(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 3 135 143 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
01.03.2017 Bulletin 2017/09

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

(21) Application number: **16182599.7**

(22) Date of filing: **03.08.2016**

(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:
MA MD

(30) Priority: **14.08.2015 IT UB20153125**

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(54) **WEFT HAIR EXTENSION**

(57) A weft hair extension (10), of the type used in particular for thickening hair (30), is suitable to be fastened in a particularly quick and safe way and it comprises: a first linear connecting element (3) made of thermoplastic material which keeps a flat sheet (1) of hairs; a second linear connecting element (5) parallel to the previous one, so that therebetween there is a linear space (20) with constant width; and a plurality of tongue-like flexible elements (6) extending between the linear connecting elements (3, 5) so as to leave respective openings (21) therebetween, the second linear connecting element (5), in positions corresponding to each respective opening (21), comprising peduncles (7) extending from an outer edge of the second linear connecting element (5), opposite to the respective opening (21).

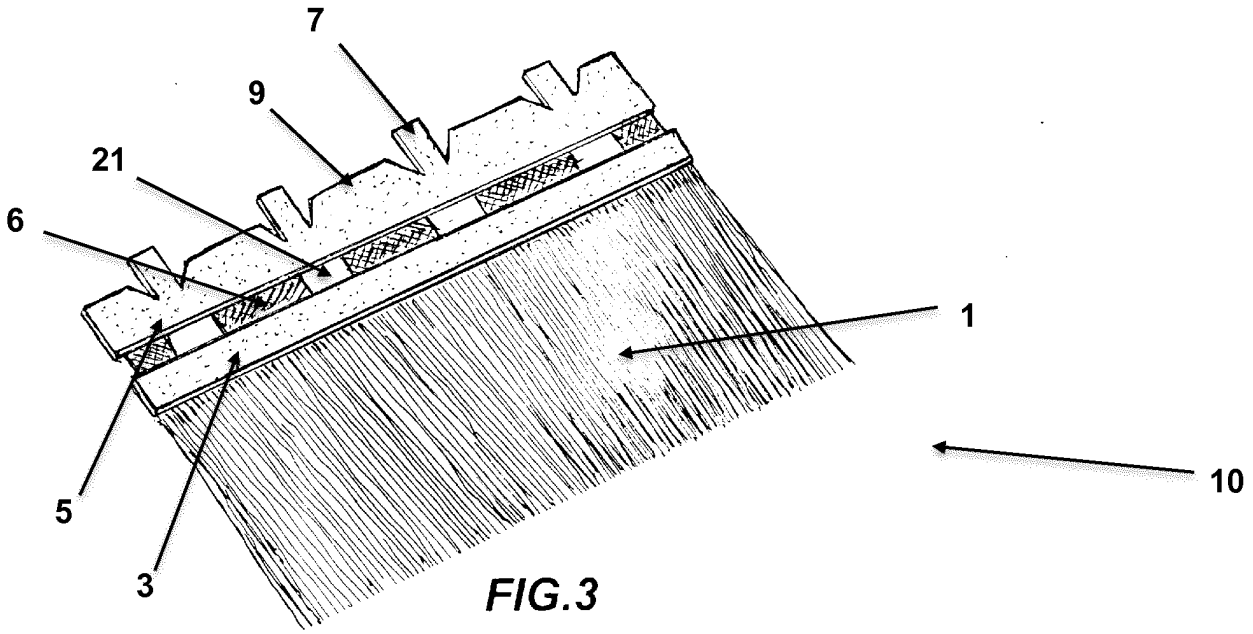

FIG.3

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Description

BACKGROUND OF THE INVENTION

1. Field of the invention

[0001] The present invention relates to hair extensions of the type used in particular for thickening hair, substantially shaped like a sheet or weft, known under the term of weft hair extension or hair weft, and a related application method.

[0002] Under hair thickening, herein and hereinafter the lengthening and/or increase in volume of human hair, by means of applying hair extension to receiving hair, is meant.

[0003] Under hair extension a lock of hair is meant constituted by a plurality of human or artificial hairs, the lock apt to be handled as a single lengthening unit and to be applied on receiving hair thanks to a connecting element.

[0004] By referring instead to the hair weft, it has a linear connecting element therefrom natural or artificial hairs depart perpendicularly, arranged in a planar configuration with a uniform distribution.

2. Description of the prior art

[0005] Various systems to carry out a thickening of hair and even a lengthening of the same are known. These systems generally adopt hair extensions, with natural or artificial origin, which are fastened to hair according to methods which, based upon the provided application modes, make the user requesting the treatment to accept and like them.

[0006] Another aspect contributing to increase in liking this type of treatments is the speed in carrying out them.

[0007] The known systems then provide a step wherein hair extensions are connected to the user hair. In this step the hair extensions substantially can be sewn, tied or knotted to the user hair.

[0008] Means for implementing the connection between hair extension and hair is further known, providing the use of outer elements such as fasteners, combs, tweezers and the like. With these elements, hair extensions of large sizes can be associated to the receiving hair of the user.

