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(57) **ABSTRACT**

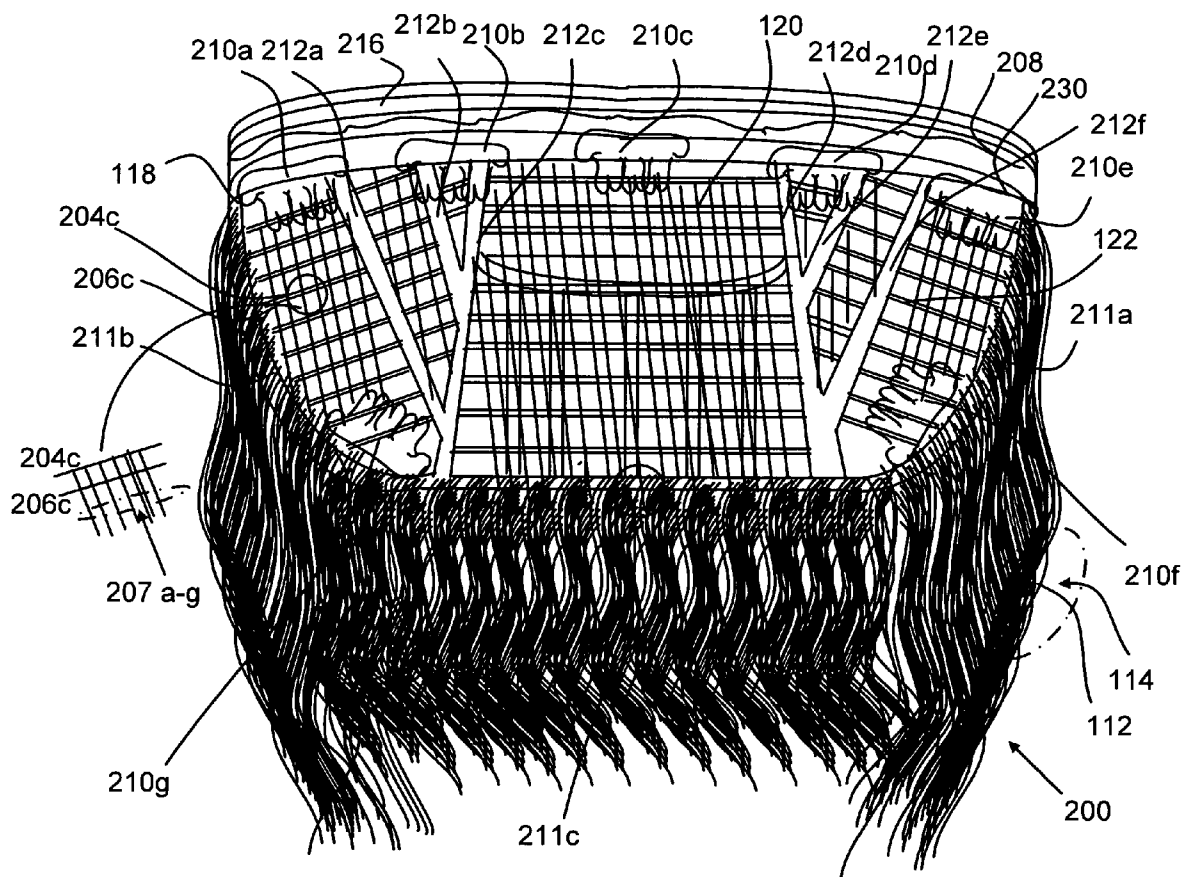
A hair extension apparatus and methods capable of providing increased hair volume. In one embodiment, the apparatus comprises a coupling member having an inner and an outer surface. A plurality of hair sections are attached to the outer surface of the member and extending substantially therefrom. A plurality of spaced apart fastener is operatively attached substantially along a perimeter of the inner surface. The coupling member and the plurality of hair sections are configured to substantially blend with at least one hair supplemental extension apparatus to achieve a substantially undetectable boundary region.

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### Related U.S. Application Data

(63) Continuation-in-part of application No. 11/388,533, filed on Mar. 24, 2006.



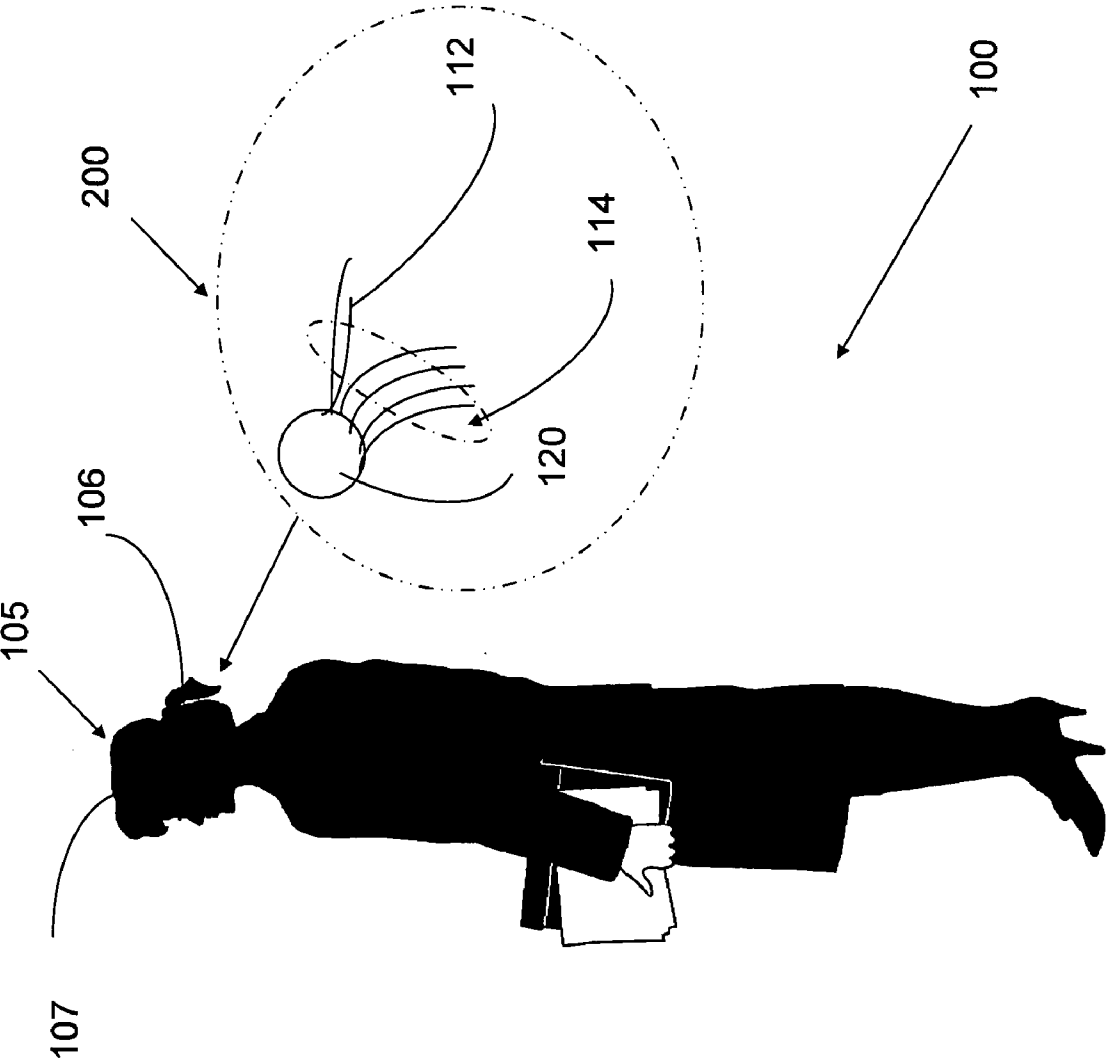
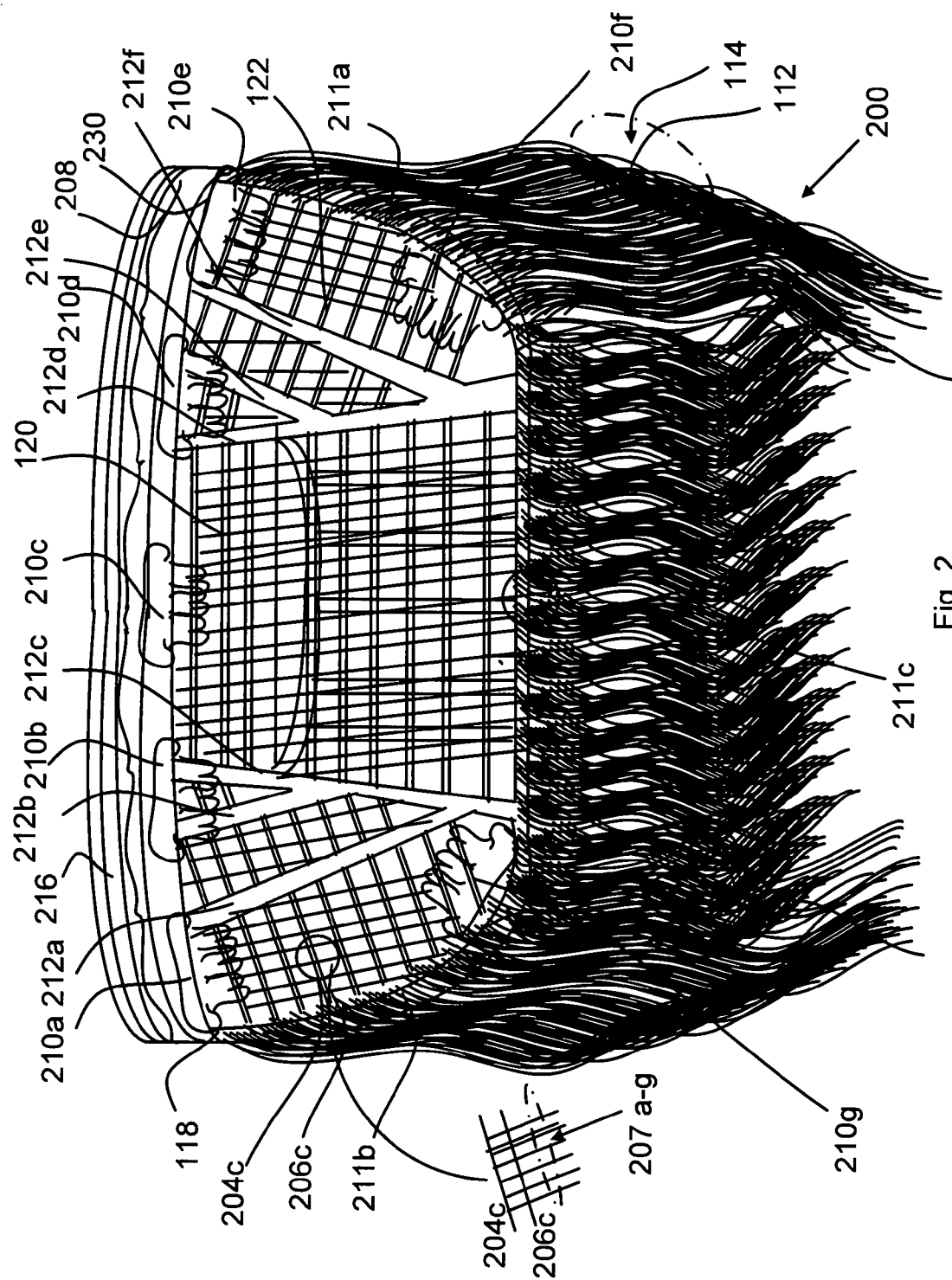


