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SPECIFICATION

WIG AND METHOD OF MANUFACTURING THE SAME

Technical Field

[0001] This invention relates to a wig capable of providing bulky appearance enough with a small amount of hair tied on a wig base, tying a certain amount of hair to a wig base at a pre-determined density by accurate control, and mixing long and short hairs uniformly by controlling to a pre-determined proportion, and to a method of manufacturing the same.

Background Art

[0002] A wig with natural appearance by changing the lengths of hair tied to a wig base has been known. Such a wig 20 is made, for example as shown in Fig.8, with a network formed with filaments 24 as a net base, and by attaching to said net base long hair 30a, short hair 30b, and the hair of the length in between 30c. This hair is knotted to the net-shaped filament 24 to form knots 26. The wig 20 shown in Fig.8 has hairs of unequal lengths, sizes, and the colors so that it attains natural hair appearance (See Patent Reference 1.).

[0003] In order to attain natural hair appearance, Patent Reference 2 discloses a wig using alternately lined long and short hairs.

[0004]

[Patent Reference 1] JP S63-196705 A (1988, Fig.1)

[Patent Reference 2] Japan Utility Model Gazette S54-14154 (1979)

Disclosure of the Invention

Problems to be Solved

[0005] For conventional wigs, if a strand of hair is, or a few hairs bundled together are bent at the center, and said bent position is knotted to a net base, then a pair of hairs extending upward from the knotted base portions are divided left and right in a relatively wide angle. The hair split to left and right does not extend upward but lie on the net base along

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its surface, and especially, the tip portions of hair almost totally lie and extend along the net base surface. Therefore, it is difficult to attain bulkiness caused by the standing hair, and also the wig base is visible if the tied amount is small.

[0006] Further in case of the wig with short hair as in the above-mentioned Patent References 1 and 2, in order to make the lengths of short hair as short as 1 to 3 cm, it is necessary to prepare human or artificial hair of about 2 to 6 cm length, to bend them to two of 1 – 3 cm lengths as described above, and to tie them. However, if a whole length of human or artificial hair to be tied is short, then tying work becomes extremely tricky, especially for curly or frizzle hair, the work time is long, and the productivity lowers. Especially, since it is impossible for any skilled professionals to tie hair shorter than 5 cm to a wig base, it is necessary to tie long hair and cut to about 1 – 3 cm each time, resulting in extreme inefficiency.

[0007] Though the method to improve the standing of hair is tried by cutting hair to make a part of it short hair using a thinning scissors after tying long hair over the whole region of the wig base, it causes a relatively wide cut region, the short hair portion to be concentrated to a particular region, resulting in the scattered short hair as a whole, and hence the appearance of the wig deteriorates. Therefore, such conventional methods can not regulate the tying ratio of the short hair to the long hair accurately.

[0008] Incidentally, for manufacturing wigs, there may be a case to vary the amount of tied hair (tying density) depending upon which part of the wig. For example, as tying 100% amount of hair on the top region, while 80 to 70 % in the surrounding region to make natural appearance, tying 50% in a particular region to harmonize with the wearer's own remaining hair, or adjusting the amount by the client's request, tying is done at each specific portion of a wig base for a certain density according to preference or symptom. If the pre-determined density is designed as, for example, 70% in a particular region of a wig, tying 70% density from the beginning causes partially spotty pattern, and using a thinning scissors to make short hair causes poor appearance with the density lower than the

designated value or a marked spotty pattern. Therefore, the workers improve the hair standing by making short hair using a thinning scissors after tying 90 to 100% to a wig base, so that the final density is adjusted to about 70%, but it is quite difficult work as described above.

[0009] One of the objects of the present invention is, in view of the above-mentioned problems, to provide a wig with a desired bulky appearance by hair standing, by accurately tying the amount of hair to be tied on a wig base according to the pre-determined density upon the wig manufacture, controlling the ratio of the amounts of long and short hairs in said density to the pre-determined value, and by tying to the wig base said long and short hairs controlling uniform mixing with good harmony.

Further, another object of the present invention is to provide a method of manufacturing a wig for easy tying work of short hair among respective hair.

Means to Solve Problems

[0010] In order to achieve said object of the present invention, a wig in accordance with the present invention comprises a wig base, and the hair consisting of either human or artificial hair tied thereon, characterized in that the hair comprises short and long hairs, which are tied to the wig base in the pre-determined amount, as well as in the pre-determined controlled ratio.

