HAIR SUPPORTING ELEMENT FOR A WIGLESS OR REGULAR WIG

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ABSTRACT
A synthetic resinous or rubber cap or base is provided for a wig or for a postiche. The wig is manufactured by implanting hairs or groups of hairs in elongated strips. These elongated strips may be part of a monolithic structure in which they are connected together by bridges to form a cap or the hairs or groups of hairs may be supported on elongated members which are attached to strips by adhesive agents or by high-frequency heating or the like. The elongated members bearing the hair may also be attached to strips or lace belts by means of hooks.

1 Claim, 10 Drawing Figures
HAIR SUPPORTING ELEMENT FOR A WEFTLESS OR REGULAR WIG

FIELD OF THE INVENTION

This invention relates to methods and apparatus for the manufacture of hair supporting elements and synthetic resinous caps or bases for the making of wigs, and to methods and apparatus for the manufacture of regular and/or weftless wigs.

BACKGROUND

A wig cap or base may comprise a net woven from silk or cotton yarn or synthetic fibre and such a net may be coated with a resin. It is also known that, to make a stretch net, the fibre may be covered with latex or spandex.

It is also known that after a net is folded or crumpled in a certain way, it can be cut to form a semicircular cap or base and that a ribbon tape or elastic band can be attached along the edge of the resulting semicircle to enable putting the wig on the user’s head.

Unfortunately, the style of the aforesaid type of wig is unrefined and, moreover, it gives the user’s head a sense of confinement. Also, an unnatural appearance results because wrinkles appearing, during the manufacture of the semicircular cap or base, make irregular angles due to the nature of the adherence of the ribbon tape or elastic band to the edge of the semicircular cap. Further, such type of wig cannot be used in hot weather and moreover results in an unhygienic condition, because the wearing of this type of wig, which closely surrounds the user’s own hair, prevents the evaporation of perspiration. Also, should a thread in the woven net be cut, the net would gradually unravel.

In addition to the above, if the aforesaid type of wig is washed, restoration to its original state is impossible because the woven net relaces during laundry operations. Still further, the mass production of standardized sizes is difficult. Moreover, when human or synthetic hair is transplanted onto the cap or base by ordinary processes, the hair style is easily displeased due to relaxation of the rows of hair and an optional change of hair style at the user’s pleasure is impossible because the direction of the hair tress cannot be changed.

In general, a general aspect of the prior art that the human or synthetic hair be cut to a predetermined length and that bundles of the thusly cut hair tress be moved by hand to a double-needle sewing machine which is used to form a series of hair lace. The thread line resulting from the double-needle sewing machine is folded, to be sewed again along the previously sewed line by an ordinary one-needle sewing machine, whereafter the root of the folded part is sewed by the single-needle sewing machine to form a belt-shaped hair lace, commonly known as "weft," for the manufacture of a machine-made wig. This belt-shaped hair lace is sewed by a sewing machine onto the framed strips of a cap or base, or is used in a capless wig.

In processes of the past, there are many defects. For example, many different types of specific sewing machines, enormous amounts of equipment, large numbers of persons and much time are required. The products must, furthermore pass through complicated manufacturing steps. Further, the hair will generally fall out rather easily when the wigs are combed. Moreover, the sewed lines can easily come loose. Additionally, the thickness of the hair belt is uneven because of the root of the hair lace may be folded doubly or triply during the sewing in the forming of the hair belt. Still further, the direction of the hair in the wigs cannot be changed at will because thick knots which appear on the hair belt are fixed to lay in one particular direction when the hair belt is sewed onto a cap or base.

SUMMARY OF THE INVENTION

The type of wig likely to give a user most satisfaction is that in which the hair is transplanted as though it were actually rooted on the scalp. The appearance must be as if the hair were distributed densely and individually on the scalp. It must permit the hair style to be changed directionwise as demanded by the user’s pleasure. The wig must give an impression from all views as though it was not artificial but rather that it was a natural head of hair.

