tube-members 18, 19 in the present invention. However, even

10 if the short metal tube is not three-layered and is single-layered, a sufficient fixing would be obtained.

The size of the tube-members 18, 19 used in the present invention can be exemplified such as 3.5 mm of outer diameter, 3.0 mm of inner diameter, and 2.5 mm of height.

15 [0024] It is noted that the tube-members 18, 19 and the false hairs 20 can be attached to the line-member 10 in any orders when making the hair increasing tool 1.

[0025]

<<Modified Example>>

20 In the first embodiment, it may be enough if the large-diameter portions 11, 12 define the implant-area 15 existing located between them, prevent the false hairs 20 from sliding out, and their diameters are larger than that of the remaining line-member 10. Accordingly, it is possible that the

25 large-diameter portions 18, 19 are omitted and the function of

the large-diameter portions 11, 12 is performed by the tube-members 18, 19 as well as the original function of the tube-members 18, 19.

[0026]

5 <<Sizes of Each Part or the like>>

In the hair increasing tool of the present invention, the size of each part (length, diameter, or the like) is not limited to a particular one, and can be determined arbitrarily depending on the user's head size, the remaining condition of user's own
10 hairs or others.

For example, the length of the implant-area 15 can be 12 cm or 8 cm, and the length of the assist-areas 16, 17 can be 10 cm. The line-member 10 can be made of any appropriate material such as a nylon string, and the diameter thereof can,
15 for example, be 0.1 mm.

The diameter of the first false hairs 20 (and second false hairs 30 as described later) can, for example, be 0.06 mm.

[0027]

<<Second Embodiment>>

20 Fig. 2 illustrates a hair increasing tool according to the second embodiment of the present invention. The difference from the first embodiment is that additional false hairs 30 are fixed to the false hairs 20. In order to distinguish the both of the false hairs, the false hairs 20 are hereinafter called
25 "first false hairs 20" and the false hairs 30 are hereinafter

called "second false hairs 30". For the first and second false hairs, hairs of the same material can be used, or otherwise hairs of different materials can also be used.

[0028] In the embodiment shown in Fig. 2, each of the first
5 false hairs 20 is fixed to the line-member (plant-area 15) in the form of a V-character having two pieces 20a, 20b. Then a single second false hair 30 is fixed to each of the pieces 20a, 20b respectively.

However, regarding the volume (number) of the second hairs
10 30 fixed to the first false hairs 20, it can be flexibly determined. The same number of the second hairs 30 can be fixed to all of the first false hairs 20, or otherwise, the distribution of the second hairs 30 fixed to the first false hairs 20 can be non-uniform distribution. They can be
15 determined depending on the remaining condition of user's own hair, required hairstyle or the like.

[0029]

<<Form and Number of False Hairs>>

In the embodiments shown in the attached drawings, all of
20 the first and second false hairs 20, 30 are shown in the form of a V-character, which are folded at midpoint. This is intended for simplifying the illustration, and the form of the false hairs is not limited to particular one in the present invention.

Further, as to the number of the first false hairs 20 fixed to the plant-area 15, and the number of the second false hairs 30 fixed to the first false hairs 20, they are not limited to particular ones in the present invention, and can be determined
5 arbitrarily depending on the required volume of the false hairs, the required hairstyle or the like.

[0030]

<<Method for Fixing False Hairs>>

Relating to the method for fixing the first false hairs
10 20 to plant-area 15, and for fixing the second false hairs 30 to the first false hairs 20, it is not limited to particular one in the present invention. The false hairs can be fixed, for example, by knotting (planting), welding or adhering.

In an international patent application filed by the
15 applicant, PCT/JP2006/318959 (WO 2007/037200), there are explained some methods for fixing false hairs such as "single planting", "half-knot planting" and "split-knot planting, which have been publically known. For reference, Fig. 5 shows the case that these methods for fixing false hairs are
20 applied to the present invention. Since these methods are publicly known, the explanation is only limited to illustrating the methods for fixing false hairs in the drawing, and the detailed description is omitted.

While Fig. 5 shows the case that the first false hair 20
25 is fixed to the plant-area 15, the same methods can be applied

in the case that the second false hair 30 is fixed to the second false hair 20.

[0031]

<<Third Embodiment>>

5 The third embodiment shown in Fig. 3 is one embodiment where the second false hairs 30 are non-uniformly distributed. In this hair increasing tool 3, first false hairs 20 placed on a line-member (plant-area 15) are divided into five areas, that is, one "few" located at the center, two "middle" at the both
10 sides of the "few", and two "many" at the both sides of the "middle".

[0032]

 Literally, in the "few" region, the degree of increasing hairs is the fewest, and only the first false hairs 20 are fixed
15 therein. In the "many" region, the degree of increasing hair is the most, and four of the second false hairs 30 are fixed to each peace 20a, 20b of one first hair 20. In the "middle" region, the degree of increasing hair is intermediate between the "few" region and the "many" region, and two of the second
20 false hairs 30 are fixed to each peace 20a, 20b of one first hair 20.

 The "few", "many", and "middle" in this embodiment mean only a relative relationship, regarding the degree of increasing hair. Thus, the total amount of false hairs in each
25 region can be flexibly changed.

[0033]

Further, regarding the order (location) of the "few", the "many", and the "middle" regions, it can be flexibly changed, and thus in this invention, the non-uniform distribution of the false hairs is not limited to the embodiment shown in Fig. 3.