Fig. 1



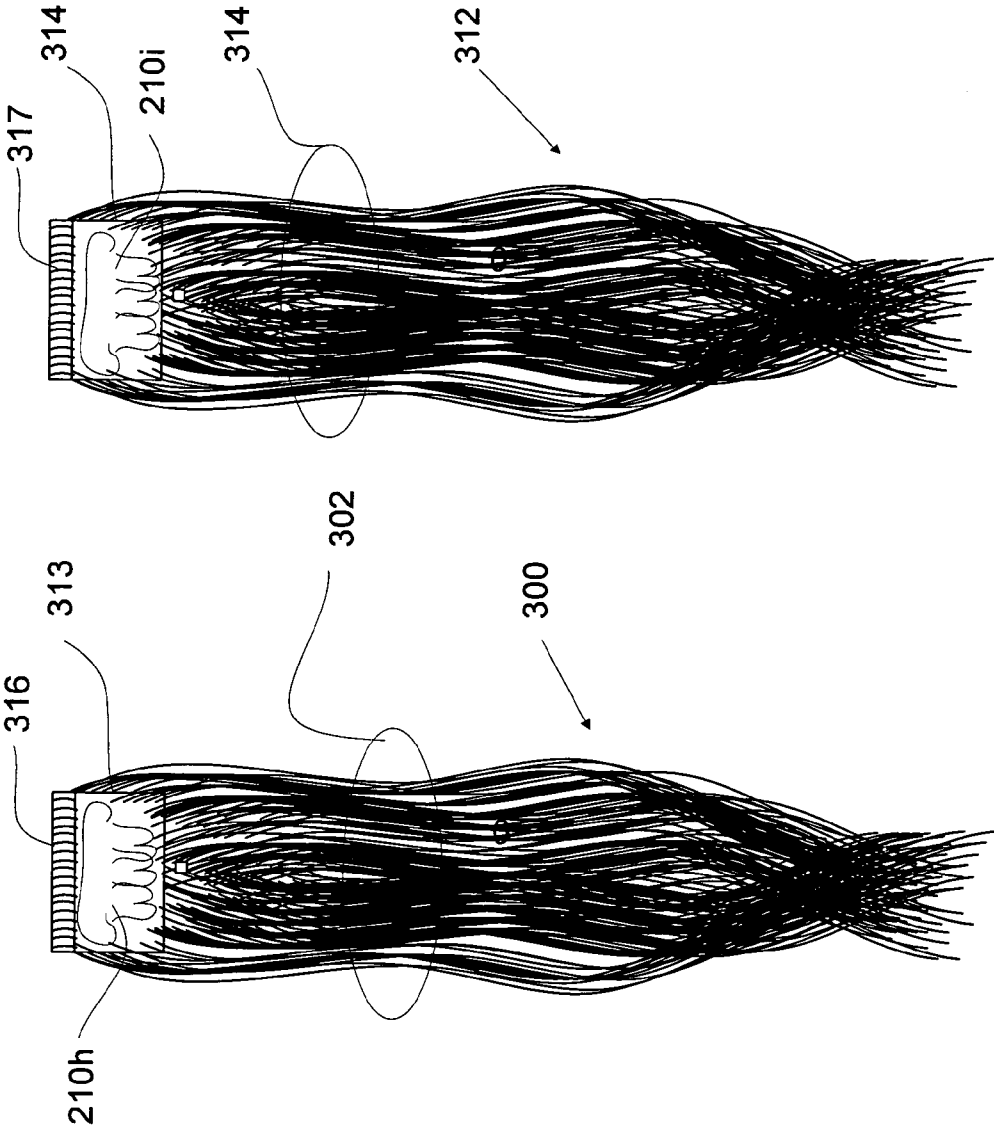


Fig. 3b

Fig. 3a

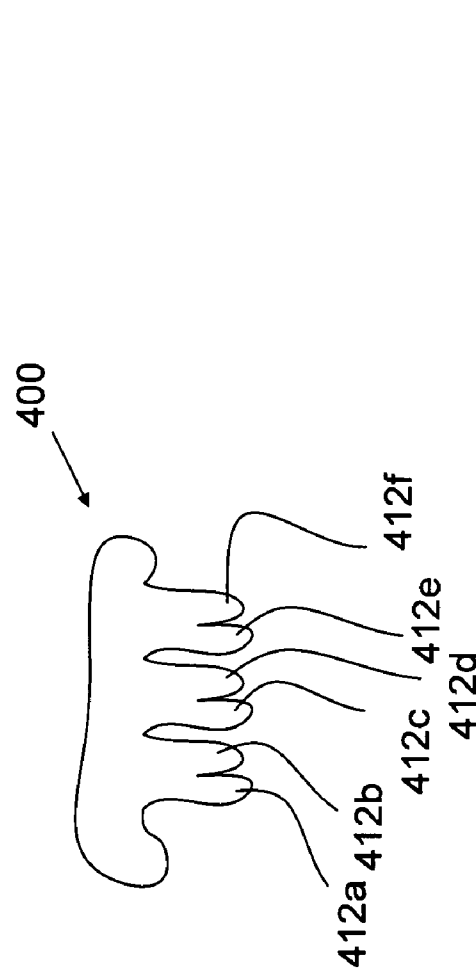


Fig. 4a

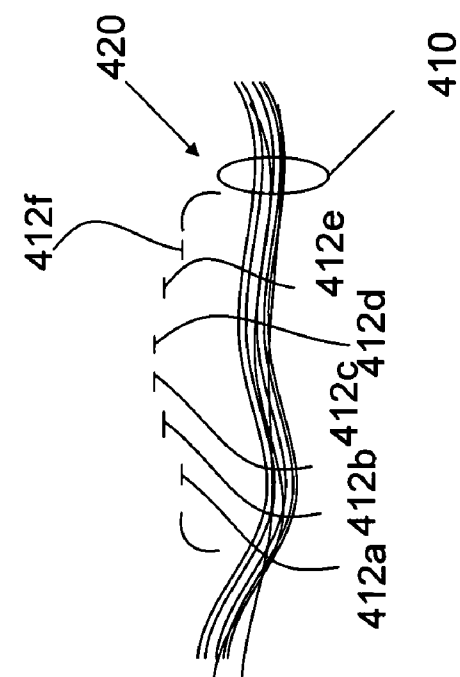


Fig. 4b

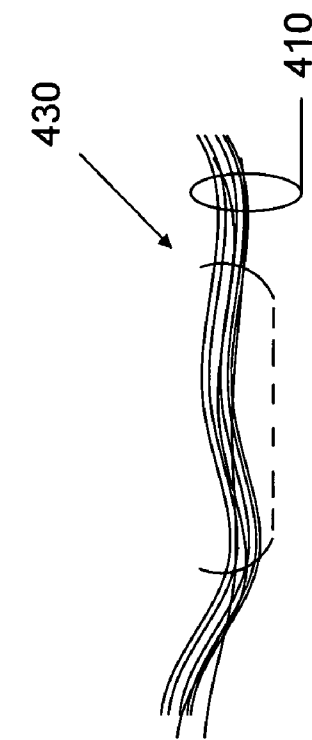


Fig. 4c

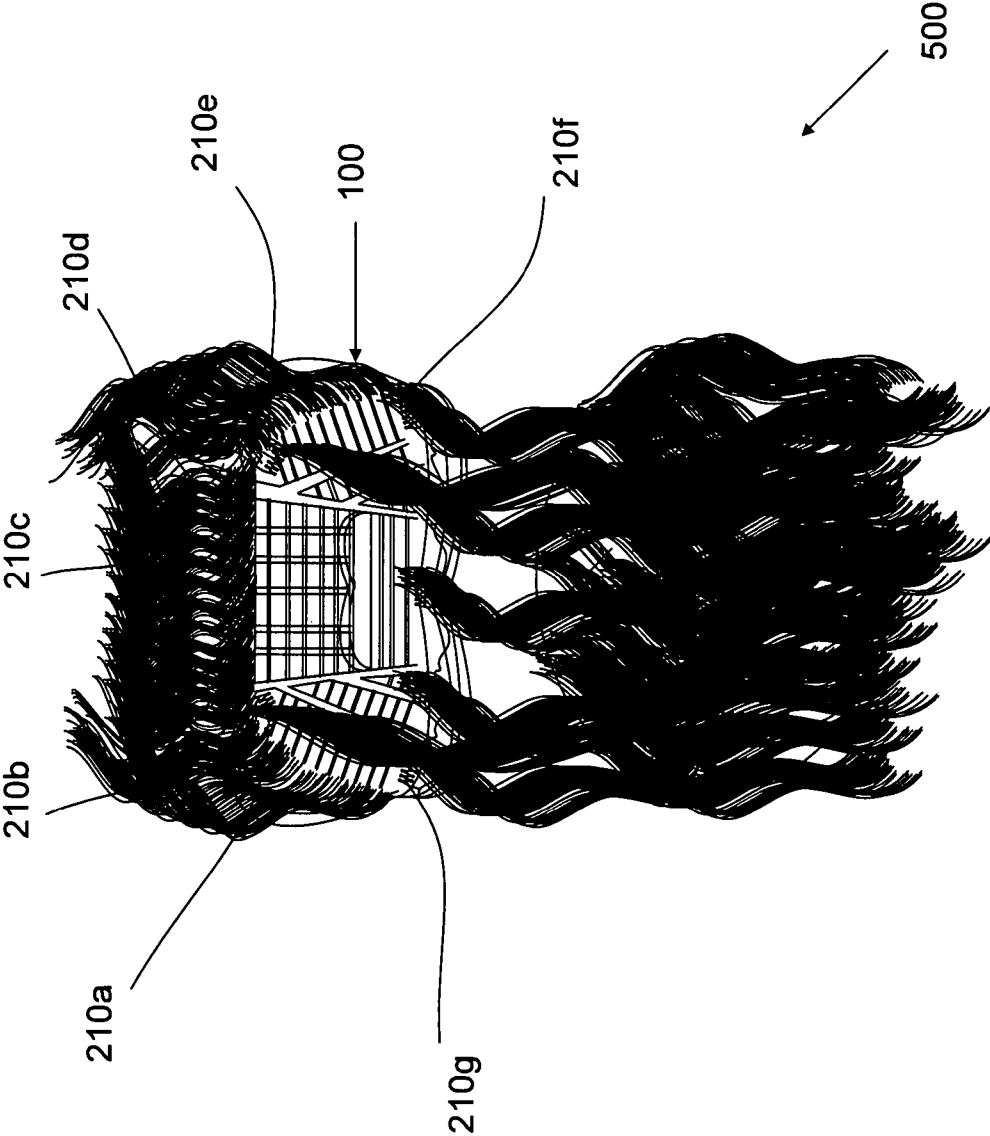


Fig. 5a

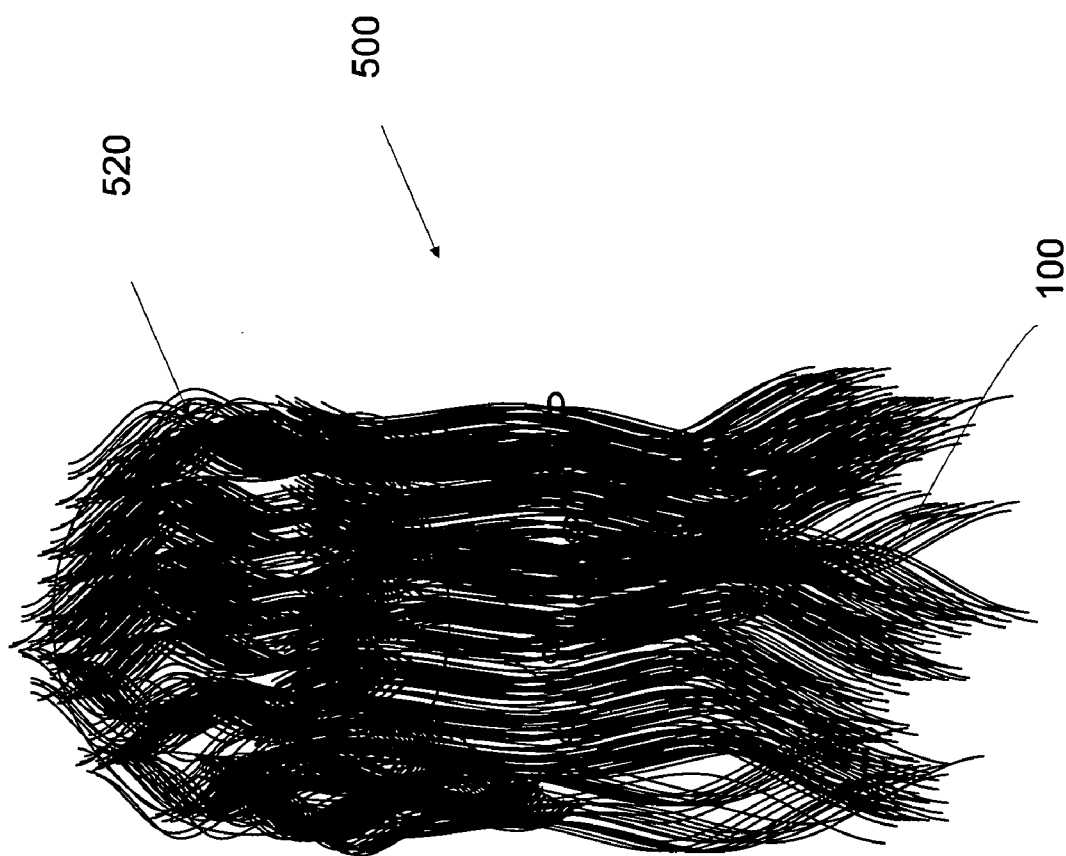


Fig. 5b

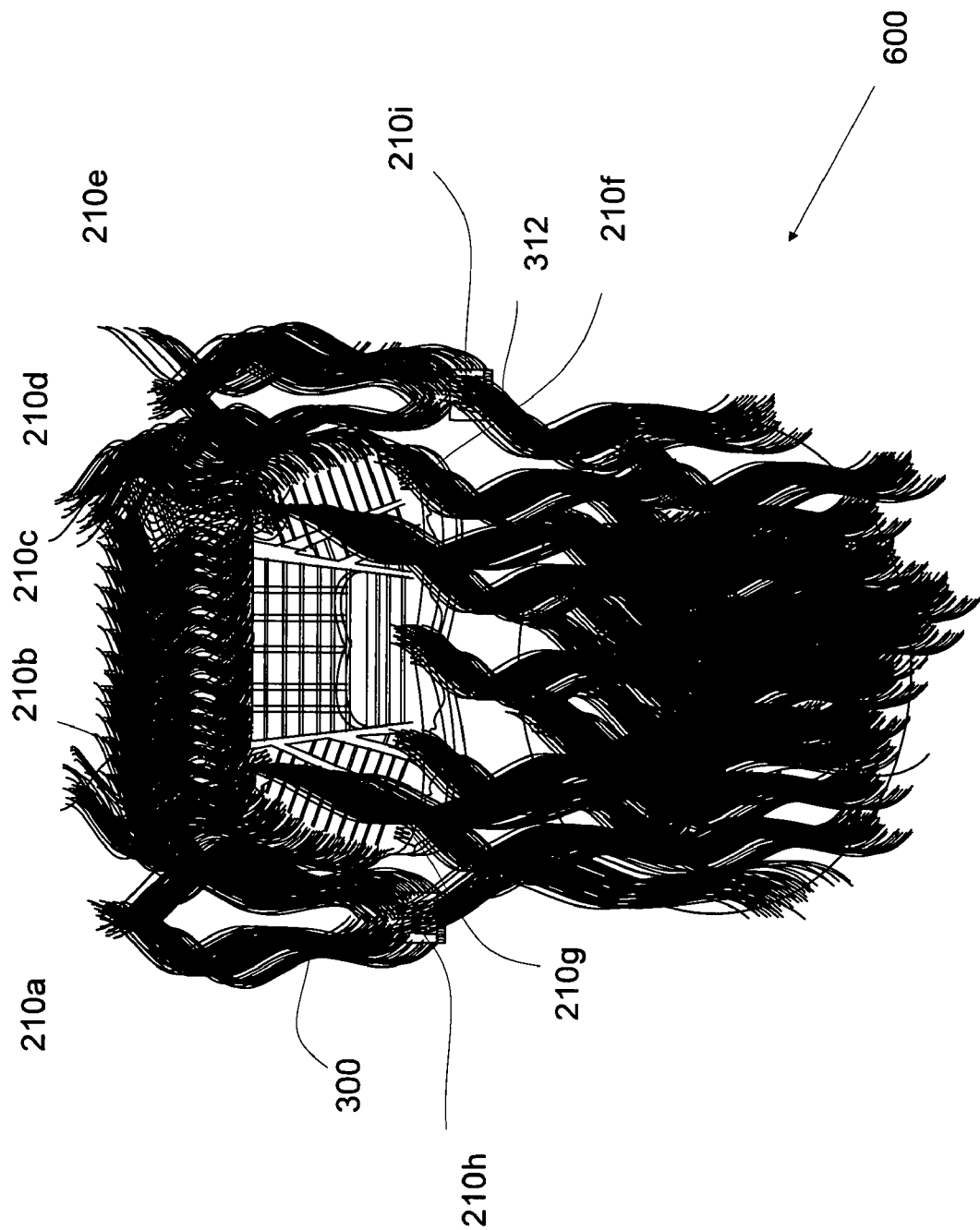


Fig. 6a



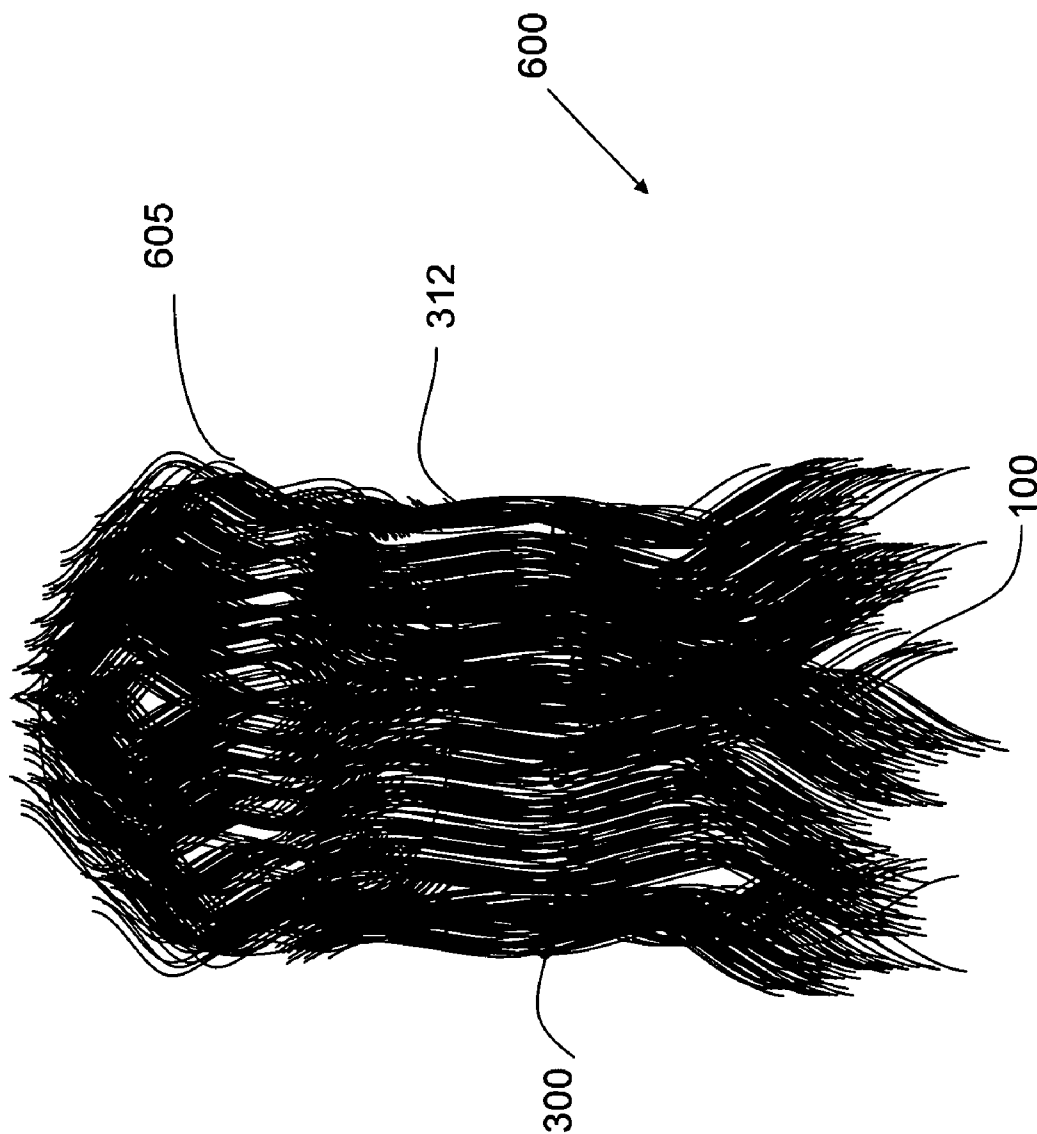


Fig. 6b

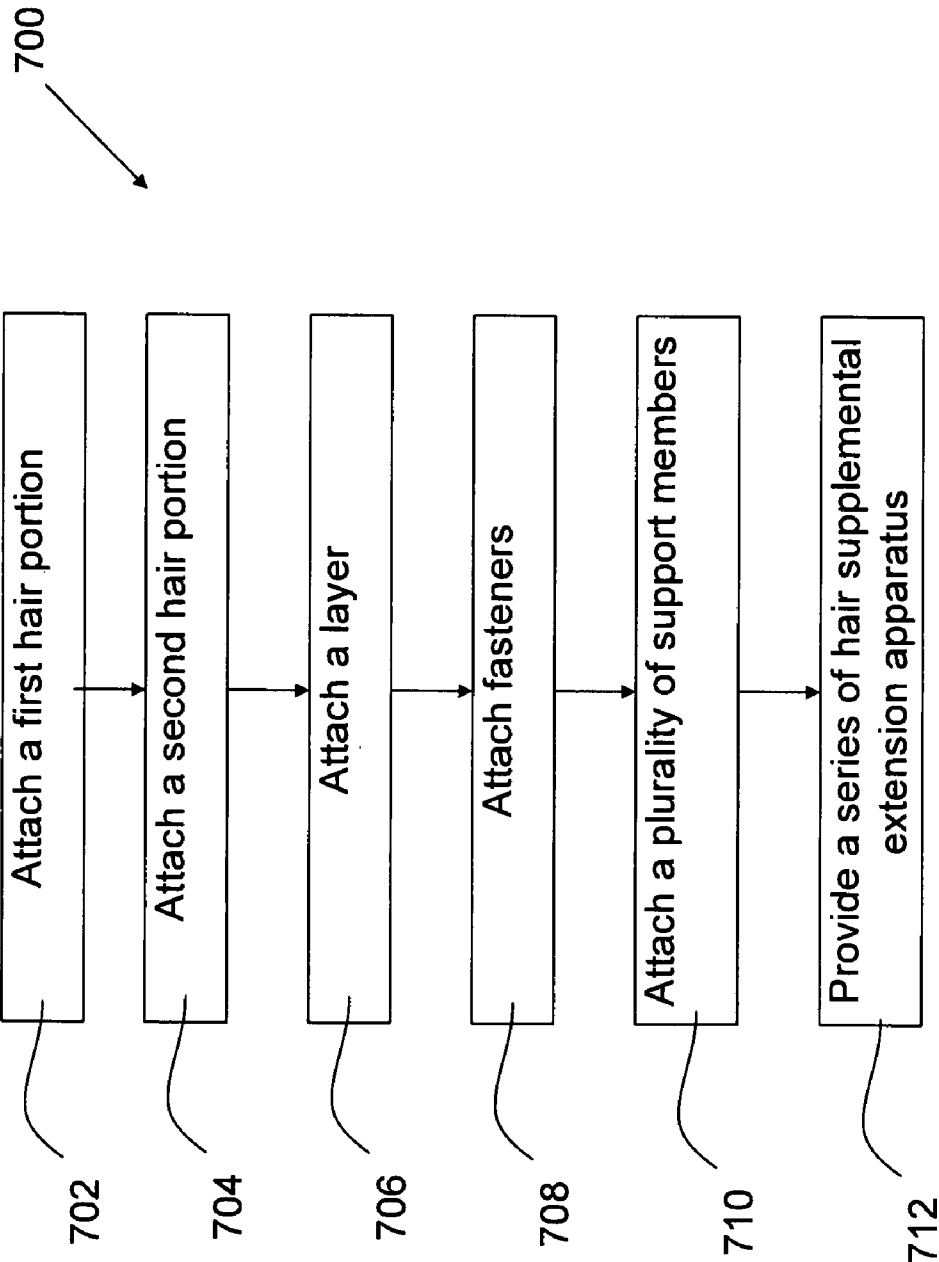


Fig. 7

## MULTI-USER ADJUSTABLE HAIR EXTENSION APPARATUS AND METHODS

### PRIORITY APPLICATIONS

**[0001]** This continuation in-part application claims priority to the U.S. patent applications Ser. No. 11/388,533 titled “Multi-Style, Reconfigurable Hair Extension Apparatus and Methods” filed Mar. 24, 2006 and Ser. No. 11/396,025 titled “Reconfigurable Fastener Hair Extension Apparatus and Methods” filed with the United States Patent and Trademark Office on Mar. 31, 2006, by the inventor Richard JunSuh Lee, each of which is incorporated by reference herein in its entirety.

### BACKGROUND OF THE INVENTION

**[0002]** 1. Field of the Invention

**[0003]** The invention relates generally to the field of hair grooming and appearance, and specifically in one exemplary aspect to a hair extension apparatus for, e.g., humans.

**[0004]** 2. Description of Related Technology

**[0005]** Hair extensions are well known in the art. Such extensions can be used to change an individual’s physical appearance, supplement their natural hair length, and/or increase the number of hair styling options. Hair extensions may be composed of multiple strands of any of the following: natural human hairs, synthetic fibers, or a composite of different hairs and materials. Hair extensions are normally secured to human hair using any number of standard attachment procedures such as weaving, adhesives, or sewing.

**[0006]** Hair extensions are typically styled by trained professionals in a hair salon or beauty shop setting. Persons often request that the positioning and styling of the person’s hair, including hair extensions, be tailored to suit a particular occasion or event. The hair extension in many situations has a foundation that is not comfortable for a user to wear. The foundation, in addition to comfort, should provide a degree of elasticity, but at the same time provide a level of security necessary to hold a hair extension in place. Below are examples representative of the art.