According also to the present invention, said short and long hairs are characterized in that they have different curl diameters, and said short hair is tied in the controlled ratio of 20 to 50% of the amount to be tied to the wig base.

According to the above-mentioned constitution, since the pre-determined hair amount (the number of hair strands) can be tied to each specific part of the wig base, a wig is provided which is rich in quite natural appearance with the different hair amount tied depending upon symptom, or to each part of the wig base. A wig is also provided on which short and long hairs are tied, respectively, controlled in the pre-determined ratio, and hence the hair volume appearance can be realized at each different part, as well as with good hair standing. And if

short hair has a different curl diameter from long hair, and the short hair made among long hair by cutting long hair is allocated in the pre-determined ratio, for example, in 20 to 50%, the root portions of long hair are supported by the short hair allocated around them, and hence the long hair has good standing, and the exposure of the wig base is prevented.

[0011] In the above-mentioned aspect, it is preferred that the lengths of short hairs are not equal, each length is less than half of long hair, and they have non-uniform hair length distribution within the range of 1 to 5 cm. Thus, since short hair can be allocated with arbitrarily different lengths, the pre-determined hair length distribution and natural standing of the tied hair can be achieved.

[0012] In case that said short hair is curly hair, and its curl diameter is shorter than that of long hair, the root portions of long hair are firmly supported by the short hair of small curl diameter, so that the standing is more improved, and the long hair of relatively large curl diameter is curled naturally.

[0013] With said short and long hairs in different colors, short and long hairs are mutually mixed and allocated about uniformly, so that respective colors are sufficiently mixed, thereby the color appearance which could not be achieved by conventional tying methods is brought about, and color gradation can be formed. Further by giving gradient to the distribution density of short hair, or by giving length distribution to short hair, even more natural color gradation can be formed.

[0014] Also if short and long hairs have different diameters, for example, hair of larger diameter is used as short hair, long hair is supported more firmly by short hair, resulting in better standing of long hair, and increase of total volume of the wig with smaller amount of hair, thereby its appearance is improved.

[0015] In order to achieve said another object of the present invention, the first constitution of a method of manufacturing a wig of the present invention is characterized to include a first step of tying hair to a wig base, a second step of cutting each hair tied at the first step to a short hair of a pre-determined length, and a third step of tying long hair thereafter

among said short hair on the wig base.

The second constitution of a method of manufacturing a wig of the present invention is characterized to include a first step of designing a mixing ratio of short and long hairs to be tied to a wig base to a pre-determined value, and tying the hair to be short hair to the wig base at said pre-determined ratio, a second step of cutting each hair tied at the first step to a short hair of a pre-determined length, and a third step of tying the hair to be long hair among short hair on said wig base in said pre-determined ratio.

In the above-mentioned constitution at the second step, the hair to be short hair is tied by controlling, for example, to 20 to 50% of the hair amount tied to a wig base in the pre-determined ratio, and so cutting as to realize the hair length distribution after cutting each hair to the short hair of a pre-determined length. It is also preferred that the second step is making the length of each short hair to the half or less of said long hair; and non-uniform within the range of 1 to 5 cm. Further, the third step may be tying long hair controlling the pre-determined ratio of the pre-determined density with the already tied short hair.

[0016] According to said first constitution, the hair tied to a wig base at the first step is cut to short hair of a pre-determined length at the second step. Therefore, long hair the tying work of which is easy can be tied at the first step. Thereafter, it is cut short to a pre-determined length at the second step, so that short hair can be easily tied in controlled pre-determined ratio, and work can be completed in short time, thereby productivity is improved. Long hair is controlled to the pre-determined ratio and distributed by tying long hair to a wig base after forming short hair at the second step. Therefore, unlike the case of cutting with a conventional thinning scissors, short hair is not allocated in a spotty pattern, and the natural appearance is improved, as well as the short hair distribution density can be given gradient.

According to said second constitution, prior to tying the hair to be short hair at the first step, the mixing ratio of short and long hairs to be tied to a wig base can be adjusted, and designed properly, so that tying work can be conducted easily by controlling to a pre-determined ratio

with the desired standing appearance.

Also in accordance with the present invention, the hair tied to a wig base is cut to short hair of a pre-determined length at the second step. Therefore, as tying, long hair of easier tying work can be tied. Thereafter, it is cut short to a pre-determined length, so that short hair can be tied by controlling to a pre-determined ratio to long hair at the pre-determined density, and said tying step is possible in short time resulting in the improved productivity.

