



US 20170215506A1

(19) **United States**

(12) **Patent Application Publication**
Sim

(10) **Pub. No.: US 2017/0215506 A1**

(43) **Pub. Date: Aug. 3, 2017**

(54) **HAIR EXTENSION CAP AND SYSTEM**

(52) **U.S. Cl.**

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CPC **A41G 5/0073** (2013.01); **A41G 3/0041**
(2013.01)

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(57) **ABSTRACT**

(21) Appl. No.: **15/008,648**

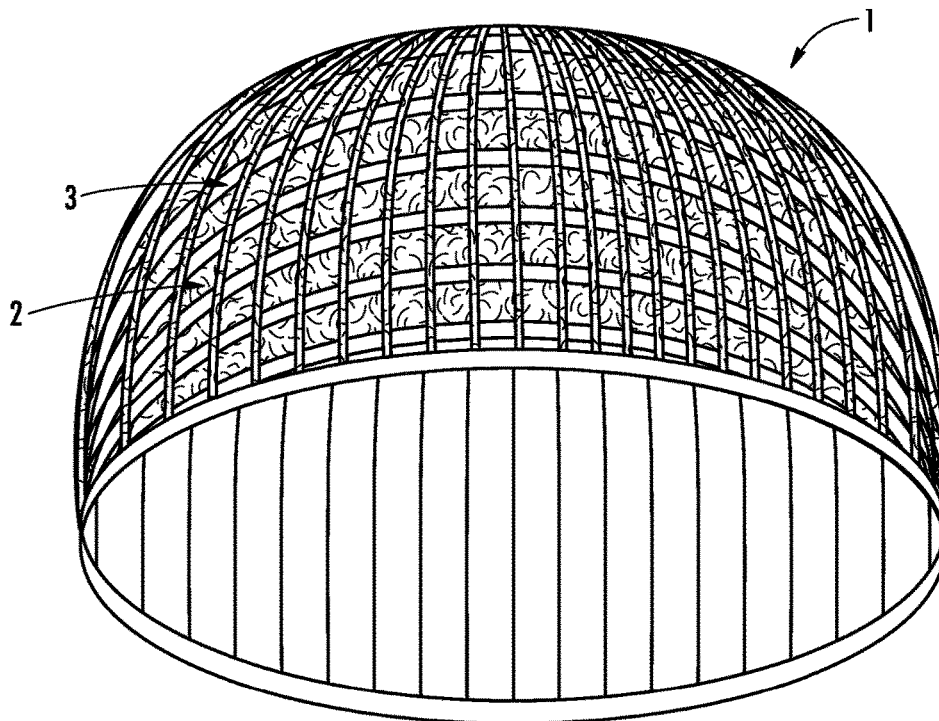
A concave hair extension cap made from spandex, lycra or similar manmade material is provided for attachment to the crown of a user head. The cap has various connection devices integrally attached in a regular arrangement about the surface of the cap or to spaces disposed within the surface of the cap for attachment of the periphery of the connection devices to the borders of the space disposed within the surface of the cap. The arrangement of the connection devices are arrayed in a staggered or symmetrical array. A hair extension having a corresponding connection device is brought into proximity to the hair cap and attached to the connection device in the cap thereby providing extension of hair.

(22) Filed: **Jan. 28, 2016**

Publication Classification

(51) **Int. Cl.**

A41G 5/00 (2006.01)
A41G 3/00 (2006.01)



