US 20070157944A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2007/0157944 A1**

**Catron et al.** (43) **Pub. Date: Jul. 12, 2007**

(54) **HAIR WEFT PRODUCT AND METHOD OF USE**

(75) Inventors: **Stacy Catron**, Long Beach, CA (US); **Denise Matheny**, Huntington Beach, CA (US)

Correspondence Address:
**Law Office of Terry L. Miller**
**24832 Via San Fernando**
**Mission Viejo, CA 92692 (US)**

(73) Assignee: **Amazing Lengths, LLC**

(21) Appl. No.: **11/329,537**

(22) Filed: **Jan. 11, 2006**

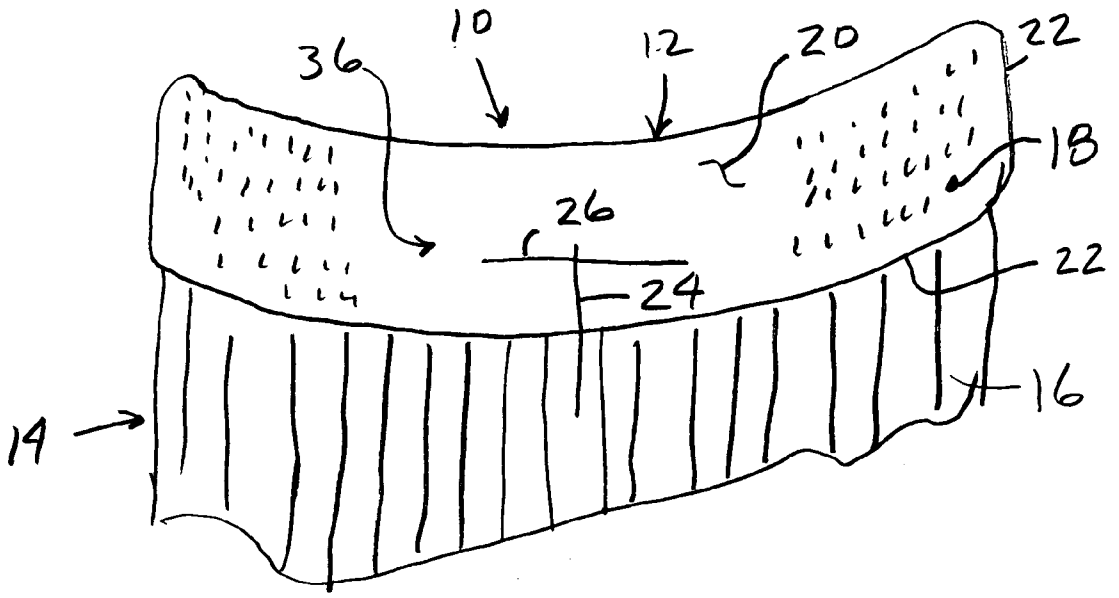
**Publication Classification**

(51) **Int. Cl.**
*A41G 3/00* (2006.01)

(52) **U.S. Cl.** ..... **132/201**

(57) **ABSTRACT**

A hair weft for increasing the apparent length and/or bulk of a user's hair includes an elongate arcuate thin flexible substrate which carries stands of hair or hair-like filaments over substantially its entire surface area. The substrate is free of apertures or holes, so that within its perimeter the entire surface area of the substrate carries hair strands. And, because of the large number of hair strands carried by the hair weft, only a single application of one hair weft will be satisfactory to achieve the desired effect in most cases. The weft is applied adhesively to underlying human hair, and conceals the adhesive while adding substantial bulk and/or length to the hair for the wearer. The substrate of the hair weft serves as an adhesive carrier during application of the hair weft to a wearers head, so that a relatively unskilled user can achieve an attractive result, even at home without the skills of a stylist of cosmetician. Further, the substrate appears substantially like the human scalp so that the hair weft is not easily detected.