In addition, according to the present invention, the hair amount to be tied to a wig base can be controlled to a desired value upon the wig designing depending upon the state of hair thinning, or upon consultation with the wearer, and the distribution of long and short hairs or the short hair lengths can be designed and adjusted arbitrarily and at will, resulting in the manufacture of wigs along the wearer's detailed needs.

Effect of the Invention

[0017] According to the wig of the present invention, a quite excellent wig can be provided with good hair standing and bulkiness by tying short and long hairs to a wig base by controlling the mixing ratio to a pre-determined value.

[0018] According to a method of manufacturing a wig of the present invention, easily tiable long hair is tied by controlling to a pre-determined ratio, and thereafter short hair is formed by cutting it, so that a wig with short and long hairs can be easily manufactured in short time.

Further according to the present invention, the hair density (the number of strands of hairs) of tying to a wig base can be determined to a pre-determined density at each part of a wig base upon the wig designing. Also, short and long hairs can be tied in a pre-determined mixing ratio and at strictly controlled tying positions. Therefore, tying work can be efficiently conducted, as well as a plurality of wigs can be provided which are mutually identical in the amount and distribution of hairs, and practically identical in hair standing and external appearance. Therefore, a wig wearer can possess identical wigs as reserves.

[0019] According to the present invention, the hair amount to be tied to a

wig base can be strictly controlled to a desired value upon the wig designing depending upon the state of hair thinning, or upon consultation with the wearer, and the distribution of long and short hairs or the short hair lengths can be designed and adjusted arbitrarily and at will along the result of consultation with the wearer and the preferred design, resulting in the manufacture of wigs along the wearer's detailed needs.

Brief Description of the Drawings

[0020] Fig.1 is a perspective view diagrammatically illustrating the makeup of a wig in accordance with a first embodiment of the invention.

Fig.2 is an enlarged view diagrammatically showing the wig illustrated in Fig.1.

Fig.3 is a cross sectional view diagrammatically showing sequentially each step of a method of manufacturing a wig in accordance with an embodiment of the invention.

Fig.4 is a diagrammatical view illustrating a tying pattern of short hair at the first step in a method of manufacturing a wig of Fig.3.

Fig.5 is a diagrammatical view illustrating a tying pattern of long hair at the third step in a method of manufacturing a wig of Fig.3.

Fig.6 is a diagrammatical view illustrating tied states of short and long hairs in a method of manufacturing a wig of Fig.3.

Fig.7 is a diagrammatical view illustrating a modified example of tied states of short and long hairs of a wig manufactured in accordance with the invention.

Fig.8 is a diagrammatical view illustrating an example of makeup of a conventional wig.

Explanation of Marks and Symbols

[0021]

1: Wig
2: Wig base
3: Short hair
3a: Knot
4: Long hair

4a: Knot
5: Hair to be short hair
5a: Knot

Best Modes for Carrying out the Invention

[0022] Hereinafter, the present invention will be explained in details with reference to the embodiments illustrated in the figures.

Explanation is first made of a wig of the present invention with reference to the diagrammatical perspective view shown in Fig.1. As shown in Fig.1, a wig 1 comprises a wig base 2 to be worn on a wearer's head, and hair made of human or artificial hairs tied to said wig base 2, and said hair comprises short hair 3 and long hair 4.

[0023] Fig.2 is an enlarged view diagrammatically showing the wig illustrated in Fig.1. As shown, short and long hairs 3 and 4, respectively, are knotted by such known knotting methods used for knotting strings or others, for example, lark's hitch, clove hitch, left and right knot, or the application thereof to filaments or at their cross sections of a wig base 2 using a net member. In the figure, the knots of short and long hairs 3 and 4 are 3a and 4a, respectively.

Here, though tying mixed short and long hairs 3 and 4 to a wig base 2 is similar to known arts, prior arts formed short hair with thinning scissors at post steps, so that they are inevitably allocated at random to long hair. On the other hand, in the wig 1 of the present invention, short and long hairs 3 and 4 can be tied to a wig base 2 in pre-determined amounts, and further, said short and long hairs 3 and 4 can be tied by controlling to a pre-determined ratio.

[0024] That is, according to the present invention, such items as how to design the total hair density (or the number of hair strands) of the summed up long and short hairs, how to tie in which hair density distribution in which region of a wig base, and others can be strictly designed upon the wig designing by consultation with the wearer.