[0009] US patent No. 3,280,826 (Jenkins) describes a multilayered flat hair weft, obtained by folding on itself a long weft of hair connected to a thread-like element; this extension is then fastened to hair by means of clips. Other extensions which can be applied by means of fastening or sewing mechanical means are known from US patents No. 4,830,029 (Bird); No. 5,121,761 (Meister) and No. 5,881,737 (Nelson).

[0010] US patent No. 6,135,122 (Campbell et al.) describes a hair weft with a single layer, wherein hair is kept in its position by an interwoven tape provided with an adhesive layer; other extensions of this type are known from US patent applications No. 2001/0035192 (Townsend); No. 2006/0169296 (Gill et al.); No. 2009/0032041 (Ott); No. 2009/0120451 (Kenna); and No. 2013/0298925 (Gold); and from International patent application No. WO 2011/036654 (Gold).

[0011] French patent application No. FR 2,968,520 A1 and European patent application No. 2,614,736 A1, respectively, describe a hair weft wherein hair is kept at one end by means of a strip made of keratin plastic material.

[0012] International application No. WO 2004/023910 A1 describes a method for the simultaneous application of a plurality of hair extensions with side-by-side locks.

[0013] At last, US patent No. 8,025,065 (Gulliker) describes a hair weft with a double layer: such layers fold on themselves once the application on host hair with knot connections has been performed.

[0014] The forced use of hands of the known systems involves a series of problems. First of all, the operator, in order to perform perfect connections, should have great experience and practice, which fact obviously is not always possible. Furthermore, apart from experience, it will be extremely difficult to produce equal connections therebetween: they will appear mostly different, not positioned exactly on the lines provided for the thickening, with variable quality and sizes.

[0015] All this determines a not optimum quality of the finished work, more exposed to wear and with actually unavoidable imperfections, high costs as influenced by very long application time and by the not easy availability of expert operators.

SUMMARY OF THE INVENTION

[0016] The technical problem underlying the present invention is to provide a weft hair extension to thicken hair and a related manufacturing method allowing to obviate the drawbacks mentioned with reference to the known art.

[0017] Such problem is solved by hair extensions as specified above, comprising:

- a flat sheet of hairs aligned therebetween;
- a first linear connecting element formed by a strip made of thermoplastic material wherein a proximal end of hairs of said flat sheet is embedded;
- a second linear connecting element formed by an additional strip made of thermoplastic material arranged parallel to said first linear connecting element at a distance therefrom, so that there is a linear space with constant width therebetween; and
- connecting cross means constituted by a plurality of tongue-like flexible elements extending from the first to the second linear connecting element through said linear space, said tongue-like flexible elements being embedded in said strips made of thermoplastic

material and arranged transversally thereto, to connect them in articulated way at regular intervals, so as to leave, between adjacent tongue-like flexible elements, a respective opening,

the second linear connecting element being shaped so as to include, in positions corresponding to each respective opening, a peduncle extending from an outer edge of the second linear connecting element, opposite to the respective opening.

[0018] The main advantage of the weft hair extension according to the present invention lies in allowing a quick application by using said peduncles as anchoring means of the extension to the host hair, and the respective openings as guide for supporting locks of host hair, which can be selected and inserted in the respective opening in a single solution with suitable instruments.

[0019] The method for applying the extensions according to the present invention comprises the steps of:

- providing a weft hair extension as defined above;
- selecting in receiving hair an application area, by separating said hair so as to insulate a horizontal line of scalp;
- arranging the weft hair extension so that the linear space corresponds to said line, with the peduncles faced downwards and the flat sheet of hairs faced upwards;
- selecting, at the holes, supporting receiving locks by using an instrument provided with suitably spaced-apart rings, by making to pass one lock in each ring, so as to have more or less the same quantity of hair on all locks; the selection can take place with a hook-like instrument therewith it is possible to insert a small ring in said lock;
- inserting said supporting receiving locks in the respective opening, by pulling the instrument, and fastening each supporting receiving lock to the corresponding peduncle; and
- folding the weft hair extension by rotating by 180° the first linear supporting element onto the second linear supporting element, and by covering both of them with host hair.

DESCRIPTION OF THE DRAWINGS

[0020] The present invention will be described hereinafter according to a preferred embodiment example thereof, provided by way of example and not for limitative purposes by referring to the enclosed drawings, wherein:

- figures 1 to 3 show respective perspective views illustrating the steps of a method for manufacturing a weft hair extension;
- figures 4 to 11 instead show different steps of a method for applying a weft hair extension of the previous figures.

DETAILED DESCRIPTION OF A PREFERRED EXAMPLE OF THE INVENTION

[0021] By referring to the figures, figure 1 illustrates a method for manufacturing a weft hair extension, designated as a whole with 10. It has a flat sheet 1 of straight hair which is disposed on a plane, for example made of steel.

[0022] Single hairs are arranged in regular way, parallel to each other therebetween, with the respective proximal ends, that is the cut ones near the scalp, arranged to form an almost straight line. Hairs are selected so that they have substantially the same length, and in case the respective distal ends will be evened with a rectilinear cut.