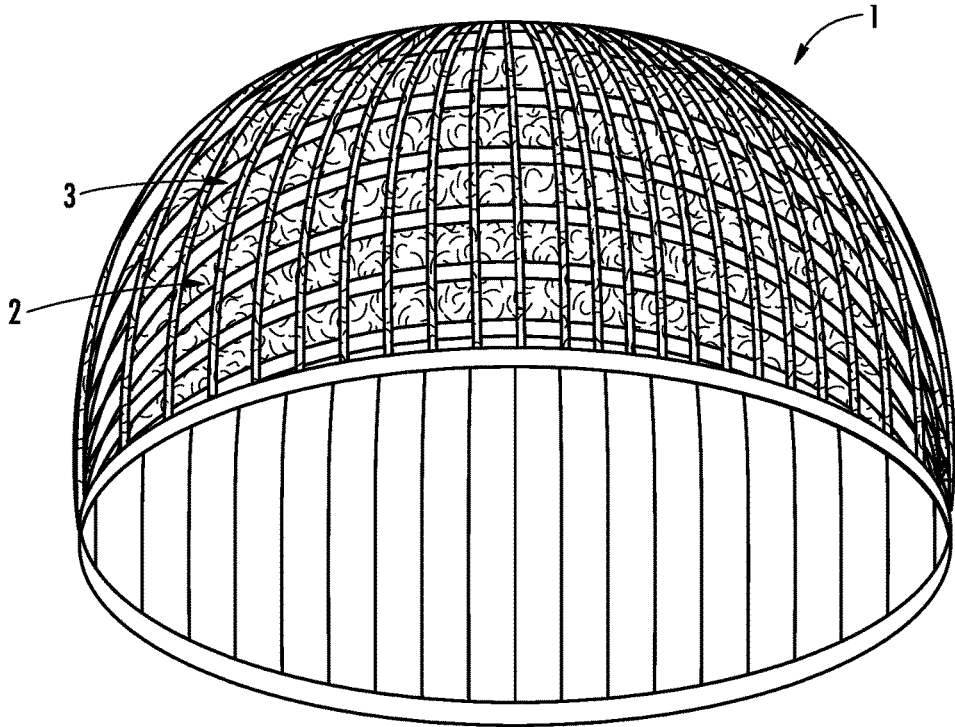


FIG. 1A



FIG. 1B

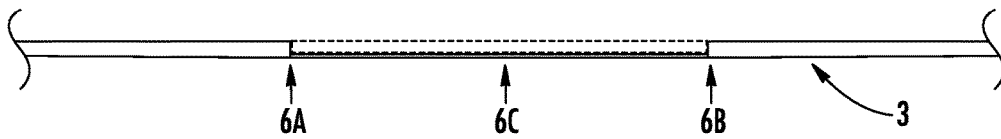


FIG. 1C

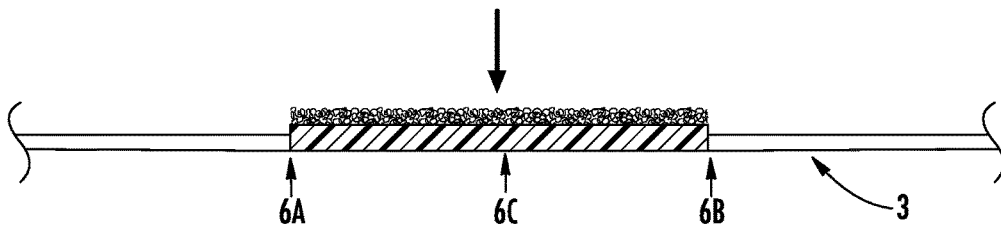
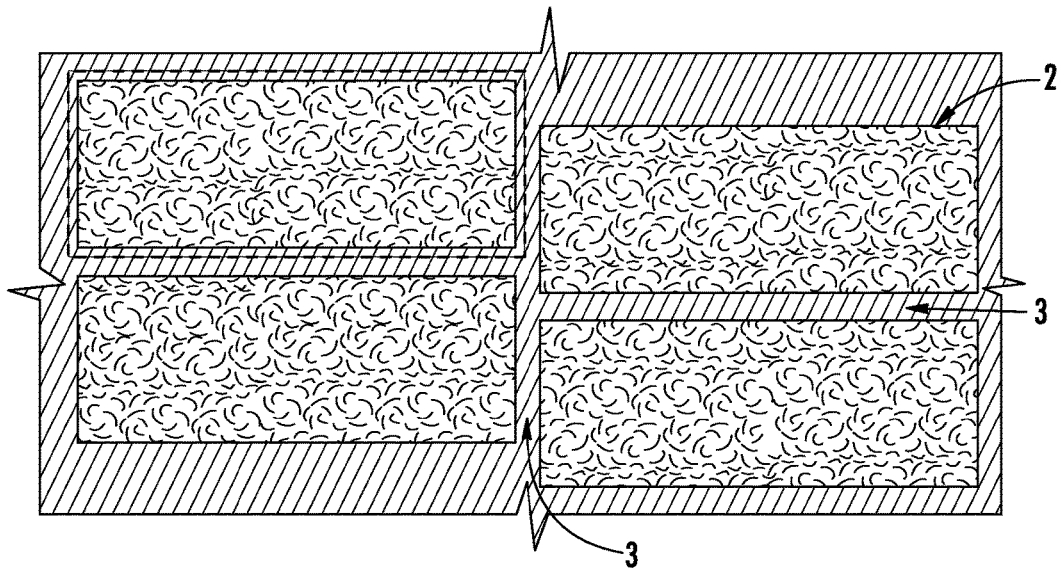
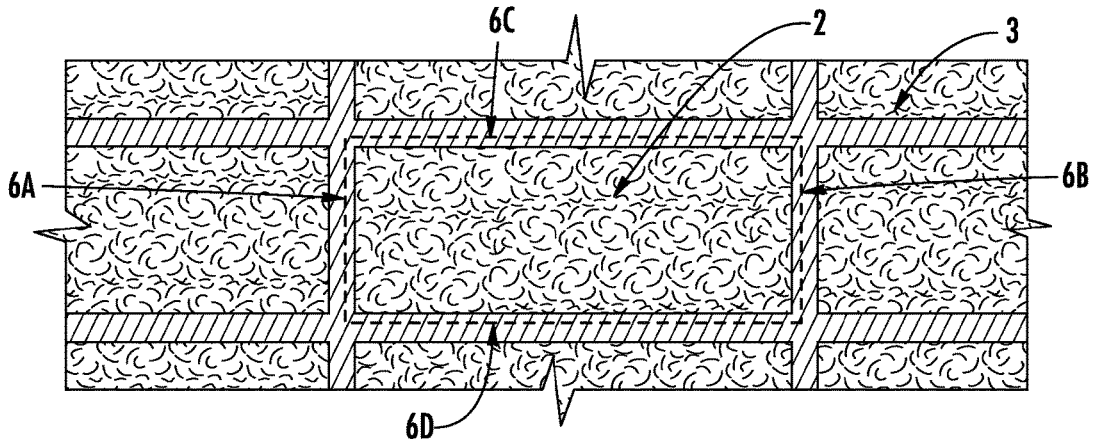