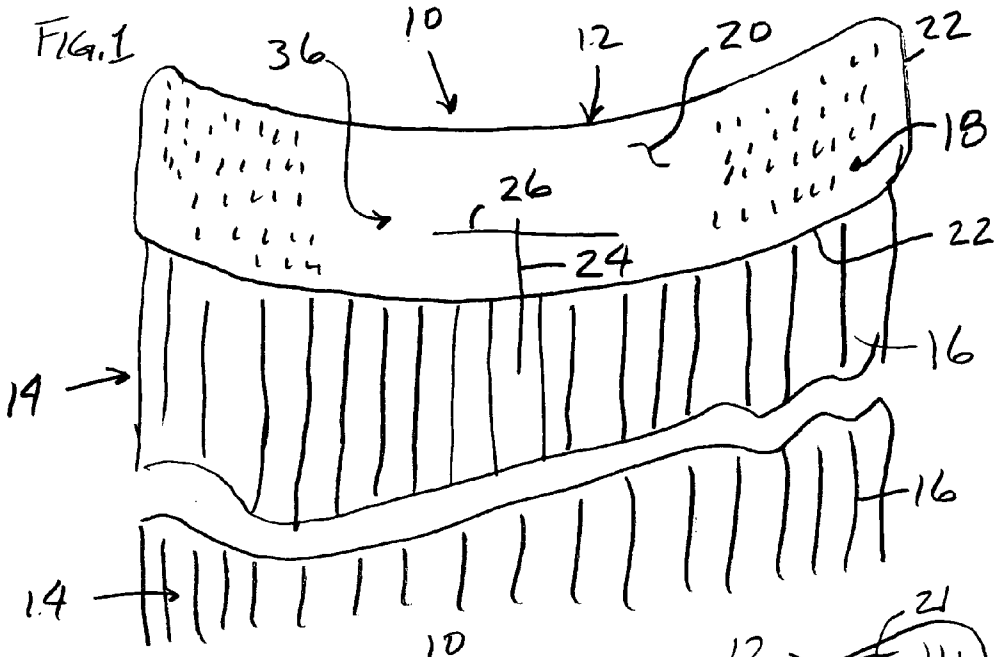



FIG. 1

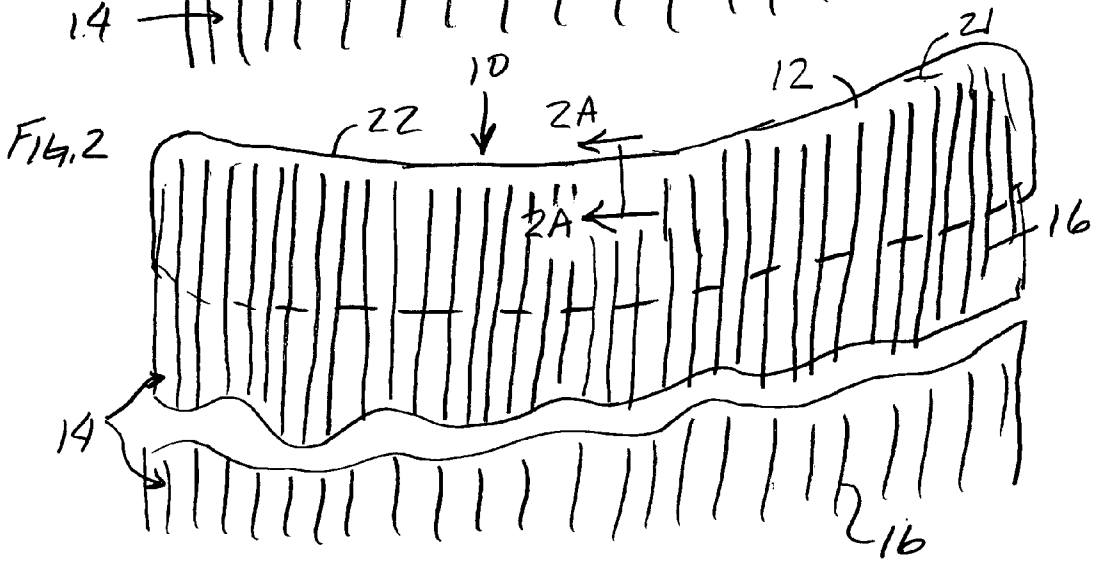



FIG. 2

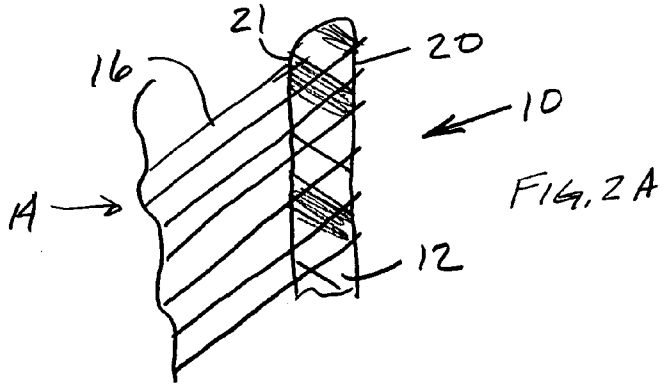
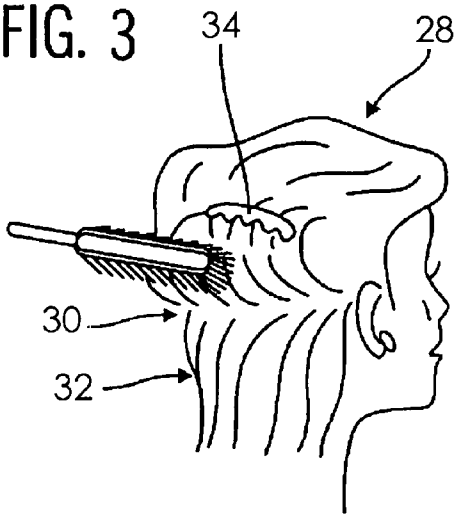



FIG. 2A

FIG. 3



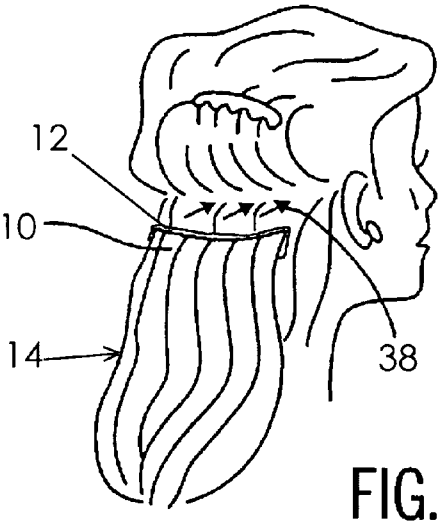
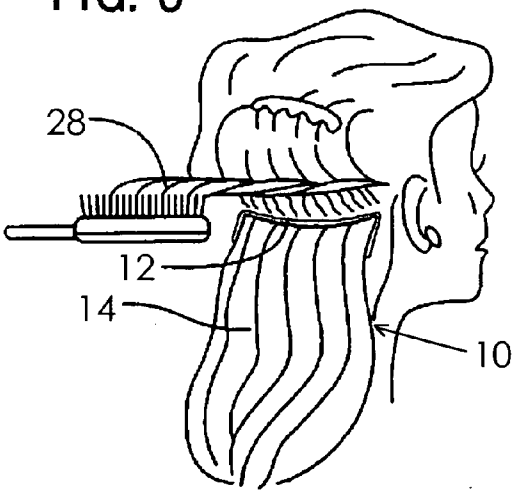




FIG. 4

FIG. 5



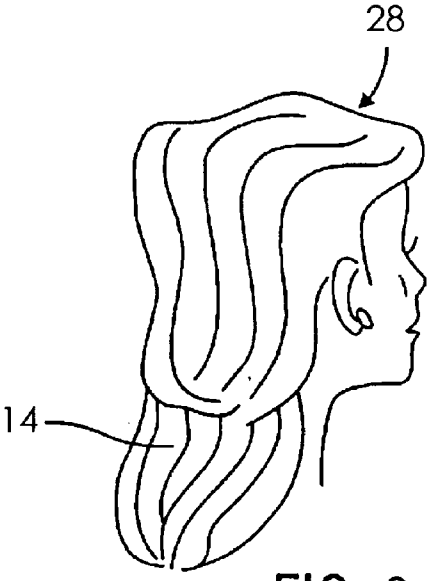




FIG. 6

# HAIR WEFT PRODUCT AND METHOD OF USE

## FIELD OF THE INVENTION

[0001] The present invention relates to a hair weft product for extending or thickening the appearance of human hair, and to a method of using the hair weft.

## RELATED TECHNOLOGY

[0002] Methods and products for supplementing the natural human hair are well known. All of these products and methods appear to be intended for use by professional cosmeticians, and to be used in professional hair salons. All of these products and methods are either too complex or to difficult for a user to attempt their use at home.