Further in the total hair density distribution determined as mentioned above, how to distribute the mixing ratio of long and short hairs 4 and 3 to attain bulky appearance of hair, in what ratio to mix

short hair 3 in which part of the head, or how many cm to design the length of said short hair 3 depending upon which parts can be strictly controlled while observing the states of unhairing and hair thinning, and also consulting in detail with the wearer upon designing of a wig 1, so that the hair amount tied to a wig base 2 becomes equal to the desired value, and further, the distribution of long and short hairs 4 and 3 and the lengths of short hair 3 can be designed and adjusted arbitrarily and at will along the result of consultation with the wearer and the desired design.

[0025] Here, the pre-determined density means the hair density (hair amount) of the total number of strands of the actually tied short and long hairs 3 and 4 to the total hair amount (total number of hair strands) capable to be tied to a wig base 2, and can be defined strictly upon wig designing as described above. The pre-determined ratio means, in a particular tying region of a wig base, the respective ratio of the numbers of strands of short and long hairs 3 and 4 to the total number of strands of short and long hairs combined to be tied defined by said pre-determined density, namely, a mixing ratio.

[0026] According to the present invention, short and long hairs 3 and 4 are tied to a wig base 2 in a pre-determined hair amount, and by controlling, respectively, to the pre-determined ratio decided upon the wig designing. Thus, by allocating short hair 3 among long hair 4 while adjusting the bulkiness as a whole, the root portions of long hair 4 are supported by the short hair 3 located around them, so that long hair 4 has good standing, as well as the exposure of a wig base 2 is prevented.

Also, since short hair 3 is properly distributed, short hair 3 is not allocated in spotty pattern like the case of cutting with conventional thinning scissors, thereby natural appearance is improved, as well as the distribution density of short hair 3 can be given gradient.

[0027] The lengths of short hair 3 may be non-uniform, and may have hair length distribution. In this case, the hair length distribution may be formed for short hair 3 so the lengths are different. Therefore, natural standing of the tied hair can be formed.

[0028] Curly hair may be used as short hair 3. Long hair 4 may be

straight hair, or curly hair with the curl diameter larger than that of short hair 3. In case to make short hair 3 curling, the root portions of long hair 4 are firmly supported by curly short hair 3 with relatively small curl diameter, so that they have better standing, as well as long hair 4 with relatively large curl diameter has curl in a natural state.

[0029] Short and long hairs 3 and 4 may be of mutually different colors. In this case, short and long hairs 3 and 4 are fully mixed and allocated nearly uniformly, so that respective colors are fully mixed to generate the color feeling which could not be attained by conventional tying methods, as well as color gradation can be generated. Further, by giving gradation to the distribution density of short hair 3, and by giving length distribution to short hair 3, even more natural color gradation can be formed.

[0030] As short and long hairs 3 and 4, hairs of mutually different diameters may be used. For example, if the hair of a larger diameter is used as short hair 3, long hair 4 is more firmly supported by short hair 3 so that long hair has better standing, and the volume is increased for hair tied to a wig. The short hair is preferably tied in the amount controlled to the ratio of 20 to 50% of the hair amount tied to said wig base 2. With said ratio of 20% or less, hair standing is poor, while said ratio of 50% or more is neither preferred, for long hair is fewer in ratio resulting in low hair volume.

[0031] Here, a wig base 2 may be made with a net member and artificial skin, or the combination of artificial skin and a net member. As the net member materials having mesh, woven or knit monofilaments made of synthetic resin such as nylon or polyester, or non-woven materials may be used. As materials for artificial skin, soft synthetic resins such as, for example, urethane resin may be used. A wig base 2 is preferably treated by deglossing process to reduce gloss on the surface of a wig 1.

For attaching hair to a wig base 2 made of a net member in accordance with said embodiment, a loop is formed with one strand of hair, or a few strands of hairs bent into two at the center, for example, on filaments constituting the net member or their cross sections, a pair of free ends of hair are inserted into said loop and pulled out, and further

one end of a pair of hairs is knotted to the other hair doubly or triply as required to be fixed. Also, if a wig base is made of artificial skin, simply inserting hair to said artificial skin and pulling out one end, a tying method of so-called V-tying, may be used, or other known methods may be used.

[0032] According to a wig 1 of the present invention, short and long hairs 3 and 4 are tied to a wig base 2 in a pre-determined hair amount, and further said short and long hairs 3 and 4 are tied by controlling to a pre-determined ratio. Thereby, hair amount and flow can be given corresponding to various hairstyles, and a quite excellent wig can be provided which has good hair standing and bulkiness.