**[0007]** U.S. Pat. No. 5,988,177 entitled “Wig Foundation with Contoured Front HairLine” disclosed a wig having a foundation fabricated from thin nylon lace. For instance, a crown and top area were fabricated from a thin non-stretch nylon lace and the front was fabricated from nylon and had a velvet-like front that closely followed the contour of the wearer’s head. The wefts of hair were attached to the foundation in such a manner as to provide a natural appearance. A net material at the crown of the foundation provides a support for each weft of hair resulting in a light airy appearance.

**[0008]** U.S. Pat. No. 6,359,079 entitled “Hair Accessory” disclosed a method for fabricating a hair accessory that included attaching a plurality of hair strands to a support member and spirally wrapping the support member around at least one resilient member shaped substantially in a circle. U.S. Pat. No. 6,629,536 entitled “Hair Accessory” disclosed a fabrication procedure for a hair accessory providing a plurality of hair strands and a hair clip. The method further disclosed that the clip is substantially concealed by the strands when the clip was attached to a user’s natural hair.

**[0009]** In many instances, a user may further desire to supplement their natural hair and to achieve a still wider variety of hair styles and give an impression of having more

hair without others readily detecting the supplemental hair is not their own. For instance, a person who has relatively little hair may want a hair accessory that blends with their own hair and appears undetectable to others. In this same instance, a user may desire that an off-the shelf hair accessory to give an appearance of a custom fitted unit to meet their particular needs or desires such as: head size, degree of hair supplementation, hair style, hair style modification needs, but at the same time remain relatively low cost and reusable.

**[0010]** Thus, what is needed are improved hair styling apparatus and methods that permit easy initial configuring and reconfiguring, i.e., restyling, to meet a particular user goal for hair supplementation, which minimizes the required labor and/or time. Such improved apparatus and methods would also ideally allow a person other than a trained hair care professional to implement style changes, and would further permit the creation of user-customized styles and appearance such as through the use of hair sections having different textures, colors, positions, tints, etc.