[0003] For example, U.S. Pat. No. 4,934,387, to Megna, describes a method in which supplemental hair is aligned with the natural hair of the person and adhered to the natural hair using a colored thermoplastic glue. The warm adhered natural and supplemental hair are then intertwined together to permit binding of the supplemental hair to the natural hair prior to styling of the combined hair. This method, however, requires the use of a hot glue, which can cause discomfort to the person to whom the supplemental hair is provided as well as to the stylist, and also requires extensive manual manipulation of the natural and supplemental hair, thus prolonging the time required for completion of the supplementation process.

[0004] U.S. Pat. No. 5,740,819, to Hicks, teaches a method for providing supplemental hair to a person which requires stitching and braiding to secure a weft to the person's hair. This method is complicated and time consuming, and requires considerable dexterity on the part of the stylist.

[0005] U.S. Pat. No. 5,868,145, to Spann, discloses a process for attaching supplemental hair to human natural hair in which a bundle of supplemental hair is first coated with a liquid latex adhesive, which is allowed to dry, then with a liquid cyanoacrylate adhesive, which is also allowed to dry. The coated end is then aligned with strands of human natural hair to form a junction, and the junction is coated with an acrylic thermosetting adhesive, which finally is allowed to harden. This process, however, requires the use of a plurality of different adhesives, resulting in increased complexity and expense.

[0006] Finally, U.S. Pat. No. 6,446,636 appears to disclose a stitched and knotted hair weft, which is sandwiched between layers of natural hair, and is there secured using an adhesive to which a colorant has been added. Other than the addition of a colorant to the adhesive used according to the invention of the '636 patent, there appears to be no additional contribution to the relevant art by the '636 patent.

## SUMMARY OF THE INVENTION

[0007] Accordingly, an object for this invention is to overcome or avoid one or more of the limitations and deficiencies of the conventional art.

[0008] It appears that a need exists for a hair weft product that is simple to use, and which can possibly be used at home.

[0009] Further, there is a need for a hair weft which in a single application can provide a sufficient increase in the appearance of hair bulk, or in the apparent number of supplemental hair strands, that only a single application of the hair weft is needed to achieve the desire attractive result. Thus, it is strongly desired to eliminate the conventional need for the application of plural conventional hair wefts in order to achieve the appearance of hair bulk that is commonly desired.

[0010] Further, a need exists for a method of use of such a hair weft which allows a person with ordinary skills to use it at home, perhaps with the assistance of another person.

[0011] The satisfaction of one or more of these needs is an object for this invention.

[0012] In accordance with one aspect of the present invention, there is provided a hair weft comprising a thin flexible substrate which is elongate, arcuate, and free of through apertures. This substrate has a perimeter bounding an arcuate area, and defining a pair of opposed surfaces. One of the opposed surfaces carries a great plurality of strands of natural or synthetic hair generally uniformly spaced apart within the area of the substrate, and this hair secures into the substrate generally in parallel to extend to one side of the substrate. On the opposite surface the substrate provides for adhesive attachment of the weft to a user's natural hair.

[0013] In accordance with another aspect of the present invention, there is provided a method of increasing the apparent length, or bulk, or both, of a user's hair. This method comprises steps of providing a hair weft including a thin flexible substrate which is elongate, arcuate, and free of through apertures. This substrate is configured to have a perimeter bounding an arcuate area, and defining a pair of opposed surfaces. From one of the pair of opposed surfaces extends a multitude of strands of natural or synthetic hair generally in parallel, which hair is uniformly distributed within the area, and is also uniformly spaced apart so as to replicate the appearance of the user's scalp. On the opposite one of the pair of opposite surfaces the substrate provides an irregular surface facilitating adhesive attachment of the weft to a user's natural hair.