[0033] Explanation is next made of a method of manufacturing a wig of the present invention.

Fig.3 is a cross sectional view diagrammatically illustrating sequentially each step of a method of manufacturing a wig in accordance with an embodiment of the present invention.

As shown in Fig.3(A), a wig base 2 resembling, or formed corresponding to, the wearer's head shape is prepared. In case shown in the figure, the wig base 2 is explained as a net base made of net members of plain fabric from plastic monofilaments.

As shown in Fig.3(B), at the first step, curly hair with the curl diameter relatively smaller than a net base 2 is tied as the hair 5 as short hair. The lengths of said first tied hair 5 are made sufficiently longer than those of pre-determined short hair 3 for easy operation of tying work. Said lengths are basically same as those of long hair 4, but may be longer or shorter.

The hair 5 for short hair 3 is tied on matrix-like filaments or at their cross sections of the net base 2. The hair 5 is tied by, for example, bending a strand or a few strands to two at a center to form a pair, and by hooking their bent portions with a specific hooking needle to form knots 5a in the net base 2.

[0034] Fig.4 is a diagrammatical view illustrating a tying pattern of short hair in the pre-determined density at the first step in a method of manufacturing a wig of Fig.3. In Fig.4, matrix-like cross sections

illustrate imaginary tying positions of hair, which also applies to an artificial skin base besides a net base. The case in which hair is tied at all of these cross sections is defined as 100% pre-determined density. As shown in the figure, the hair 5 to be short hair is knotted at cross sections (open circles in the figure, ○) so the density reaches the pre-determined value. The hair 5 as short hair is tied in the pre-determined ratio with the wearer's hairstyle or hair flow taken into consideration.

[0035] In this example, hair is tied so the density reaches the pre-determined value, for example, the hair amount is 70%. Here, explanation is made of pre-determined density using Fig.4. The case in which hair is tied at all the cross sections of a net base is defined as 100% pre-determined density as mentioned above, then there are 49 cross sections of the net base in Fig.4, and it is 100% if hair is tied at all of them. Then, 70% of pre-determined density is defined as the case in which hair is tied at 70% of the above-mentioned 49 cross sections, that is, 34 cross sections. If the ratio of long and short hairs 4 and 3 is pre-determined as 50%, then, in said pre-determined density of 70 %, long and short hairs 4 and 3, respectively, are tied to a net base 2 as the half of hairs each of the pre-determined density 70%, that is, 35% each of the pre-determined density, or each 17 strands of long and short hairs in Fig.4. Here, the positions of tying short and long hairs 3 and 4 are uniformly selected without deviation, but may be properly selected depending upon the style of the wig 1.

In case that the mixing ratio of long and short hairs 4 and 3 is pre-determined together with the hair tying amount, the desired hair amount, standing distribution, and others are designed upon designing of a wig 1 by, for example, inspecting hair thinning of the wearer's head top region, and with the wearer's hair style and flow taken into consideration. For example, in order to make hair standing better from a forehead to a top region, the ratio of short hair to long hair can be properly designed to 50%, and to 20 to 35% from a top region to a back side and side head regions.

[0036] Next, as shown in Fig.3(C) at the second step, the hair 5 to be short hair tied to a wig base 2 is cut with clippers to a pre-determined length,

for example, about 1 to 3 cm to be short hair 3.

[0037] In case to form short hair 3, relatively long hair 5 before cutting (for example, whole length of about 20 cm) to be short hair is tied to a wig base 2 at the first step. In this case, a strand of hair or a few strands of hairs of about 20 cm length are formed to loops by bending to two at the center, the free end sides of these paired hairs are inserted into said loops in the winding state to filaments, and knotted, then the hairs of about 10 cm length are tied as a pair to a net base. After repeatedly tying the hair 5 to be short hair in the pre-determined number and distribution pattern to the pre-determined density, they are cut to the pre-determined length, for example, about 1 to 3 cm to form short hair 3 of the pre-determined length.

Thus, tying hair 5 as long hair to be short hair renders the attaching work easy even for non-experts, the tying step in short time, and the production efficiency improved. Since also short hair 3 is tied at the pre-determined distribution, they are not allocated in spotty pattern like the case of conventional short hair cut with thinning scissors, but allocated according to the original design, resulting in the improved natural appearance.