Wigs of the prior art cannot possibly give the above-mentioned characteristics because the transplantation of hair onto a plainly woven net by hand processes or machine-made wigs employing wetting processes or machine-made capless wigs employing hair laces cannot avoid the defects referred to above.

To avoid the above-mentioned defects of the prior art, the invention provides a new approach. According to the invention, the woven net is replaced by a synthetic resin or synthetic rubber structure produced through a compression or pressure process by a molding operation. This structure is a frame having no crumbling nor undesirable angles and, with it, it is possible to work out the standardizations and mass production of caps or bases comprising rows of the framed strips and bridge connection forms, the spacing between the rows of strips and the bridge connection forms being readily accomplished. Human or synthetic hair is transplanted onto the rows of strips.

Generally, in achieving the various objects of the invention, namely the provision of new and improved methods of preparing wigs and the products of such methods, there is contemplated the manufacture of a wig comprising a plurality of spaced elongated supports with hair being attached along these supports. The wig manufactured in accordance with the invention may comprise a base profiled as a cap in conforming to at least part of the human head and including the aforementioned supports with bridges connecting and extending between these supports. The supports and bridges may be connected together in a monolithic structure of flat cross-section, the supports and bridges cooperatively defining ventilation openings therebetween. In further accordance with the invention, at least one elastic band may be peripherally provided on an inside of the aforementioned cap. In accordance with another feature of the invention, the structure may be of synthetic resin or rubber or other similar plastic.

In accordance with another embodiment of the invention, the aforementioned supports may be tubes and, in accordance with still another embodiment of the invention, the aforesaid support may be belt-plates.

In the latter embodiments, hooks may be provided detachably connecting the elongated supports to elongated elements which extend perpendicularly thereof. According to further features of the invention, adhesive agents may connect the hair to the supports or the hair may be implanted in the supports. The implanting may be effected by means of high-frequency heating or other types of heating or like.
In accordance with still further objects and features of the invention, there is provided a method of manufacturing a wig comprising molding a monolithic cap of spaced strips connected by bridges of synthetic resin or rubber and connecting hair to the strips.

The above and further objects, features and advantages of the invention will be found hereinafter.

**BRIEF DESCRIPTION OF THE DRAWING**

Further a more detailed explanation of the invention follows below and is illustrated by the accompanying drawings in which:

**FIG. 1** is a perspective view of a cap or base for a wig in accordance with one embodiment of this invention;

**FIG. 2** is a side view of the cap or base of FIG. 1 positioned on a head;

**FIG. 3** is an enlarged view of a cut-out part of the cap or base of FIG. 1;

**FIG. 4** is a sectional view along line 1—1 of FIG. 3 with hair transplanted thereon;

**FIG. 5** illustrates in perspective view a cap or base for manufacture of men's wigs for use with a bald forehead;

**FIG. 6** illustrates, in perspective view, a cap or base for the manufacture of a half-wig used when the back of the head is bald;

**FIGS. 7 and 8** show part of hair strips with hair groups transplanted onto the same; and

**FIGS. 9a and 9b** show perspective views of examples of attaching or hanging the hair strip group of FIG. 7 onto the lace of a capless structure.

**DETAILED DESCRIPTION**

In the formation of a generally monolithic synthetic resinous or rubber cap or base with which it is possible to change the hair style according to the user's pleasure, a semicircular cap or base (FIGS. 1-4) profiled to the human head comprises spaced rows of frame strips 2 linked by bridge connection forms 3 to form the spaces 4.

The perforated wig cap manufactured in accordance with the above does not compress the user's own hair and provides for a good ventilation effect as well as hygienic cleanliness. Further, the new wig cap permits removing perspiration and can be washed because the synthetic resinous or rubber cap or base will maintain its original state, even in water, without any relaxation. The single process required to produce this new cap or base provides for mass production techniques and reduces prices.