[0014] Other objects, features and advantages of the present invention will be to those ordinarily skilled in the pertinent art from the following detailed description of a single exemplary preferred embodiment of the invention. It is to be understood, however, that the detailed description and specific examples, while indicating a single exemplary preferred embodiment of the present invention, are given by way of illustration and not limitation. Many changes and modifications within the scope of the present invention may be made without departing from the spirit thereof. These and additional objects, advantages and results of the present invention will appear from a consideration of the following detailed description of one exemplary preferred embodiment of the invention, taken in conjunction with the appended drawing Figures in which:

## BRIEF DESCRIPTION OF THE DRAWING FIGURES

[0015] FIG. **1** is a front elevation view of a hair weft embodying the present invention;

[0016] FIG. **2** is a rear elevation view of the hair weft seen in FIG. **1**;

[0017] FIG. 2A is a fragmentary cross sectional view taken at line 2A-2A of FIG. 2, viewed in the direction of the arrows;

[0018] FIG. 3 provides a diagrammatic view of a human head with the hair being parted preparatory to receiving the hair weft seen in FIGS. 1 and 2;

[0019] FIG. 4 shows the application of the hair weft to underlying natural hear of the person seen in FIG. 3;

[0020] FIG. 5 shows the natural hair of the person seen in FIGS. 3 and 4 being brushed outwardly and over the hair weft applied as seen in FIG. 4; and

[0021] FIG. 6 is a perspective view showing the person's hair with the weft secured in place among the person's natural hair.

## DETAILED DESCRIPTION OF PREFERRED EXEMPLARY EMBODIMENTS

[0022] Viewing now FIGS. 1, 2, and 2A in conjunction, it is seen that a hair weft 10 embodying the present invention includes an arcuate flexible carrier portion or substrate 12. The carrier portion or substrate 12 is preferably thin (i.e., about 1/16 inch thick or less) is formed of polymer, and most preferably is formed of a flexible polyurethane polymer. On the one hand, the substrate 12 secures and carries a great multitude of stands 14, which may be formed of natural human hair, or may be formed of synthetic filaments replicating human hair, or a combination thereof. The individual strands 16 of the multitude 14 are each individually (or in small groups of a few strands each) spaced apart and secured into the substrate 12. The strands 16 are dispose on substrate 12 so that on one side they extend slightly through this substrate 12 (viewing FIG. 2A). Thus, a surface 20 of the substrate 12 (which is the surface disposed toward the wearer of the weft 10) is "nubby" because of the great multitude of short strands 16 protruding on this surface.

[0023] On the other hand, the opposite side 21 of the substrate 12 appears much as a natural human scalp, with closely spaced apart strands of hair extending from this surface. That is, at the opposite side 21 of the substrate 12, the strands 16 each extend for a considerable distance (i.e., several inches) in order to depend from the substrate 12, as is best seen in FIG. 2. As is best seen also in FIG. 2A, the strands 16 also extend through the substrate 12 substantially in parallel, and in an angulated orientation. This angulation of the strands 16 is preferably about 40° to about 45° relative to the vertical plane of the substrate 12 considered near the center of this substrate. Thus, the strands 16 considered as a group or mass 14 have a preferred direction of dependence from the substrate 12, and as FIG. 1 depicts, the multitude of strands 14 tends to depend from the substrate 12 together with an appearance much like the direction of growth of thick natural human hair.

[0024] Viewing FIGS. 1 and 2 in greater detail, it is seen that the substrate 12 has an arcuate body portion 18 defining the surface 20 within a surrounding perimeter 22. The body portion 18 has dimensions of about 1 to about 1¼ inches in the vertical direction, and about 7 inches in the horizontal direction, although the invention is not so limited. The arcuate shape of the substrate 12 is concave in the upward direction. Importantly, as was pointed out above, this surface 20 is nubbed or irregular to a controlled and selected extent because of the slight projection on this face 20 of the substrate 12 of the end portions of the multitude of strands 14. On the opposite face 21 of the substrate 12 (best seen in FIG. 2), the strands 16 are each elongate and extend to an extent of several inches or more. Because the substrate 12 is relatively thin, and because it is made of a polymer which is flexible and which can be provided in colors closely approximating the human scalp, the substrate is conformal to the head of a person wearing it, and replicates their scalp with the addition of the mass 14 of added hair strands.

[0025] Viewing again particularly FIG. 1, the substrate is arcuate in rear elevation view. And, it is seen that the multitude of strands 14 are carried in substrate 12 with an angulation providing a preferred direction of dependence for these strands relative to the substrate 12. That is, as is seen in FIG. 2, the stands 16 tend to all depend or fall together from the substrate 12 in a mass 14. As is seen in FIGS. 1 and 2 in conjunction, the strands 14 prefer to depend from the substrate 12 generally in parallel with one another and perpendicular the arc of the substrate 12 about at the midpoint of this arcuate shape. That is, the strands 16 are all generally parallel to a line 24 seen in FIG. 1. The line 24 is perpendicular to a tangent 26 of the arc of the substrate 12 substantially at the midpoint line 24.