[0038] Hair length distribution can be formed, without making the lengths of short hairs 3 uniform. In this case, by cutting hair 5, for example, with clippers from a diagonal direction, hair length distribution of short hair with different lengths may be formed. Thus properly forming short hair length distribution results in more natural appearance with bulkiness from long hair standing.

[0039] At the third step, as shown in Fig.3(D), straight hair or curly hair with relatively large curl diameter is tied to a wig base 2 as long hair, forming knots 4a like the case of short hair. Long hair 4 may be of the same color and size as the hair 5 to be short hair, or in order to make fashionability richer, the hair of similar color or totally different tint or color may be used.

[0040] Fig.5 is a diagrammatical view illustrating a tying pattern of long hair at the above-mentioned third step. In Fig.5, dotted lines show filaments of a net base 2, and long hair 4 is knotted at cross sections of

filaments (solid circles in the figure, ●). As shown, long hair 4 is tied so the pre-determined density is attained, for example, 70% together with short hair 3.

In case to set the pre-determined ratio of long and short hairs 4 and 3 to 50%, long hair 4 is tied as the half of the pre-determined density 70% of hair amount (the number of strands), that is, 35% of the pre-determined density, to a net base 2. Said long hair 4 is also tied by the similar method to short hair in the pre-determined distribution pattern.

[0041] Finally, the manufactured wig is worn on the wearer's head, long hair is cut to the desired length and hairdone, resulting in a wig of the desired hair style, with the wearer's desired hair amount, good standing, and rich bulky appearance.

As explained above, according to the present invention, by determining the total tying amount of the hair to be short hair 3 and long hair 4 to a wig base 2 to a pre-determined density, and further determining the tying ratio of short and long hairs 3 and 4 to the pre-determined ratio, after tying long hair to be short hair first to a wig base 2 in said pre-determined ratio, and cutting to a pre-determined length to make short hair 3, and next tying long hair to be long hair 4 among the tied short hair 3, and cutting to a pre-determined length to make long hair 4, short and long hairs 3 and 4 can be tied in the pre-determined hair amount, and moreover, short and long hairs 3 and 4 can be tied by controlling to the pre-determined mixing ratio, thereby a wig of a rich bulkiness owing to standing of long hair 4 supported by short hair 3 can be obtained.

[0042] Fig.6 is a diagrammatical view illustrating tied states of short and long hairs in a method of manufacturing a wig of Fig.3. As shown in Fig.6, a wig 1 manufactured in accordance with the present invention has tying of the pre-determined density of 70% as a whole by tying short and long hairs 3 and 4 to a wig base 2 in the pre-determined density each, namely 35% each in the present example. Since long hair 4 is supported around their root portions by short hair tied in the vicinities, their lying down is prevented, resulting in good standing, and appearance is improved, as well as bulky appearance is attained, as the exposure of the wig base 2 is

prevented by the presence of short hair.

[0043] Fig.7 is a diagrammatical view illustrating a modified example of tied states of short and long hairs 3 and 4 of a wig 1 manufactured in accordance with the second embodiment of the present invention. In the wig manufactured in accordance with said second embodiment, as shown in Fig.6, short and long hairs 3 and 4 are tied respectively in 35% of the pre-determined density. On the other hand, in the wig shown in Fig.7, the case is such that the pre-determined density of short and long hairs 3 and 4 is 70% which prevents the exposure of a wig base 2 as in the case of Fig.6, and the pre-determined ratios of long and short hairs 4 and 3 are 70% and 30%, respectively. Therefore, long and short hairs 4 and 3 are tied, respectively, in the pre-determined densities 49% and 21%.

[0044] By thus adjusting the pre-determined ratio of long and short hairs in the pre-determined density of 70% to make long hair density higher for the pre-determined ratio of 50%, the standing of long hair 4 is good by the presence of short hair 3, natural appearance is improved, and as a whole, the effect that the wig base 2 is not exposed further is obtained.

[0045] Although a wig base 2 is composed as a net base in said embodiment, it is obvious that it is not so limited, but an artificial skin base may do. In said embodiment, short and long hairs 3 and 4 are of mutually same color and size, with mutually different curl diameters, but it may not be so limited, but they may be of mutually different color and size, and these differences bring about the color and the volume feelings not obtainable by conventional methods of tying, and natural appearance or fashionability is improved.

Examples

[Example 1]

[0046] As Example 1, a wig 1 in accordance with the present invention was manufactured.