### SUMMARY OF THE INVENTION

**[0011]** In a first aspect of the invention, hair extension apparatus is disclosed capable of adding hair volume. In one embodiment, the apparatus comprises a coupling member having an inner and an outer surface. A plurality of hair sections are attached to the outer surface of the member and extending substantially therefrom. A plurality of spaced apart fasteners is attached along a perimeter of the coupling member and substantially concealed from view when the hair extension apparatus is worn. The coupling member and the plurality of hair sections are configured to substantially blend with at least one hair supplemental extension apparatus.

**[0012]** In a second aspect of the invention, a method is disclosed of fabricating a hair extension apparatus having a top portion and a coupling member that supports multiple hair sections. In one embodiment, the method comprises attaching a first hair portion proximate to a horizontal support member of the coupling member, attaching a second hair portion along a perimeter support member of the coupling member to substantially conceal an edge of the coupling member, and attaching a layer (e.g., a micro-thin layer) to a top portion to blend the top portion with at least one of a user’s natural hair and user’s hair piece. In one embodiment, the user’s hair piece may be a wig that is disposed (e.g., glued or woven into existing hair) on a user’s head. In one example, the user’s hair piece may include synthetic or natural hair fibers.

**[0013]** In a third aspect of the invention, a hair extension apparatus adapted to substantially blend with one or more adjacently positioned hair supplemental extension sections is disclosed. In one embodiment, at least one hair section is disposed on an outer surface of a coupling element. The at least one hair section is attached to at least a portion of a perimeter of the coupling element to blend the coupling element with at least one of a user’s natural hair and user’s hair piece. A layer (e.g., a micro-thin layer) attached to the coupling element substantially blends an edge of the coupling element with one or more adjacently positioned hair supplemental extension sections. In one embodiment, the user’s hair piece may be a wig that is disposed (e.g., glued

or woven into existing hair) on a user's head. In one example, the user's hair piece may include synthetic or natural hair fibers.

[0014] These and other embodiments, aspects, advantages, and features of the present invention will be set forth in part in the description which follows, and in part will become apparent to those skilled in the art by reference to the following description of the invention and referenced drawings or by practice of the invention. The aspects, advantages, and features of the invention are realized and attained by means of the instrumentalities, procedures, and combinations particularly pointed out in the appended claims.