[0023] The single hairs can be of any type, preferably they are natural. They form a sheet with almost uniform thickness, in the order of tenths of millimetre.

[0024] On the line corresponding to the proximal ends of the single hairs of the sheet 1, line which identifies the proximal end 2 of the extension, a first strip 3 made of thermoplastic material is arranged, which is temporarily softened by applying a predetermined temperature, for example 200°, or in case ultrasounds. This softening allows the penetration of the hairs in the strip, by applying a certain pressure.

[0025] The strip 3 is made of a resin or thermoplastic rubber, possibly a foldable material, soft to the touch.

[0026] As it is known, the strip 3 is arranged perpendicularly to the single hairs of the sheet 1.

[0027] Therefore, the strip 3 is pressed by a heated press 4 which softens the strip 3 by causing the penetration of the distal ends of the single hairs of the sheet 1 in the strip thickness, penetration which takes place at a first face of said strip.

[0028] Once the single hairs are embedded in the thickness of the first strip, this becomes a first linear connecting element 3 of the hair extension.

[0029] It is to be noted that the thickness of the thermoplastic strip could be about 1 mm or even less.

[0030] In order to obtain an extension with a perfectly rectilinear proximal end 2 and a first linear connecting element 3 with predetermined height, for example comprised between 3 and 7 mm, in a subsequent step one provides to the trimming of the exposed margin of the connecting element 3 by means of a suitable (not represented) blade.

[0031] In case, the side ends of the connecting element 3 can be trimmed, so that the single hairs of the sheet 1 end exactly at such ends.

[0032] The extension 10 comprises a second strip 5 made of thermoplastic material which is arranged at a

certain distance from said first strip 3, substantially parallel thereto, so that a linear space 20 is formed therebetween, with constant width.

[0033] The width is so as to allow the passage between the strips 3, 5 of receiving locks, called supporting receiving locks, which will be used to connect the extension. As it will be clear with greater details hereinafter, the second strip 5 constitutes a second linear connecting element 5 of the weft hair extension 10.

[0034] The extension 10 further comprises a plurality of tongue-like flexible elements 6, in the shape of small rectangular tongues, with width so as to be able to extend transversally to said linear space 20 from the first to the second linear connecting element 3, 5, by covering at least partially the height of both of them.

[0035] The tongue-like elements 6 are then arranged like a bridge between said thermoplastic strips 3, 5, each one arranged at the same distance from the adjacent tongue-like elements. They are arranged at regular intervals, so as to form openings 21 at the free space 20.

[0036] The tongue-like elements 6 are made of light and porous material, with reduced thickness, so that they, or portions thereof, can be embedded under pressure into the strips of thermoplastic material 3, 5.

[0037] By way of example, the material thereof they can be formed could be gauze or organza, in particular then a tissue formed by a plain weave, for example made of cotton or other natural textile fibre, nylon, polyester and so on. It is to be meant that the selected material should be flexible.

[0038] Once provided the tongue-like elements 6 they are arranged as previously described. It is to be noted that, in this step, the sheet 1 and the respective linear connecting element 3 have been turned, so as to expose the strip face 3 opposite to that therethrough the single hairs of the sheet 1 have been previously penetrated.

[0039] In this step, the tongue-like elements are penetrated in the respective thicknesses of the two strips 3, 5 made of thermoplastic material by means of hot pressing, for example by means of the previously mentioned press 4 (figure 2), in a way similar to what described previously for the distal end 2 of the sheet 1.

[0040] Once the strips 3, 5 have cooled down, the tongue-like elements 6 constitute flexible connecting means between the strips 3, 5 which are then articulated therebetween, with the possibility of folding second strip 5 onto the first one and vice versa.

[0041] The second strip 5, that is the second linear connecting element 5, has an inner edge faced towards the free space 20 and an outer edge opposite to the previous one. It comprises a plurality of peduncles 7, obtained and formed by the strip 5 in one single piece, each one occupying a position which corresponds to a respective opening 21; the peduncles 7 extend perpendicularly to the second connecting element 5 from the outer edge thereof, in direction opposite to that of the sheet of hairs.

[0042] Therefore, the peduncles 7 too are spaced apart at regular intervals like the openings 21. They have at the sides thereof a pair of notches 8: the notches 8 of adjacent peduncles separate a portion 9 of linear strip 5 receiving said tongue-like elements 6.

[0043] By referring to the figures 4 to 11 a method for applying the above-described extension, which is provided to this purpose, will be described hereinafter.

[0044] In the receiving hair 30 an application area is selected with a brush, by separating said hair so as to isolate a horizontal line 31 of scalp, according to a technique common to the application of any weft hair extension (figure 4).

[0045] At said line 31, the operator separates a plurality of supporting receiving locks 32 by isolating them from said hair 30, so that said receiving locks 32 are regularly spaced apart from one another, with a range corresponding to the one provided for the openings 21.

[0046] To this purpose, the operator can use for example an instrument provided with rings suitably spaced apart in a fixed position, by making a selected lock 32 to pass into each ring so as to have more or less the same quantity of hair of the other ones. The selection can take place with an hook-like instrument therewith it is also possible inserting in said lock a small ring 33 which can be irreversibly deformed, for example made of a pliable metal. The function of the small ring 33 will be cleared hereinafter.