[0026] Further, as will be seen, the nubby surface 20 of the substrate 12 has a particular advantage according to the present invention. And, following from the unique design of the weft 10 and from the advantage provided by the nubby surface 20 is the possibility for a successful "do-it-yourself" use of the weft 10.

[0027] While the steps illustrated and described herein my be carried out by a stylist or other professional cosmetician, it is an advantage of the present invention that the use of the weft 10 may be successfully carried out by an individual user on her own head and hair, or may be carried out by a user with the assistance of a friend or neighbor, for example. Thus, the services of a skilled stylist or a professional cosmetician are not essential to a satisfactory use of the weft 10 according to this invention.

[0028] Turning now to FIGS. 3-6 for an explanation of the use of the hair weft 10, it is seen in FIG. 3 that the natural hair 28 of a person is parted, for example by brushing. The natural hair can be parted in any desired manner depending on the location and orientation desired for the weft 10 to be attached, but in a preferred use a horizontal part 30 is defined extending substantially along and across the occipital bone of the person. A first portion 32 of the person's natural hair extends below the horizontal part 30, and the remainder of the person's natural hair is secured above the part 30, as by use of a comb or hair clip 34 seen in FIGS. 3, 4, and 5. Alternatively, a hair net (not shown in the drawing Figures) may be used to secure the natural hair above the part 30.

[0029] Next, in preparation for the application of the weft 10, as will be explained by reference to FIG. 4, an adhesive is first applied on the surface 20, best seen in FIG. 1 (as is indicated by the arrowed numeral 36). The adhesive 36 is preferably spread substantially uniformly over the area of the substrate 12 within perimeter 22. Because the surface 20 is nubby, the adhesive 36 can obtain a very secure grip on this surface of the weft 10. Further, because the surface 20 is within the perimeter 22 of the substrate 12 (which is colored to match the human scalp) the adhesive 36 will not

be visible once the weft **10** is in place. Thus, the use of a colored adhesive is not required by this invention.

[**0030**] While a number of adhesives are available to use in practice of this invention, the inventors have discovered that a commercially available adhesive available under the trade name, Butvar® B-98 works very well. This adhesive is available from: Solutia, Inc., 575 Maryville Center Drive, P.O. Box 66760, St. Louis, Mo., 63166-6760. It is believed that the constituents of this adhesive as applied are: polyvinyl butyral, 1,1-diethoxybutane, and water. This adhesive is available in a dry powder form, which is then dissolved in a combination of alcohol and acetone or water in order to make a viscous liquid adhesive of a consistency appropriate for the application onto the surface **20** of the substrate **12**.

[**0031**] While the Butvar B-98 adhesive applied to the surface **20** in the form of a somewhat viscous liquid is the currently preferred adhesive and method of attachment of the weft **10** to the hair of a user, the invention is not so limited. That is, for example, the adhesive **36** could be applied to the surface **20** of the weft **10** as an adhesive tape. In other words, a double-sided tape might be used providing on one side an adhesive effective to secure to the substrate **12**, and on the other side providing an adhesive effective to secure to clean natural human hair. Such a double-sided tape adhesive would still allow removal of the adhesive from the wearer's hair with a non-toxic solvent, and may be used in the practice of this invention.

[**0032**] Returning now to a consideration of FIG. **4**), the prepared hair weft **10** (i.e., with adhesive in place on surface **20**) is placed on the natural hair **32** immediately below the part **30** (as is indicated by the arrowed numerals **38**), and is there pressed in place with the top edge of the substrate **12** immediately adjacent to the scalp so as to allow the adhesive to bond to the underlying hair **32** securing the hair weft **10** in place. Because the weft **10** carries a considerable mass **14** of "hair" stands, only a single application of the weft **10** will be needed in order to achieve the desired appearance of significantly added hair length or bulk. It follows that the multiple applications of several smaller conventional wefts is avoided by this invention, thus avoiding the need for the skills of a professional hair stylist or cosmetician. Similarly, because the weft **10** includes a relatively large and easily handled substrate **12**, this substrate is more easily maneuvered into place while carrying the necessary adhesive. And, the nubby surface **20** provides a very good adhesive base for attachment of the weft **10**, so that a secure placement of the weft **10** adjacent to the wearer's scalp and on the hair **32** is achieved without the need to sandwich the weft between layers of natural hair.