#### BRIEF DESCRIPTION OF THE DRAWINGS

[0015] FIG. 1 is a side elevation view of a person's head showing attachment of a hair extension in accordance with a first aspect of the present invention.

[0016] FIG. 2 is a rear elevation view of the hair extension apparatus in accordance with the first aspect of the present invention.

[0017] FIG. 3a is a rear elevation view for a first hair supplemental extension apparatus depicting a fastener in a "closed" position in accordance with a second aspect of the present invention.

[0018] FIG. 3b is a rear elevation view for a second hair supplemental extension apparatus to add additional hair volume to a user's hair in accordance with a second aspect of the present invention.

[0019] FIG. 4a is a top elevation view of the fastener depicted in FIGS. 2 and 3a-b.

[0020] FIG. 4b is a rear elevation view of the fastener depicted in FIGS. 2, 3a and 3b in an "open" position to insert a hair section into the fastener in accordance with an embodiment of the present invention.

[0021] FIG. 4c is a rear elevation view of the fastener depicted in FIGS. 2 and 3a-b in a "closed" position to secure a hair section within the fastener in accordance with an embodiment of the present invention.

[0022] FIG. 5a is a rear elevation view of a person's head showing the hair extension apparatus being attached using fasteners to a human hair section in accordance with an embodiment of the present invention.

[0023] FIG. 5b is a rear elevation view of a person's head showing attachment of the hair extension apparatus in FIG. 5a in accordance with an embodiment of the present invention.

[0024] FIG. 6a is a rear elevation view of a person's head showing the hair extension apparatus and first and second hair supplemental extension apparatus being attached using fasteners to a human hair section in accordance with an embodiment of the present invention.

[0025] FIG. 6b is a rear elevation view of a person's head showing attachment of the hair extension apparatus and the first and second hair supplemental extension apparatus in FIG. 6a in accordance with an embodiment of the present invention.

[0026] FIG. 7 is a logical flow diagram illustrating one exemplary embodiment of a method for configuring the hair extension apparatus in accordance with the present invention.

#### DETAILED DESCRIPTION

[0027] Reference is now made to the drawings wherein like numerals refer to like parts throughout.