Utilizing a plaster pattern of the wig wearer's head shape prepared in advance, covering it with a net made of plastics such as nylon and polyester, coating thermosetting resin solution thereon, and heating to about 100℃, a net base 2 as a wig base was manufactured by molding

to a curved shape as the head shape.

As the first step, curled hair 5 with a relatively small curl diameter of about 30 cm were tied to said net base 2 on matrix-like filaments of a net base 2 and at their cross sections. The hair 5 was tied by bending a strand to two at a center to form a pair, and by hooking their bent portions with a specific hooking needle to form knots 5a in the net base 2. The length of the hair 5 tied first was 15 cm, equal to that of long hair 4. Since the tied area of the net base 2 was 300 cm^2, and the pre-determined density was 70%, the weight of 15 cm long hair was 50 g. Since also the pre-determined ratio of short hair 3 in hair number was 50%, the hair weight of the first tied hair 5 was about 25 g.

[0047] As a second step, the hair 5 tied to a net base 2 was cut to 3 cm with clippers to be short hair 3. Said short hair cut to 3 cm was further cut in a diagonal direction with clippers in a pre-determined width to be 1 to 3 cm long to give a length distribution to short hair.

[0048] As a third step, curly hair with a relatively large curl diameter of about 30 cm as a total was bent to two, and knotted to pre-determined positions, resulting in tying long hair 4 of 15 cm length.

Here, artificial hairs of nylon filaments of the same black color and same diameter were used for short and long hairs 3 and 4. Long hair 4 had the same pre-determined ratio of 50% as short hair, and were tied among short hair 3 at pre-determined intervals.

[Example 2]

[0049] The same wig 1 as in Example 1 in accordance with the present invention was manufactured, except for the pre-determined ratio of short and long hairs 3 and 4 designed as 33% and 67%, respectively.

[Example 3]

[0050] The same wig 1 as in Example 2 in accordance with the present invention was manufactured, except for dark brown as the color of short hair 3, and light brown as the color of long hair 4.

[0051]

(Comparative Example)

In order to make short hair of 3 cm length, since the hair material of 6 cm total length must be used, bent to two, and tied to a wig base, it

requires even skilled experts a fairly long tying time. Therefore, after tying 30 cm long hair, a wig with short hair was manufactured by the conventional method to make short hair with thinning scissors. In this case, taking into consideration the formation of a spotty pattern with thinning clippers, usually 20 to 30% more than a pre-determined density are tied in general, and in the present example, hair was tied at 90% density in order to make the pre-determined density 70% as in Example 1, and cut with thinning scissors to about 70% by visual judgment after tying.

The tying time to a wig in the present comparative example was longer than that of Example 1 due to the increase of the amount by 20%.

[0052] Next, appearance inspection was conducted for Examples 1 to 3 and Comparative Example.

In all cases of wigs in Examples 1 to 3, the standing of tied hair was more pronounced than Comparative Example, and their bulkiness resulted in excellent appearance. On the other hand, in case of Comparative Example, there was almost no standing of tied hair. In case of a wig 1 of Examples 1 to 3, cutting short hair 3 to form a length distribution increased natural appearance.

[0053] The wigs of Examples 2 and 3 had lower pre-determined ratio (33%) of short hair 3 than that of Example 1, but had better appearance than the wig of Example 1 in wig standing and natural appearance.

[0054] In case of Example 3, in addition to improvement of bulky appearance, since short hair 3 was dark brown and long hair 4 was light brown, the root portions close to head skin were dark colored, and the tip portions were light brown, and both colors were well mixed, as short and long hairs 3 and 4 were mutually mixed and almost uniformly allocated, resulting in the color feeling which were not attained by conventional tying methods, and also excellent gradation could be attained.

[0055] Suitable forms of embodiment of the present invention have been explained here, but the present invention is in no way limited only to the forms of embodiment illustrated in the accompanying drawings hereof, but appropriate variations are possible within the range of the present invention. Further, the concrete numerical values and the like explained

in said embodiments can be appropriately modified as is necessary..

Also, a wig base 2 may be not a net base but a base of artificial skin. A wig base 2 of an excellent artificial skin can be manufactured if urethane resin is molded by coating and drying to a pre-determined thickness on to a plaster pattern of the wig wearer's head shape prepared in advance. To said wig base 2 of artificial skin, short and long hairs can be controlled in a pre-determined density, and in a pre-determined ratio with improved working efficiency, by writing with a marker or else the pre-determined density and distribution pattern of short and long hairs on the back side of artificial skin, or by adhering the paper with these items written thereon to the male pattern of the head shape, laying thereon an artificial skin base, and tying hair to the artificial skin base along the distribution pattern visible through the artificial skin base. With such patterns, it is possible to manufacture practically identical wigs in desired numbers.