[0047] The rings of the used instrument (not represented) advantageously can be flexible loops, therewith it is possible to extend and pull the locks 32 through the openings 21, having been careful in selecting the locks 32 after having inserted each flexible loop in a respective opening 21 of the extension 10 (figure 6).

[0048] This procedure is carried out by arranging the weft hair extension 10 so that the linear space 21 corresponds to said line 31, with the peduncles 7 faced downwards and the flat sheet 1 of hair faced upwards (figure 5).

[0049] Once inserted said supporting host locks 32 into the respective opening 21 (figures 7 and 8), the small ring 33 mentioned previously is made to slide along the respective lock 33 so that the peduncle thereof 7 inserts therein (figure 9).

[0050] At this point, the small ring 33 is deformed permanently, that is squeezed with tweezers, to implement a clamping between lock 32 and peduncle 7, thus by fastening each supporting host lock 32 to the corresponding peduncle 7 and then by connecting the extension 10 to receiving hair.

[0051] Once finished this procedure, it is sufficient to fold the weft hair extension 10 by rotating by 180° the first linear supporting element 3 onto the second linear supporting element 5 (figure 10), and by covering both of them with receiving hair (figure 11).

[0052] The two strips of suitable material have the capability of keeping a fixed position once arranged between two locks of host hair covering them completely, by implementing a stable connection, poorly perceptible to the touch or by shaking the head, as they adhere to the host locks by adapting to the shape and motions

thereof.

[0053] To the above-described weft hair extension a person skilled in the art, in order to satisfy additional and contingent needs, could introduce several additional modifications and variants, all however comprised within the protection scope of the present invention, as defined by the enclosed claims.

Claims

1. A weft hair extension (10), of the type used in particular for thickening hair (30), substantially shaped like a sheet, comprising:

- a flat sheet (1) of hairs aligned therebetween;
- a first linear connecting element (3) formed by a strip made of thermoplastic material wherein a proximal end of the hairs of said flat sheet (1) is embedded; and
- a second linear connecting element (5) formed by an additional strip made of thermoplastic material arranged parallel to said first linear connecting element (3) at a distance therefrom, so that there is a linear space (20) with constant width therebetween;

characterized it comprises:

- cross connecting means constituted by a plurality of tongue-like flexible elements (6) extending from the first to the second linear connecting element (3, 5) through said linear space (20), said tongue-like flexible elements (6) being embedded in said strips made of thermoplastic material and arranged transversally thereto, so as to connect them in articulated way, at regular intervals so as to leave, between adjacent tongue-like flexible elements (6), a respective opening (21),

the second linear connecting element (5) being shaped so as to include, in positions corresponding to each respective opening (21), a peduncle (7) extending from an outer edge of the second linear connecting element (5), opposite to the respective opening (21).

2. The weft hair extension (10) according to claim 1, wherein the tongue-like flexible elements (6) are formed by rectangular tongues, with width so as to be able to extend transversally to said linear space (20) from the first to the second linear connecting element (3, 5), by covering at least partially the height of both of them.

3. The weft hair extension (10) according to claim 1 or 2, wherein the tongue-like flexible elements (6) are made of porous material.

4. The weft hair extension (10) according to claim 3, wherein the tongue-like flexible elements (6) are made of a tissue formed by a plain weave, like cotton or other natural textile fibre, nylon, polyester and so on.

5. The weft hair extension (10) according to claim 1, wherein the peduncles (7) extend perpendicularly to the second connecting element (5) from the outer edge thereof.

6. The weft hair extension (10) according to claim 1, wherein the peduncles (7) have at their sides a pair of notches (8); and notches (8) of the adjacent peduncles (7) separate a portion (9) of strip made of thermoplastic material which receives said tongue-like elements (6).

7. A method for applying a weft hair extension, comprising the step of:

- providing a weft hair extension (10) according to one of the previous claims;
- selecting in the receiving hair (30) an application area, by separating said hair so as to isolate a horizontal line (31) of scalp;
- arranging the weft hair extension (10) so that the linear space (20) corresponds to said line (31), with the peduncles (7) faced downwards and the flat sheet (1) of hairs faced upwards;
- selecting, at said line (31), a plurality of supporting host locks (32) by isolating them from said supporting hair (30) by using a suitable instrument, said supporting host locks (32) being regularly spaced apart so that each one corresponds to an opening (21) of the weft hair extension (10);
- inserting said supporting host locks (32) in the respective opening (21), and fastening each supporting host lock (32) to the corresponding peduncle (7); and
- folding the weft hair extension (10) by rotating by 180° the first linear supporting element (3) onto the second linear supporting element (5), and by covering both of them with host hair (30).

8. A method for applying a weft hair extension according to claim 7, wherein the supporting host locks (32) by means of an instrument provided with rings suitably spaced apart in a fixed position.

9. The method for applying a weft hair extension according to claim 7, wherein the supporting host locks (32) are inserted in an irreversibly deformable small ring (33) to implement a clamping between the supporting host locks (32) and respective peduncles (7).