[0034]

Accordingly, in the embodiment of gradation-type where the degree of increasing hair is varied along the length of the plant-area 15, an amount of increased hairs which matches the user's own hair well can be realized by, for example, making fewer the amount of the false hairs at a hair-parting-region, and making gradually more the amount of the false hairs at adjacent region around the hair-parting-region.

[0035]

<<Method for Attaching Hair Increasing Tool>>

Next, with referring to Fig. 4, a method for attaching the hair increasing tool is explained.

In the upper part of Fig.4, a user's head is schematically shown from the above, and two lines respectively represent hair increasing tools (for simplicity, each hair increasing tool is represented by a straight line). In Fig. 4, while a remaining amount of the user's own hairs on the head is shown being very small, there is actually many cases that a certain amount of the own hairs remains on the head. One, two or more hair

increasing tools can be placed and fixed arbitrarily according to the remaining condition of the user's own hairs.

[0036] (1)

At first, at the position as indicated by "A" in Fig.4, adequate numbers of the own hairs are inserted into the tube-members 18 which is one of the tube-members of the hair increasing tool, and the tube-member 18 is placed near the roots of hairs. Under this condition, the tube-members 18 is collapsed by using a plier or the like, thereby achieving plastic deformation of the tube-members 18 to fix the tube-members 18 to the own hairs.

[0037] (2)

Next, the line-member portion which configures the plant-area 15 is placed along the surface of the head, and then the own hairs X and Y which are located at the both sides of the line-member portion are knotted together to fix the line-member portion to the own hairs. While the method of knotting is not specifically limited thereto and any methods can be applied, one example is shown in Fig.4. In this example, a secured fixing can be achieved by a "first knotted portion" and a "second knotted portion".

[0038] <<First Knotted portion>>

After interposing the line member (plant area 15) between the own hair X and the own hair Y, the own hairs X and Y which are located at the both sides of the line member are knotted

together such as knotting the shoe straps. The "first knotted portion" may also be formed by repeating this knotting works several times.

<<Second Knotted portion>>

5 After performing the "first knotting work", the own hairs X, Y are lined up and knotted together by the knotting in a bun. The "second knotted portion" may also be formed by repeating this knotting works several times.

10 **[0039]** While Fig. 4 shows such that a certain distance exists between the "first knotted portion" and the "second knotted portion", it is only for simplifying the illustration, and it is preferable to configure such that the "first knotted portion" and the "second knotted portion" are located closely. While Fig. 4 shows such that the own hair X or hair Y is only a single hair respectively, the own hairs X, Y can be a bundle of a plurality of hairs respectively.

20 **[0040]** The above mentioned knotting works are performs at a plurality of positions with predetermined interval(s) (for example, 1 cm interval), (Fig.4 shows the knotting works at two positions). Accordingly, it can effectively prevent the line-member from leaving upward from the surface of the head.

[0041] (3)

25 Next, at the position as indicated by "B" in Fig.4, the own hairs are inserted into the tube-member 19 which is another one of the tube-members of the hair increasing tool, thereby fixing

the line-member portion to the user's own hairs by the same procedures as those as mentioned above.

[0042] Finally, the lime-members (the assist-areas 16, 17) which are located outside the both tube-members 18, 19 are cut
 5 off. If necessary, the false hairs or the own hairs are cut accordingly.

<<Description of reference numbers>>

[0043]

10	1, 2, 3	Hair Increasing Tool
	10	Line-Member
	11, 12	Large-diameter Portion
	15	Plant-Area
	16, 17	Assist-Area
15	18, 19	Tube-Member
	20	First False Hair
	30	Second False Hair

WHAT IS CLAIMED IS:

1. A hair increasing tool,

wherein two large-diameter portions (11, 12) are provided on a line-member (10) having a predetermined length with a certain distance, thereby defining a line-member portion between said two large-diameter portions (11, 12) as a plant-area (15) and defining line-member portions located outside said large-diameter portions as assist-areas (16, 17), and

wherein first false hairs (20) are fixed to a plurality of positions of said plant-area (15) with predetermined interval(s), and tube-members (18, 19) which can be plastically deformed are fixed to the near location of said large-diameter portions (11, 12) on the line-member (10).

2. The hair increasing tool according to claims 1,

wherein second false hairs (30) are fixed to said first false hairs (20).

3. The hair increasing tool according to claim 2,

wherein the amount of said second hairs (30) which are respectively fixed to the first false hairs 20 located at the plurality of positions is set being non-uniform.

4. The hair increasing tool according to claim 3,

wherein said second false hairs (30) are fixed only to the first false hairs (20) excluding those located around a center of the plant-area (15), and

wherein if the first false hairs (20) are located nearer said large-diameter portions (11, 12), the amount of the second false hairs (30) fixed thereto becomes larger.

5. A method of attaching the hair increasing tool according to any one of claims 1 to 4, comprising steps of:

inserting remaining own hairs into the tube-member (18) which is one of the tube-members, and then collapsing said tube-member (18) to fix said tube-member (18) to the own hairs,

placing said line-member portion which configures the plant-area 15 along the surface of the head, knotting the own hairs located at both sides of said line-member portion together to fix said line-member portion such as pinching said line-member portion by the own hairs, and performing such knotting work at a plurality of positions with predetermined distance(s),

inserting the remaining own hairs into the tube-member (19) which is another one of the tube-members, and then collapsing said tube-member (19) to fix said tube-member (19) to the own hairs, and

cutting off the assist-areas (16, 17) which are located outside said two tube-members (18, 19).