It is even possible to implant human or artificial hair in an optional direction onto this cap or base by known methods. When a piercing transplantation or implanting of hair through the rows of the frame strips 2 is effected, the resulting wig has no thick belt-type weft as seen in machine-made wigs or in capless wigs. Furthermore, the new wig has no binding knot as seen in handmade wigs. Accordingly, this new wig gives an appearance as if the hair were a growth of the user's own hair. Its structure makes it possible to change easily the direction of hair with a comb at the user's pleasure and to make optional hair styles which is impossible with known wigs such as machine-made wigs, capless wigs or hand-made wigs, or the like.

In the new wig, the rows of the frame strips 2 can be changed to a swirl or spiral type. An elastic gum band B can be attached along the semicircular edge of this cap or base or the edge can be cut at spaced positions to attach separate elastic bands onto it to enable adjusting the size of the wig.

The structure of this invention can also be utilized by those who are partially or completely bald. Examples are shown in FIGS. 5 and 6 respectively. The wig in FIG. 5 is suitable for those whose forehead is bald. The wig in FIG. 6 is for those whose top and back of the head is bald.

In further accordance with this invention, the frame strips of the cap or base can be replaced with a synthetic resin or rubber tube or belt-plate. Specifically, the human or artificial hair is transplanted directly onto the above-mentioned tubes 5 or belt-plates 5' as shown in FIGS. 7 and 8 and the tubes or belt-plates are sewed or otherwise attached onto the cap or base or onto the laces for the capless type as shown in FIGS. 9a and 9b.

According to this invention, the human or artificial hair is transplanted directly by a single process onto the synthetic resin or synthetic rubber tube 5 or belt-plate 5' to form the hair strip group 6. The hair cannot fall out because it is transplanted tightly into the flexible synthetic resin or synthetic rubber tube 5 or belt-plate 5'.

Specifically, the hair strip group can also be stuck with adhesive agents or by heat-treatment onto or onto the tube 5 or belt-plate 5'. The adherence can also be effected by high-frequency or supersonic wave treatment. In any event, a clean hair strip group can be obtained without the appearance of adherence.

After the formation of hair strip groups as mentioned above, the length of hair is cut to a length which can form any optional hair style and the hair strip groups are attached or sewed onto the associated cap or base which conform to the shape of a human head and in order to form optional hair styles.

The hair strip groups can also be attached with adhesive agents onto caps or bases for wigs or onto laces for capless types. When the hair strip groups are attached by heat treatment onto caps or bases or onto laces for the capless types, the hair strip groups can be attached without there appearing any vestige of adherence by the use of high-frequency or by the supersonic wave adhesive treatments.

Furthermore, if the hair is transplanted onto a tube 5 to form the tube-type hair strip group which is hung onto the lace for the capless type, the direction of hair strip groups can be changed optionally at the user's pleasure as shown in FIG. 9(b) because the hair strip groups hung on the hooks 9 placed on the lacebelt 7 for the capless type can be moved to an optional direction.

As mentioned above, this invention is characterized in that the hair strip groups can be produced by a single machine process and thus the mass production of hair strip groups is possible by a single mechanical process. The resulting transplantation of hair is uniform and dense and the hair cannot fall out. The new wig constituted by the hair strip groups of this invention appears as if the hair were to be rooted actually on the human scalp. The direction of hair or the hair style is optional at the user's pleasure. The hair strip groups when hung on hooks can readily be moved or replaced. Change of color in whole or in part is also possible by the attachment or removal of specific hair strip groups which are hung on the hooks of the strip or lace 7.
According to this invention, wigs with the effects and advantages mentioned above can be provided with mass production techniques. Further, the wigs manufactured as above gives the users a light-headed feeling, avoids putting pressure on the user's head, and provides for a good ventilation effect.

What is claimed is:

1. A wig comprising a plurality of elongated supports, bridges connecting the supports in spaced relation, and hairs implanted in said supports at regularly and longitudinally spaced positions along each of the supports and such that pluralities of hairs extend from respectively from said regularly spaced positions and are separated by bare expanses on said supports, said supports being stretchable independently of the implantation of said hairs whereby said wig is adapted to stretch in the longitudinal direction of said supports, the supports being in the form of tubes.

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