[**0033**] It will be further noted viewing FIGS. **1** and **4**, that the side or surface **20** of the hair weft **10** to which adhesive is applied is disposed toward the wearer so that the adhesive is not visible once the weft **10** is in place. Thus, the substrate **12**, which appears much like human scalp, conceals the adhesive, and use of a colored adhesive is not required. Because the substrate **12** is arcuate, it easily conforms to the curve and shape of the human head, and fits snugly along part **30** very easily. Also, because of this same arcuate shape of the substrate **12**, the weft **10** does not wrinkle or bunch as it curves about the head. Such wrinkling or bunching would make the weft **10** easily detectable. The absence of such wrinkling or bunching makes the weft **10** easily concealed by the overlying natural hair.

[**0034**] Also, viewing FIGS. **1** and **2** again, it is seen that the substrate **12** is free of apertures or holes which would reduce the number of hair strands the weft could carry, and substantially the entire surface **20** within perimeter **22** carries hair strands. So, the weft **10** is able to provide a significantly greater bulk of hair in a single application than is the case with conventional small hair wefts, or conventional hair wefts having holes or apertures for weaving natural hair through the weft.

[**0035**] A hair weft embodying the present invention may be formed by a variety of methods. While a preferred method of manufacture of the hair weft **10** involves injecting or pooling polyurethane polymer in such a way as to capture the plural hair stands **14**, other manufacturing processes and methods may be used. For example, a substrate for the hair weft **10** may include a fabric or gauze layer which the hair strands **14** confront, pass through, or are knotted to. This knitted or woven fabric or gauze layer is then coated with a flexible polymer securing the hair strands into place, and also providing an irregular surface **20** to which an adhesive may securely bond.

[**0036**] It will be understood that throughout this disclosure, the term "hair," both with respect to the plural strands **14** and the individual strands **16**, is intended to encompass natural human hair, non-human hair, synthetic hair, or any combination thereof.

[**0037**] Also, the color of the weft, in preferred embodiments (that is the color of the hair **14** as well as the color of the substrate **12**, desirably matches the color of the wearer's natural hair and scalp. However, other colors or combinations of colors can be used to achieve particular desired styling effects.

[**0038**] Once the weft has been secured in place for a length of time (up to several weeks or longer) it may be desired to remove the weft. To remove the weft, the person's hair is again parted to expose the junction of the weft and the person's hair. A bond remover composition including a solvent is applied, either by spraying the solvent from a spray applicator or by dribbling the solvent from an applicator bottle spout, at the part **30** so that it flows under the substrate **12**. After a few seconds, the adhesive composition will begin to dissolve, at which point the weft **10** can be detached from the wearer's hair **28**. The natural hair **28** can then be brushed or combed to remove any residual adhesive, and the weft can be cleaned before reattachment of the weft.

[**0039**] While the present invention has be depicted and described by reference to a particularly preferred exemplary embodiment, no limitation on the invention is implied by this reference, and none is to be inferred. The invention is capable of considerable modification, alteration, and addition within the scope of the invention. For example, a hair weft embodying this invention could be made in a much smaller size the depicted embodiment, and then could be used on other locations of the head, possibly along angulated parts to add additional length or bulk to the hair at the sides of the users scalp. Also, although this invention is preferred to be used in a single application of a single hair weft, the invention is not so limited. A user is free to use multiple hair wefts in order to achieve the appearance of hair length or hair bulk desired. Thus, the invention is intended to be limited only by the spirit and scope of the appended Claims, giving cognizance to equivalents in all respects.

What is claimed is:

1. A hair weft comprising:

a thin flexible substrate which is elongate, arcuate, and free of through apertures;

said substrate having a perimeter bounding an arcuate area, and defining a pair of opposed surfaces, one of said surfaces carrying;

a great plurality of strands of natural or synthetic hair generally uniformly spaced apart within said area, and said hair securing into said substrate generally in parallel to extend to one side of said substrate;

on the opposite surface said substrate providing for adhesive attachment of said weft to a user's natural hair.