[0028] As used herein, the term "hair" refers without limitation to any natural or artificial single- or multi-stranded material or structure (including wefts of hair) irrespective of origin, color, texture or shape. For example, hair may comprise natural hair of a human or animal, artificial or synthetic fibers, weaves or filaments and so forth.

#### Overview

[0029] In one salient aspect, the present invention discloses apparatus and methods for hair styling for, inter alia, cosmetic purposes. In particular, the present invention discloses an apparatus and method that may be configured using one size hair extension apparatus for multiple size heads (and multiple hair styles) with one or more hair supplemental extension apparatus. Furthermore, the present invention further discloses several techniques to reduce the appearance of a boundary region between, for example, a person's natural hair and the hair extension apparatus, and the hair supplemental extension apparatus.

[0030] In addition, the hair extension apparatus provides for rapidly attaching and/or reconfiguring the hair extension apparatus. The apparatus advantageously allows changing styling of the hair extension apparatus, thereby allowing a user to rapidly adjust their hair appearance and the same styling and attaching principles, as discussed below, may be applied to straight, curly, colored, bleached and artificial hair.

[0031] The ability to attach and adjust the placement of multiple hair sections relative to the apparatus (and further adjust the placement of the apparatus on the user's head) provides significant flexibility to the user in quickly and easily creating new "customized" styles as well.

[0032] The present invention may also be utilized in conjunction with (e.g., as a complement to), or in place of, the methods and apparatus described in co-pending U.S. patent application Ser. No. 11/388,533 filed Mar. 24, 2006, entitled "Multi-Style, Reconfigurable Hair Extension Apparatus and Methods" and Ser. No. 11/396,025 filed Mar. 31, 2006, entitled "Reconfigurable Fastener Hair Extension Apparatus and Methods" previously incorporated herein.

#### Exemplary Extension Apparatus

[0033] Referring now to FIGS. 1-6b, exemplary embodiments of the hair extension apparatus of the invention are described in detail. It will be appreciated that while described primarily in the context of human hair extension apparatus, at least portions of the apparatus and methods described herein may be used in other applications, such as for example and without limitation mannequins, "wax" representations, or other humanoid figures.

[0034] Moreover, it will be recognized that the present invention may find utility beyond purely cosmetic concerns. For example, the "hair sections" described subsequently herein may conceivably be replaced with sections or com-

ponents having other functionality; e.g., helping to control the wearer's natural hair which may be prone to "flyaway", static charge, etc. Other functions might include the release of a therapeutic or other chemical agent or substance (e.g., for purposes of enhanced aroma, insect repulsion, and so forth). Myriad other functions will be recognized by those of ordinary skill given the present disclosure.

**[0035]** FIG. 1 is a side elevation view of a person's head showing attachment of a hair extension apparatus in accordance with a first aspect of the present invention. The hair extension apparatus 100 includes a plurality of strands, for example strands of hair 112. The strands of hair 112 may be gathered together and extended outward to form a multitude of hair sections, one such hair section being a hair section 114. The hair section 114 extends outward from an outer surface 118 of a coupling member (here, a mesh structure 120) or other such coupling apparatus. The mesh structure 120 also has an inner surface 122 that contacts the person's head 105. It will be appreciated that while a mesh structure is shown as the exemplary retaining apparatus, other mechanisms may conceivably be used with equal success, including for example a hairnet, stocking, panty hose, fishnet, elastic covering, partial mesh or semi-mesh structure, cap or the like.

**[0036]** To attach the hair extension apparatus 100 to a person's head 105, a series of fasteners 210a-g (shown in FIG. 2) located, for example, around an outer perimeter 230 of the mesh structure 120 attaches to a lock of that person's existing hair, such as one of the series of fasteners 2120a-g attaches to one or more human hair sections, such as hair section 106 shown in FIG. 1. The fasteners 210 a-g (in one embodiment are metal clasps having a flexible body) snap (as later depicted in FIGS. 4a-c) onto a user's existing hair to secure the hair extension apparatus 100 to a user's head. In alternate embodiments, the fasteners 210 a-g may be replaced by any means for securing the hair extension apparatus 100 to the human hair sections. It will also be recognized that the hair extension apparatus 100 may be secured to something other than the wearer's existing hair, such as where a wig or the like is used by the wearer.

**[0037]** Furthermore, the fasteners 210a-g (or other mechanism) shown in FIG. 2 may be positioned in other locations, other than the outer perimeter 230 of the mesh structure 120. For example, one or more loops or openings created in the mesh structure 120 may provide an insertion point to secure the human hair section 106 to the mesh structure 120. Furthermore, the fasteners 210a-g (shown in FIG. 2) may be replaced by any means for securing the hair extension apparatus 100 to a person's head 105 including for example hooks, wires, loops, adapters, clamps, ties, links, couplers, or the like that may be made from cord, rope, strands, twine, line, belt, braid, ribbon, tie, steel, plastic, fiberglass, glue, paste, tape, tacky material or a composite material thereof.

**[0038]** FIG. 2 is a rear elevation view of a person's head with the hair extension apparatus in accordance with the first aspect of the present invention. In this embodiment, a plurality of human hair sections, such as one like human hair section 106 (shown in FIG. 1) or human hair section 410 (shown in FIGS. 4b-c) inserts into at least one of the fasteners 210a-g in an "open" position (e.g., extended in an upward direction away from the mesh structure 120 as shown in FIG. 4b) along the outer perimeter 230. Furthermore, when the at least one of the fasteners 210a-g is

changed to a "closed" position (e.g., extended in a downward direction toward the mesh structure 120 as shown in FIG. 4c), the at least one of the fasteners 210 a-g secures the hair extension apparatus 100 to at least one human hair section, such as human hair section 106 (shown in FIG. 1) or human hair section 410 (shown in FIGS. 4b-c).

**[0039]** The mesh structure 120, e.g., in one embodiment, includes horizontal support members, e.g., rows of material such as lines 204 a-c and lines 206 a-c, utilizing any or all the following: cotton, twine, string, thinly-cut fabric, polyester line, plastic wire, plastic material, organic and/or inorganic material, or the like. In this same embodiment, hair strands 207a-g may be either hand-tied to, machine tied to, or interwoven between the lines 204a-c and lines 206a-c. Furthermore, the lines 204a-c and lines 206a-c, in this exemplary embodiment, may be either machine tied or hand-tied to a corresponding vertical support member 212a-f to form a mesh structure 120 to support the hair extension apparatus 100.

**[0040]** In another embodiment, any of the outer perimeter sections (outer contour areas) such as hair sections 211 a (located on a first edge of the hair apparatus 100 proximately located near a first side of a user head), 211b (located on a second edge of the hair apparatus 100 proximately located to a second side of a user head), or 211c (located on a rear edge of the hair apparatus 100 proximately positioned near a neck area of the user) may be hand-tied, wrapped in fine thread, or the like to produce a fine density hair line. The fine density hair line, which is lower density than a central portion of the hair extension apparatus 100, produces a substantially blend hairline (e.g., a substantially undetectable boundary) when the hair apparatus 100 is attached to a user's natural hair even when ends of hair sections (such as hair section 114 or hair section 410) on the hair extension apparatus 100 are lifted in an upward.

**[0041]** To further blend the hair extension apparatus, a micro-thin layer 216, e.g., in one embodiment, a mono-skin or micro-skin structure (e.g., a closely adhering outer layer that may, in one example, be translucent to light to partially expose a user's skin) that has dimensionality within a range of a several microns to tens of microns thick. Continuing with this same embodiment, the micro-thin layer 216 is hand tied along a top portion of the hair extension apparatus 100. The micro-thin layer 216, in one exemplary embodiment, provides a substantially invisible boundary between the hair extension apparatus 100 and a user's hair, e.g., human hair such as hair sections 520 shown in FIG. 5b. In other embodiments, the micro-thin layer 216 may be replaced by any means for concealing a boundary region (e.g., producing a substantially blended hair line by transitioning hair density of the hair extension apparatus 100 to a hair density of a user's hair including, for example, cotton material, polyester material, synthetic material, ribbon, ties, felt, paper, fabric, netting, colored tape, or the like, to produce a continuous hair style appearance which is unlike conventional hair replacement apparatus having a similar hair density across an entire hair piece and no transition boundary to blend with a user's natural hair.

**[0042]** In an alternative embodiment, the fastener (such as fasteners 210a-i) may be a ribbon attached to the mesh structure 120 (e.g., a coupling member). One end of the ribbon may be inserted through and attached, for example hooked to, an opening in an outer surface of the coupling member, for example openings in the mesh structure 120

(shown in FIG. 2) to substantially secure the at least one human hair section (e.g., human hair sections 106 or 410 shown in FIGS. 1 or 4b-c) within the hair extension apparatus 100.

[0043] In another variation of this alternative embodiment, the ribbon may have a body that is attached along at least one portion to the coupling element, for example mesh structure 120 (shown in FIG. 2), which has many openings in its mesh structure.