CLAIMS

What is claimed is:

1. A wig, comprising a wig base, and hair tied to said wig base, characterized in that;

said hair includes short hair and long hair,

said short hair and long hair are tied to the wig base in a pre-determined amount, and

said short hair and long hair are controlled and tied in a pre-determined ratio.

2. A wig, comprising a wig base, and hair tied to said wig base, characterized in that;

said hair includes short hair and long hair having different curl diameters, and

said short hair is controlled and tied in the ratio of 20 to 50% of the hair amount tied to said wig base.

3. The wig as set forth in Claim 1 or Claim 2, characterized in that;

the lengths of said short hair are not constant, but have hair length distribution.

4. The wig as set forth in either of Claims 1 to 3, characterized in that;

each of the lengths of said short hair is a half or less of said long hair, and they are tied non-uniformly within the range of 1 to 5 cm.

5. The wig as set forth in either of Claims 1 to 3, characterized in that;

said short hair has smaller curl diameter than said long hair.

6. The wig as set forth in either of Claims 1 to 5,

characterized in that;

said short hair and long hair have mutually different colors.

7. The wig as set forth in either of Claims 1 to 6, characterized in that;

said short hair and long hair have mutually different diameters.

8. The wig as set forth in Claim 1 or Claim 2, characterized in that;

said wig base is constituted with artificial skin made of soft synthetic resin.

9. The wig as set forth in Claim 1 or Claim 2, characterized in that;

the whole or at least a part of said wig base is constituted with a net member.

10. A method of manufacturing a wig, characterized in that;

it includes a first step of tying hair,

a second step of cutting each hair tied at said first step to a short hair of a pre-determined length, and

a third step of tying long hair among said short hair on said wig base.

11. The method of manufacturing a wig as set forth in Claim 10, characterized in that;

at said first step, hair to be short hair is controlled and tied in a pre-determined ratio of the hair amount in a pre-determined density.

12. A method of manufacturing a wig, characterized in that;

it includes a first step of designing a mixing ratio of short hair and long hair tied to a wig base, and tying hair to be short hair to a wig base in a pre-determined mixing ratio,

a second step of cutting each hair tied at said first step to a short

hair of a pre-determined length, and

a third step of tying hair to be long hair in said pre-determined ratio among said short hair on said wig base.

13. The method of manufacturing a wig as set forth in Claim 12, characterized in that;

it includes a step of designing in advance a total hair density of short hair and long hair tied to said wig base, prior to designing a mixing ratio of short hair and long hair tied to said wig base.

14. The method of manufacturing a wig as set forth in Claim 11 or Claim 12, characterized in that;

said ratio of short hair is controlled to 20 to 50% of a hair amount tied to said wig base.

15. The method of manufacturing a wig as set forth in either of Claims 10 to 12, characterized in that;

at said second step, cutting is so conducted that each hair is given non-uniform hair length distribution.

16. The method of manufacturing a wig as set forth in either of Claims 10 to 15, characterized in that;

at said second step, each of the lengths of said short hair is a half or less of said long hair, and they are made non-uniform within the range of 1 to 5 cm.

17. The method of manufacturing a wig as set forth in Claim 10, characterized in that;

at said third step, said long hair is tied, so controlled to a pre-determined ratio as to attain a pre-determined density together with the already tied short hair.

18. The method of manufacturing a wig as set forth in either of Claims 10 to 17, characterized in that;

said long hair is either straight or curly, and said short hair has a smaller curl diameter than said long hair.

19. The method of manufacturing a wig as set forth in either of Claims 10 to 18, characterized in that;

said short hair and long hair have mutually different colors.

20. The method of manufacturing a wig as set forth in either of Claims 10 to 19, characterized in that;

said short hair and long hair have mutually different diameters.

21. The method of manufacturing a wig as set forth in Claim 10 or Claim 12, characterized in that;

said wig base is constituted with artificial skin made of soft synthetic resin.

22. The method of manufacturing a wig as set forth in Claim 10 or Claim 12, characterized in that;

the whole or at least a part of said wig base is constituted with a net member.