10. The method for applying a weft hair extension according to claims 8 and 9, wherein the rings of the used instrument are flexible loops, therewith the supporting host locks (32) are extended and pulled through the openings 21, having selected the supporting host locks (32) after having inserted each flexible loop into a respective opening (21).

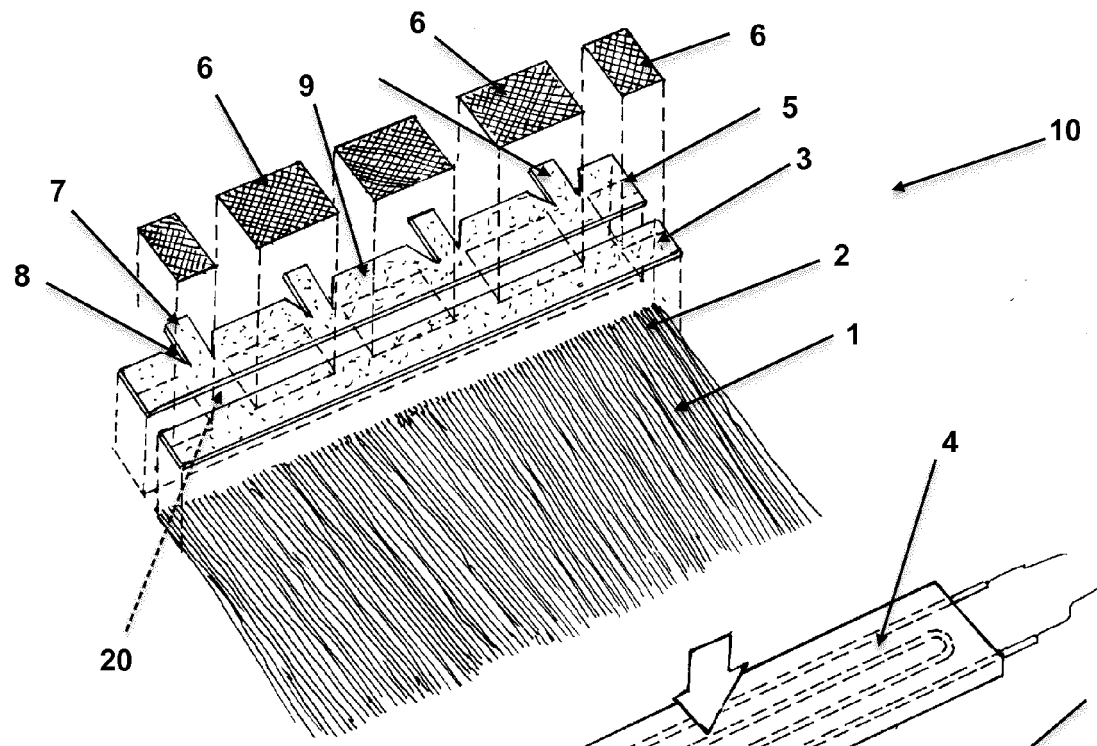

FIG.1

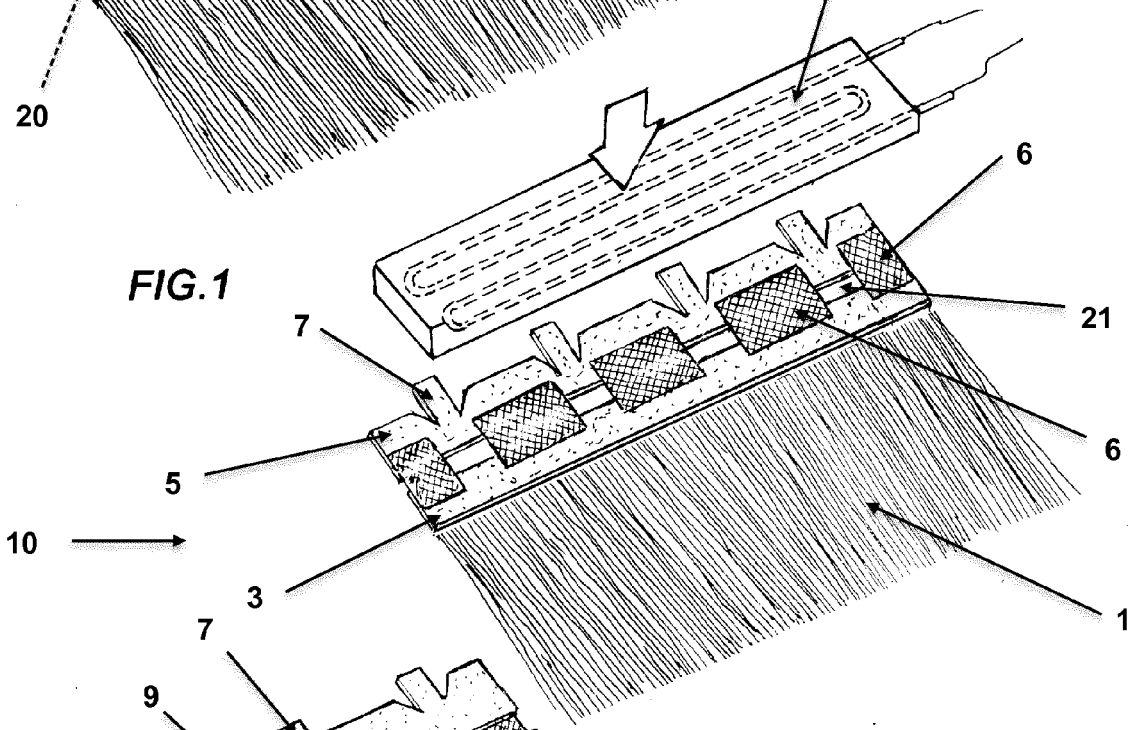

FIG.2

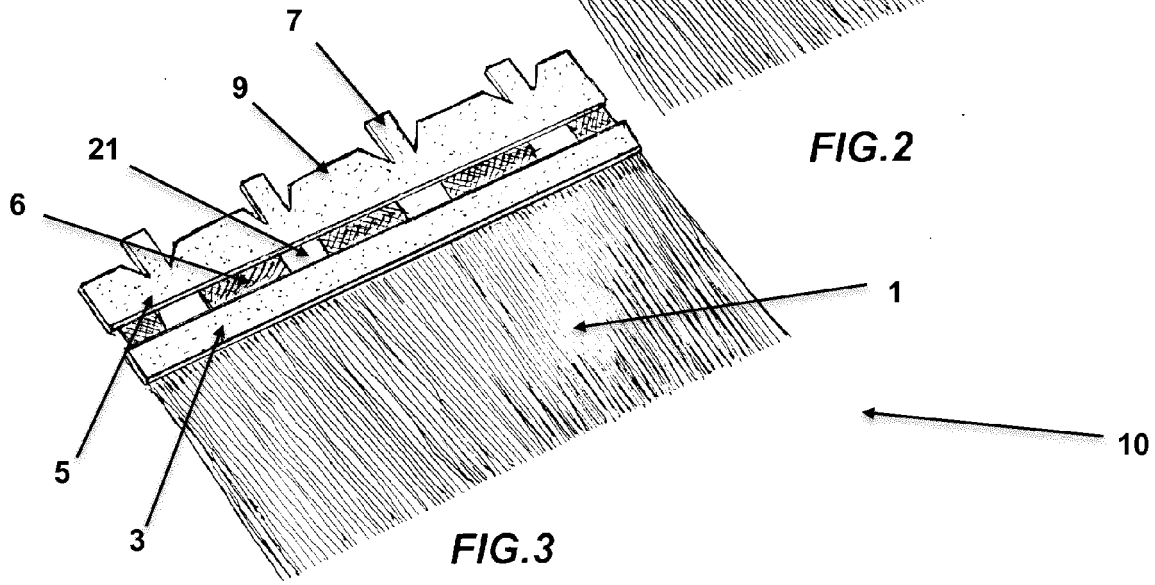

FIG.3

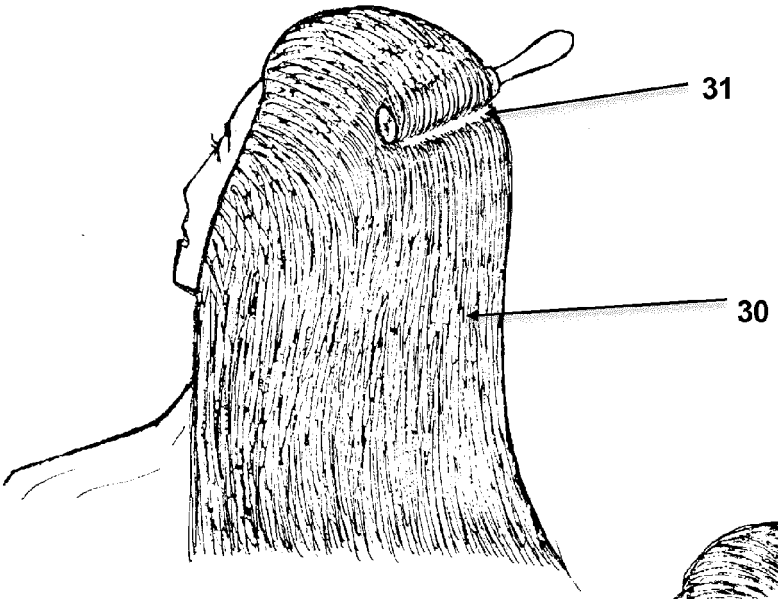

Fig. 4

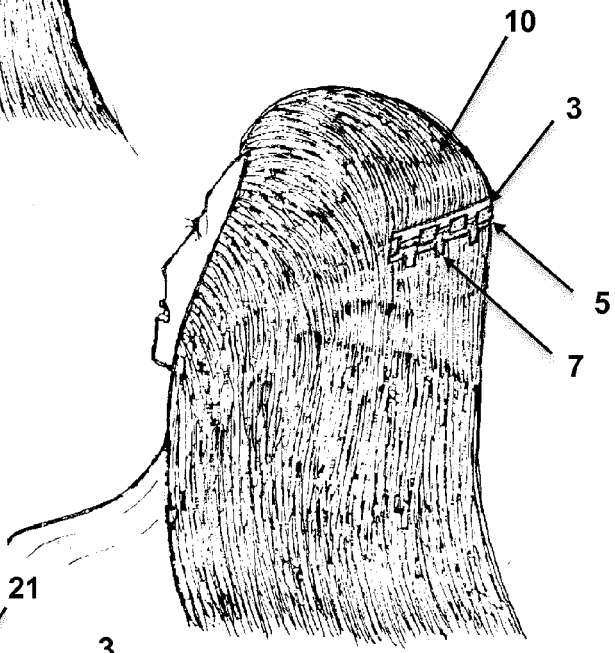

Fig. 5

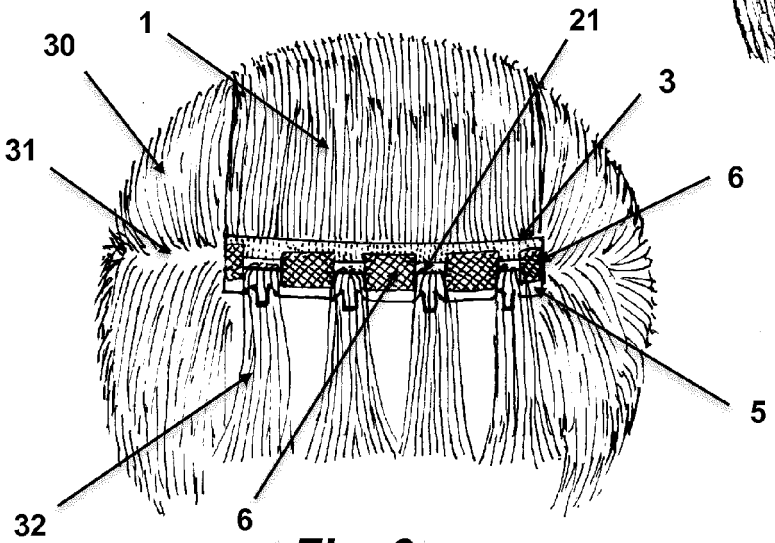

Fig. 6