[0044] In yet another variation of this alternative embodiment, the ribbon may have a first member and a second member, where one or both the first member or the second member may be wrapped around a section of hair, and passed through an opening in an outer surface of the coupling member, for example an opening in the mesh structure 120, to secure a hair section, such as hair section 106, 410 to an hair extension apparatus, such as hair extension apparatus 100.

[0045] As shown, the hair extension apparatus 100 advantageously provides increased hair volume and well as hair length for, e.g., everyday use. Exemplary hair configurations are discussed in detail subsequently herein with respect to FIGS. 3a-6b.

[0046] FIGS. 3a, 3b are rear elevation views of hair supplemental extension apparatus to add hair volume and further customize a fit of the hair extension apparatus 100 to a user's head in accordance with an embodiment of the present invention. To secure the first and second hair supplemental extension apparatus, the exemplary fasteners 210h-i, in this embodiment, are similar to the fasteners 210a-g. Furthermore, the fasteners 210h-i may be replaced by any means, such as those contained in alternative embodiment for the fasteners 210a-g, to secure the hair supplemental extension apparatus 300, 312 to a person's head 105 (shown in FIG. 1), including for example hooks, wires, loops, adapters, clamps, ties, links, couplers, or the like that may be made from cord, rope, strands, twine, line, belt, braid, ribbon, tie, steel, plastic, fiberglass, or a composite material thereof. The fasteners 210h-i, in one embodiment, may be composed of many different materials that are substantially flexible and/or rigid including string, ribbon, plastic, flexible or rigid metal, fiberglass, foam, or the like.

[0047] In addition, the fasteners 210h-i may be shaped as inter alia, a rod, tube, stick, strip, clip, clasp or the like. In this example, the fasteners 210h-i flex (e.g., snap along their body) to an open position (as shown in FIG. 4b) to accept one or more hair strands from a user's head (such as the human hair section 410). Afterwards, the fasteners 210h-i flex (e.g., snap along their body) to a "closed" position (as shown in FIG. 4c) to secure one or more hair strands from a user head (such as the human hair section 410). In yet another example, because the fasteners are flexible members, they may be made of a substantially pliable plastic or metal material, such as steel or aluminum or the like, one or more human hair sections, such as hair sections 106 or 410, may be inserted into the same fastener, such as any of the fasteners 210h-i.

[0048] Other combinations of the foregoing will also be recognized by those of ordinary skill. For example, either one or both of the first hair supplemental extension apparatus or the second hair supplemental extension apparatus may be attached to or be received each having distinctive fastener arrangements to improve attachment to a user head. In another alternative embodiment, at least one of the first

and second hair supplemental extension apparatus may clip to an outer surface of a user head 5 (shown in FIG. 1) or to the mesh structure 120 (shown in FIG. 2).

[0049] The desired style position of the hair extension apparatus 100 may be based on any number of different user criteria, such as head size, desired hair styling, and event to attend. Because any of the fasteners 210h-i, may be rapidly attached and detached from a human hair section (such as human hair section 410 or 106), a user may advantageously change a hair styling of, in one example, a hair extension apparatus very rapidly, utilized in response to and to suit widely varying circumstances (e.g., going rapidly from a style appropriate to a casual outdoor or athletic event to a second style appropriate for a formal event or based on head size). To achieve such changed hair style for the design in Fig. 5a, hair extension users may connect the first hair supplemental extension apparatus 300 and/or the second hair supplemental extension apparatus 312 (as shown in FIG. 6a) utilizing fasteners 210i-j respectively to adjust the hair extension apparatus to a different size user head or to achieve a different hair style than a user's natural hair style.

[0050] As such, one major advantage of this apparatus is the same hair extension apparatus 100 may be utilized (or reused) for multiple sized user heads (as well as styles) while still achieving an appearance of one continuous hair style (e.g., such as adding mono-skin to exposed edges of the mesh structure 120 and hand-tying strands of hair along visible portions, such as along a perimeter 230 (e.g., contour or boundary region) of the mesh structure 120). Furthermore, as discussed with reference to FIG. 2, the fasteners 210a-i advantageously, in one embodiment, snap to secure one or more strands of human hair sections (e.g. 410 or 106) in the hair extension apparatus 100 (as shown in FIG. 5a). In addition, one or more hair supplemental extension apparatus, such as sections 300 and 312, as shown in FIG. 6a, may be utilized to supplement a hair style of the hair extension apparatus 100 to achieve a completely different hair coverage style (e.g., to accommodate a relatively larger user head depicted in FIG. 6a as compared with a user head depicted in FIG. 5a).

[0051] FIGS. 4a-c depict exemplary fastener mechanisms, e.g., "open" and "closed" positions, utilized for the fasteners 210 a-i in FIGS. 2, 3a-b. In particular, FIG. 4a depicts a top view of an exemplary fastener 420 (e.g., one of the fasteners 210a-i) and the fastener projections 412a-412f. When the exemplary fastener 420 is flexed to an "open" position (as shown in FIG. 4b), the fastener projections 412a-f, in this embodiment, increase in vertical height from fastener projections 412a to 412d and decrease in vertical height from fastener projections 412e to 412g along a body of the fastener. The fastener topology provides increased hair holding area in a central location of the fastener so that more hair may clip proximately to a centrally located body region of the fastener 430 as compared with a distal location from the centrally located body region to achieve an improved blended hair style.

[0052] Referring to FIG. 4c, when the fastener 430 is flexed to a "closed" position, a section of hair 410 is secured. Please note that other embodiments exist for the above described fastener mechanism. For instance, exemplary fasteners may or may not have fastener projections, may have only one fastener projection, may in an "open" position rise to the same height for each of the fastener projections, or may be an entirely different fastener structure and may be

similar to the alternative fasteners described above in reference to the discussions for FIGS. 2, 3a and 3b.

[0053] Referring to FIG. 5a, the hair extension apparatus 100 is attached at fasteners 210a-g to hair stands on a human head 105 (as shown in FIG. 1). Referring to FIG. 5b, the hair apparatus 100 substantially blends with human hair 520.

[0054] Referring to FIG. 6a, the hair extension apparatus 100 and a first and a second hair supplemental extension apparatus 300, 312 are utilized to increase a user's hair styling options of one or more hair sections and to adjust the hair extension apparatus 100 for a larger head size than that depicted in FIG. 5a. Referring to FIG. 6b, the hair extension apparatus 100, the first hair extension supplemental apparatus 300 and the second hair extension supplemental apparatus 312 are shown blending with human hair 605.

[0055] Likewise, it will further be recognized that additional fasteners may be employed to provide yet additional flexibility to the user. These additional fasteners may be placed at different elevations and locations than those shown or proximate thereto in order to provide a "layered" effect for the sections, where one such section is human hair section 410 and another sections include hair extension apparatus 100, hair supplemental extension apparatus 300, 312. Furthermore, it should be recognized that the fastener(s), either in an "open" or a "closed" state, substantially blended (are camouflaged) within a plurality of hair sections to substantially hide or conceal the fastener(s) from viewing of others, including the hair extension user. The orientation of the fasteners may also be varied so that different orientations or "lay" of the hair sections is achieved. For example, any of the fasteners 210a-i may be a tab, strips such as Velcro® or the like.

#### Exemplary Methods

[0056] Referring now to FIG. 7, an exemplary embodiment of the method for fabricating the aforementioned hair extension apparatus is described. While described primarily in the context of the exemplary embodiments of the apparatus 100 shown in FIGS. 1-6b, it will be appreciated that the methodology presented herein may be readily adapted to any different configuration of the apparatus 100 by those of ordinary skill.

[0057] As shown in FIG. 7, the exemplary method 700 comprises first attaching a first hair portion 112 of a hair extension apparatus 100 proximate to a horizontal support member (e.g., 204c or 206c) of the coupling member 120 (step 702). In one variant of step 702, attaching a first hair portion to a horizontal support member (e.g., 204c or 206c) comprises tying a first end of the first portion of the hair section between multiple spaced apart rows of thread strands that form with multiple spaced apart columns of lace material 212a-f a mesh lattice structure 120 adapted to conform with a user's head (e.g., user head 105) and to provide resilience to prevent movement of the hair extension apparatus 100 from a desired style position.

[0058] A second hair portion 211a is then attached along a perimeter support member 230 of the coupling member 230 to substantially conceal an edge coupled to the outer surface of the coupling member 120 (step 704). In one alternative embodiment of step 704, attaching a second hair portion 211a along a perimeter support member 230 of the coupling member 120 comprises hand tying the second hair portion 211a along a perimeter support member 230 to provide a substantially undetectable boundary between the

hair extension apparatus 100 and at least one of a user's natural hair, user's hair piece (e.g., wig), and a manikin's hair.

[0059] In yet another alternative embodiment of step 704, attaching a second hair portion 221a along a perimeter support member 230 of the coupling member 120 comprises hand tying the second hair portion 221a along a perimeter support member 230 to provide a substantially undetectable boundary between the hair extension apparatus 100 and at least one of a user's natural hair, user's hair piece (e.g., wig), and a manikin's hair even when the second hair section 221a is lifted to an upward position (to expose a neck area of the user).