2. The hair weft of claim 1 wherein on said opposite surface said substrate defines an irregular surface assisting in adhesive attachment of the hair weft to a user's natural hair.

3. The hair weft of claim 2 wherein said irregular surface is defined by a multitude of hair strands extending slightly through said substrate.

4. The hair weft of claim 1 wherein said substrate has a vertical dimension of about 1 to about 1¼ inches, and a horizontal dimension of about 7 inches, and is concave upwardly.

5. The hair weft of claim 1 wherein with said substrate in a planar orientation said multitude of hair stands extend generally in parallel from said substrate and at an angle of about 40 to about 45 degrees relative to the plane of said substrate.

6. The hair weft of claim 5 wherein said multitude of hair strands are angulated to extend downwardly from said substrate with said substrate oriented to be concave upwardly relative to said arcuate shape thereof.

7. A hair weft comprising:

a thin flexible substrate which is elongate, arcuate, and free of through apertures;

said substrate being in elevation view concave upwardly, and having a vertical dimension of about 1 to about 1¼ inches, and a horizontal dimension of about 7 inches and being flexibly conformal to the human scalp about the rear of a user's head;

said substrate having a perimeter bounding an arcuate area, and defining a pair of opposed surfaces;

one of said pair of opposed surfaces carrying a multitude of strands of natural or synthetic hair generally uniformly distributed within said area, and generally uniformly spaced apart, and said hair securing into said substrate generally in parallel to extend to one side of said substrate so as to replicate the appearance of a user's scalp;

on the opposite one of said pair of opposite surfaces said substrate providing an irregular surface for adhesive attachment of said weft to a user's natural hair.

8. The hair weft of claim 7 wherein said irregular surface is defined by end portions of said multitude of hair strands extending slightly through said substrate.

9. The hair weft of claim 7 wherein said substrate is effective to conceal adhesive securing said substrate to a user's natural hair.

10. The hair weft of claim 7 wherein with said substrate in a planar orientation said multitude of hair stands extend generally in parallel from said substrate and at an angle of about 40 to about 45 degrees relative to the plane of said substrate.

11. The hair weft of claim 10 wherein said multitude of hair strands are angulated to extend downwardly from said substrate with said substrate oriented to be concave upwardly relative to said arcuate shape thereof.

12. A method of increasing the apparent length, or bulk, or both, of a user's hair, said method comprising:

providing a hair weft including a thin flexible substrate which is elongate, arcuate, and free of through apertures;

configuring said substrate to have a perimeter bounding an arcuate area, and defining a pair of opposed surfaces;

from one of said pair of opposed surfaces extending a multitude of strands of natural or synthetic hair generally in parallel, uniformly distributed within said area, and uniformly spaced apart so as to replicate the appearance of the user's scalp; and

on the opposite one of said pair of opposite surfaces providing said substrate with an irregular surface facilitating adhesive attachment of said weft to a user's natural hair.

13. A method of increasing the apparent length, or bulk, or both, of a user's hair, said method comprising:

providing a hair weft including a thin flexible substrate which is elongate, arcuate, and free of through apertures;

configuring said substrate in elevation view to present concave upwardly, and to have a vertical dimension of about 1 to about 1¼ inches, and a horizontal dimension of about 7 inches so as to be flexibly conformal to the human scalp about the rear of a user's head;

also configuring said substrate to have a perimeter bounding an arcuate area, and defining a pair of opposed surfaces;

from one of said pair of opposed surfaces extending a multitude of strands of natural or synthetic hair generally in parallel to depend at an angle from said substrate, said hair being uniformly distributed within said area, and uniformly spaced apart so as to replicate the appearance of the user's scalp; and

on the opposite one of said pair of opposite surfaces providing said substrate with an irregular surface facilitating adhesive attachment of said weft to a user's natural hair.

14. The method of claim 13 further including the step of providing for said irregular surface to be defined by end portions of said multitude of hair strands extending slightly through said substrate.

15. The method of claim 13 further including the step of providing for said substrate to be effective to conceal adhesive securing said substrate to a user's natural hair.

16. The method of claim 13 further including the steps of extending said hair from said substrate in parallel and at an angle of about 40 to about 45 degrees relative to the plane of said substrate.

* * * * *