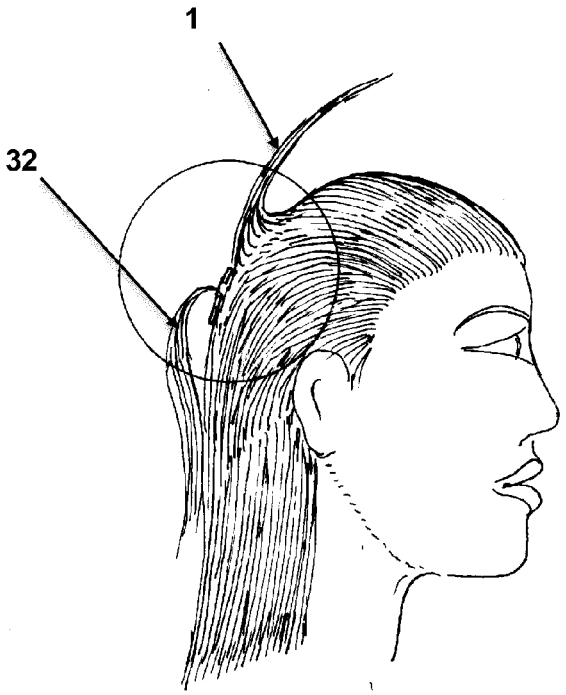

Fig. 7

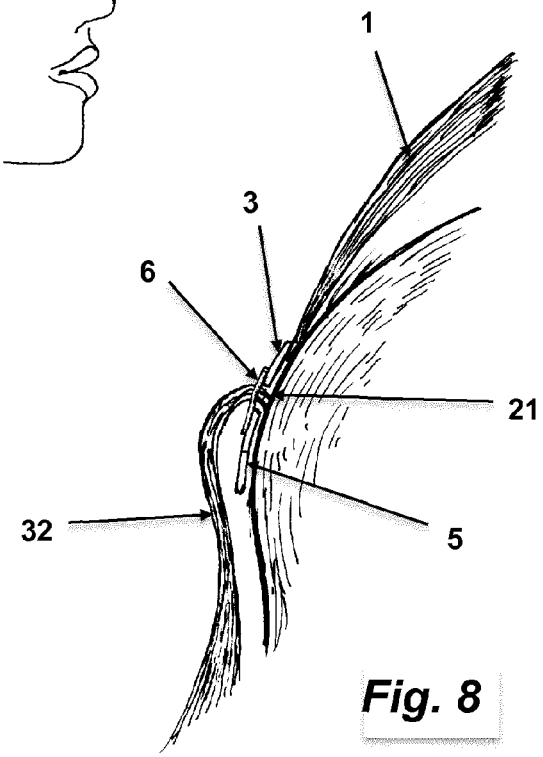

Fig. 8

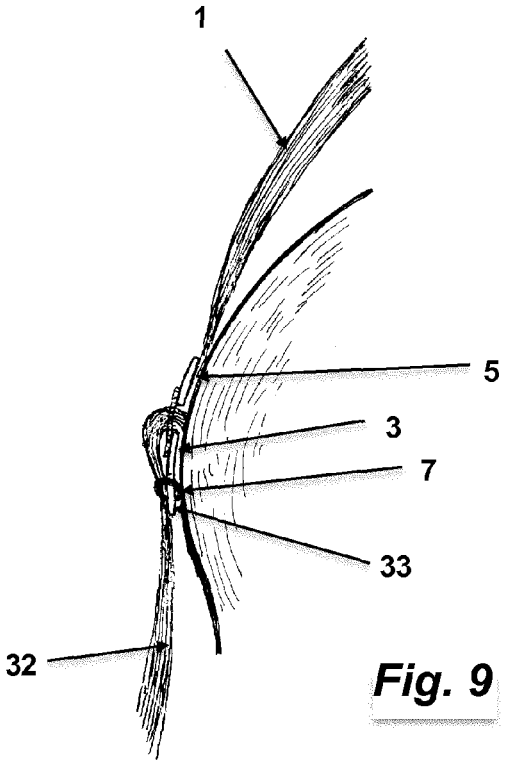

Fig. 9

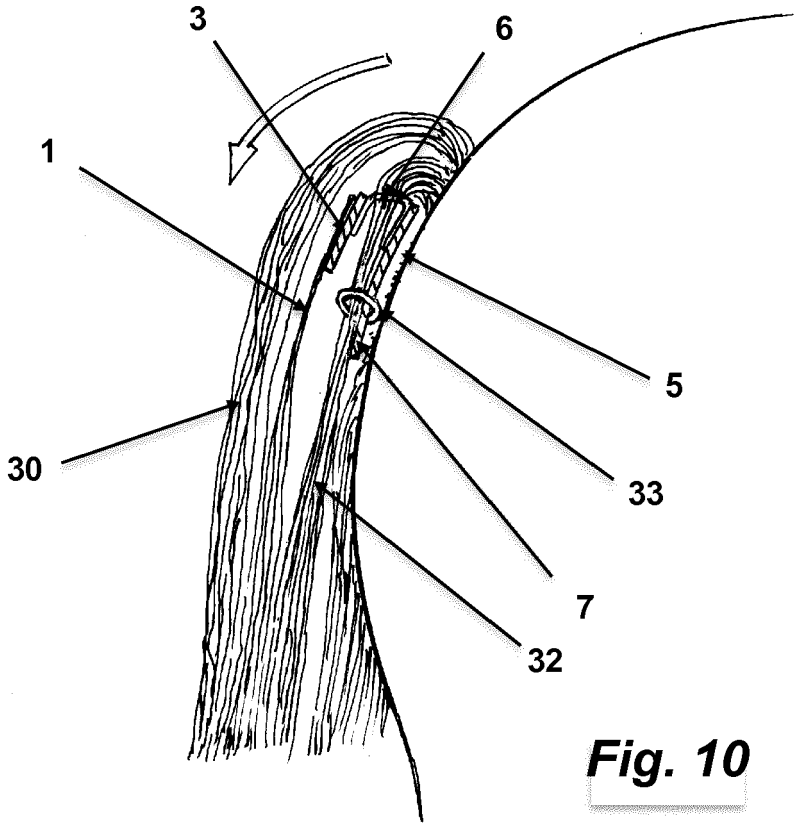

Fig. 10

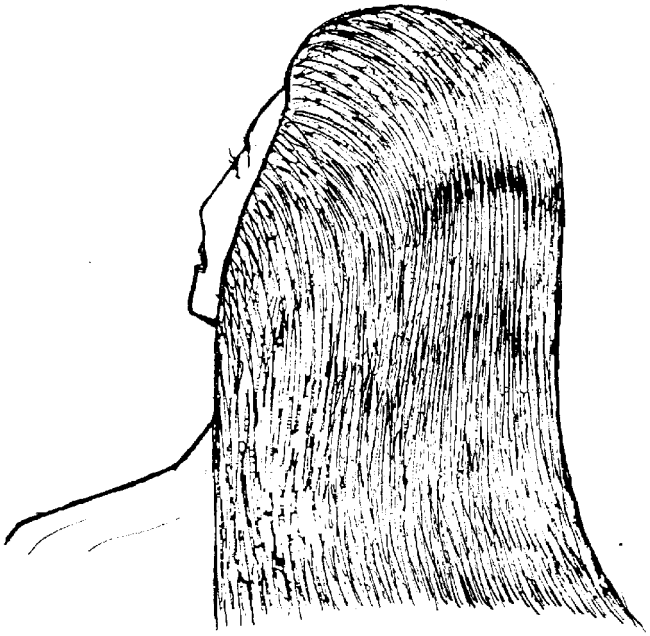

Fig. 11

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EUROPEAN SEARCH REPORT

Application Number
EP 16 18 2599

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			TECHNICAL FIELDS SEARCHED (IPC)
			A41G

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	19 January 2017	Simpson, Estelle

CATEGORY OF CITED DOCUMENTS

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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