[0060] The first hair portion 211a and the second hair portion 211b may comprise, for example, a plurality of individual or woven hair strands that are intended to be attached to the mesh structure 120 of the hair extension apparatus 100. These strands may also optionally be pre-conditioned before attachment, such as by coloring/tinting, texturing (e.g., curling), coating with a desired material (e.g., hairspray).

[0061] In step 706, a micro-thin layer 216 is attached to a top portion of the hair extension apparatus 100 to blend the top portion with at least one of a user's natural hair and user's hair piece. 18. In one alternative embodiment of step 706, attaching a micro-thin layer to a top portion of the hair apparatus comprises disposing a micro-skin layer along a top portion of the hair apparatus.

[0062] In step 708, a plurality of spaced-apart flexible fasteners are attached along a perimeter of the hair apparatus configured to secure the hair extension apparatus to at least one hair strand on a user's head. In step 710, a plurality of spaced-apart vertical support members may be attached if desired, and intersect the horizontal support members to form a mesh retention structure to maintain the first and second hair portions in a desired hair style and to conform to, for example, at least one of a user's or a manikin's head.

[0063] In step 712, a series of hair supplemental extension apparatus, e.g., 300 or 312, may be provided if desired that are capable of supplementing hair coverage of the hair extension apparatus 100 to create a desired hair style. In one variant of step 712, a series of hair supplemental extension apparatus, e.g., 300 or 312, may be capable of providing a substantially continuous hair style with a substantially undetectable boundary with, for example, a user's natural hair or a user's hair piece (e.g., wig).

[0064] It will be appreciated that while certain aspects of the invention have been described in terms of a specific sequence of steps of a method, these descriptions are only illustrative of the broader methods of the invention, and may be modified as required by the particular application. Certain steps may be rendered unnecessary or optional under certain circumstances. Additionally, certain steps or functionality may be added to the disclosed embodiments, or the order of performance of two or more steps permuted. All such variations are considered to be encompassed within the invention disclosed and claimed herein.

[0065] While the above detailed description has shown, described, and pointed out novel features of the invention as applied to various embodiments, it will be understood that various omissions, substitutions, and changes in the form and details of the device or process illustrated may be made by those skilled in the art without departing from the invention. The foregoing description is of the best mode

presently contemplated of carrying out the invention. This description is in no way meant to be limiting, but rather should be taken as illustrative of the general principles of the invention. The scope of the invention should be determined with reference to the claims.

What is claimed is:

1. Hair extension apparatus capable of adding hair volume, comprising:

- a coupling member having an inner and outer surface that has at least some stretch capability;
- a plurality of hair sections comprising at least one of natural hair and synthetic hair attached proximate to an outer surface of the coupling member and along at least one portion of an outer perimeter of the coupling member and extending substantially therefrom; and
- a plurality of spaced apart fasteners operatively attached substantially along an outer perimeter of the coupling member and substantially concealed from view when the hair extension apparatus is worn;

wherein the coupling member and the plurality of hair sections are adapted to substantially blend with at least one hair supplemental extension apparatus.

2. The apparatus of claim 1, wherein at least a portion of the hair strands attached along at least one portion of an outer perimeter of the coupling member are blended to the coupling member to achieve a substantially undetectable boundary with at least one of a user's natural hair and the at least one hair supplemental extension apparatus.

3. The apparatus of claim 1, wherein the plurality of hair sections located on sides of the coupling member are hand-tied to the coupling member to produce a substantially blended hair line with at least one of a user's natural hair and the at least one hair supplemental extension apparatus.

4. The apparatus of claim 1, further comprising a layer attached to the coupling member along a top portion of the hair extension apparatus to substantially blend a hairline of the hair extension apparatus with a user's natural hair or a user's hair piece.

5. The apparatus of claim 4, wherein the layer comprises a mono-skin layer that is hand-tied to at least a portion of the coupling member substantially along a top portion of the hair extension apparatus.

6. The apparatus of claim 1, wherein the coupling member comprises a mesh structure having stretch members extending substantially horizontally along the coupling member and lace members extending substantially vertically along the coupling member to substantially restrain movement of the hair extension apparatus in a desired style position.

7. The apparatus of claim 1, wherein the plurality of spaced apart fasteners comprises a plurality of flexible connectors, wherein at least a portion of the plurality of flexible connectors has a body operatively connected to the coupling member to bind with at least one strand of hair on a user's head.

8. The apparatus of claim 1, wherein the plurality of spaced apart fasteners comprises a plurality of movable connectors; and

wherein at least a portion of the plurality of movable connectors is:

- i) operatively connected to extend outward from the coupling member; and
- ii) at least one of the plurality of movable connectors has at least one first section capable of extending outward

greater than at least one second section of the at least one of the plurality of movable connectors.

9. The apparatus of claim 8, wherein the at least one first section is positioned substantially proximate to a centrally located section of a body of the at least one of the plurality of movable connectors and the at least one second section of the same connector of the at least one of the plurality of movable connectors is positioned substantially distal from the centrally located section of the body.

10. The apparatus of claim 1, wherein the at least one hair supplemental extension apparatus comprises at least one fastener of the plurality of spaced-apart fasteners operatively connected to flex along its length in:

- i) an outward fashion to accept at least one human hair strand; and
- ii) an inward fashion to bind the at least one human hair strand into a desired hair style position.

11. A method of fabricating a hair extension apparatus having a top portion and a coupling member that supports multiple hair sections, the method comprising:

attaching a first hair section proximate to a horizontal support member of the coupling member;

attaching a second hair section substantially along a perimeter support member of the coupling member to substantially conceal an edge of the coupling member; and

attaching a layer to the top portion to blend the top portion with a user's natural hair or a user's hair piece.

12. The method of claim 11, wherein the layer comprises a micro-thin layer.

13. The method of claim 11, further comprising the step of producing a series of hair extensions capable of supplementing hair coverage of the hair extension apparatus until desired hair coverage is achieved.

14. The method of claim 11, further comprising the step of producing a series of hair extensions capable of attachment to a user's head to produce a substantially continuous hair style with a substantially undetectable boundary region with the hair extension apparatus.

15. The method of claim 11, wherein attaching a first hair portion to a horizontal support member comprises tying a first end of a first hair portion between multiple rows of thread strands.

16. The method of claim 11, wherein attaching a first hair portion to a horizontal support member comprises tying a first end of a first portion of the hair section between multiple spaced apart rows of thread strands that form with multiple spaced apart columns of lace material a mesh lattice structure adapted to conform with a user's head and to provide resilience to prevent movement of the hair section secured in a desired hair style position.

17. The method of claim 11, wherein attaching a second hair portion along a perimeter support member of the coupling member comprises hand tying a second hair portion along a perimeter support member to provide a substantially undetectable boundary between the hair extension apparatus and a user's natural hair.

18. The method of claim 11, wherein attaching a second hair portion along a perimeter support member of the coupling member comprises hand tying the second hair portion along a perimeter support member to provide a substantially undetectable boundary between the hair extension apparatus and a user's natural hair even when the second hair portion is lifted to an upward position.



19. The method of claim 11, wherein attaching a micro-thin layer to a top portion comprises disposing a micro skin layer along a top portion of the hair apparatus.

20. The method of claim 11, further comprising the step of attaching a plurality of spaced-apart flexible fasteners along a perimeter of the hair apparatus that is configured to secure the hair extension apparatus to at least one human hair strand on a user's head.

21. The method of claim 12, further comprising the step of attaching a plurality of spaced-apart vertical support members that intersect the horizontal support members to form a mesh retention structure to maintain the first and second hair sections in a desired hair style and to conforming to a user's head.

22. Hair apparatus adapted to substantially blend with one or more adjacently positioned hair supplemental extension sections, comprising:

at least one hair section disposed at least partly on an outer surface of a coupling element, wherein the at least one hair section is attached to at least a portion of a perimeter of the coupling element to blend the coupling element with at least one of a user's natural hair and a user's hair piece; and

a layer attached to the coupling element to substantially blend on a first outer edge of the coupling element with one or more adjacently positioned hair supplemental extension sections or the user's natural hair to achieve a desired style.

23. The apparatus of claim 22, wherein the at least one hair section is inserted through at least one opening in the outer surface of the coupling element and is at least partly wrapped around at least one horizontal support member that intersects with one or more vertical support members to substantially secure the at least one hair section within the hair apparatus.

24. The apparatus of claim 23, wherein central regions of the hair extension apparatus comprise dense hair coverage, and toward a second outer edge of the coupling element, progressively less dense hair coverage, so as to achieve a blended hair style appearance.

25. The fastener of claim 22, wherein the layer has a body that is attached along at least one portion of the body to the coupling element; and

wherein the layer comprising at least one mono-skin layer that provides a substantially invisible transition region for the at least one hair section being blended with at least one of the one or more hair supplemental extension sections the user's natural hair and a user's hair piece.

26. The apparatus of claim 22, wherein the layer comprises a micro-thin layer.

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