FIG. 1D



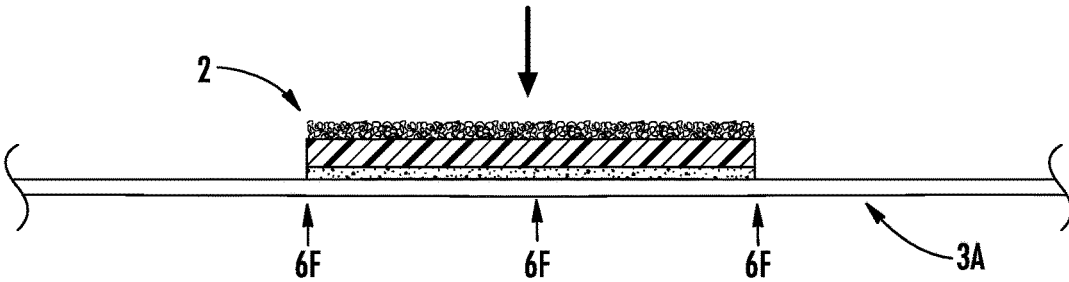


FIG. 1G

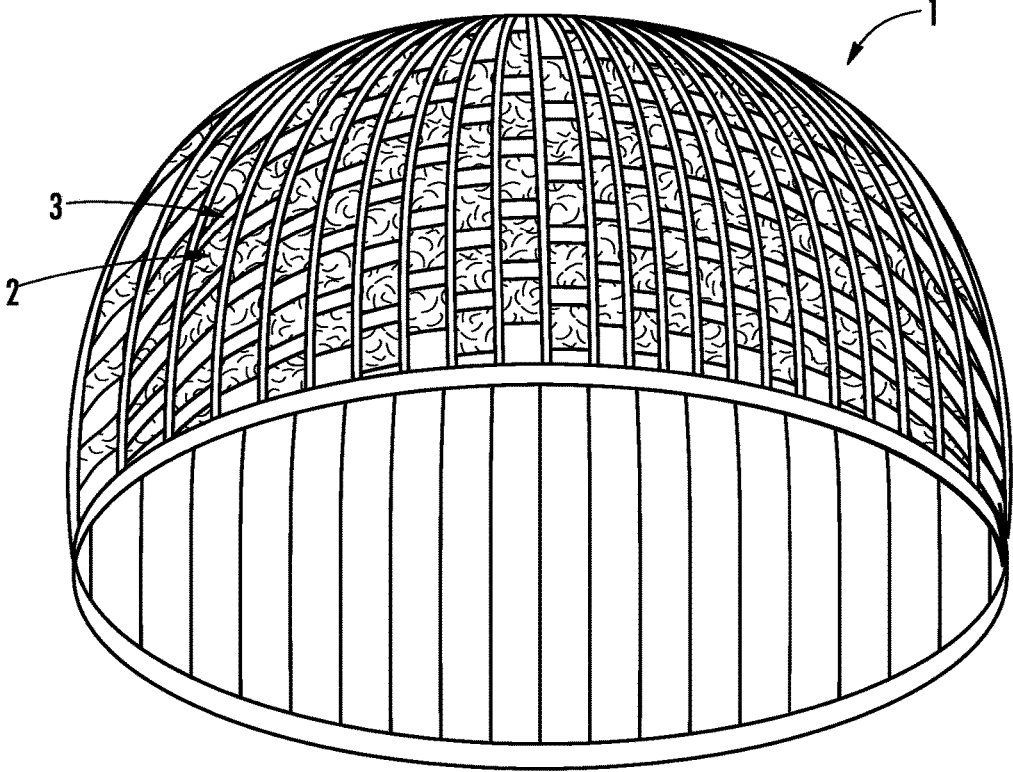


FIG. 1H

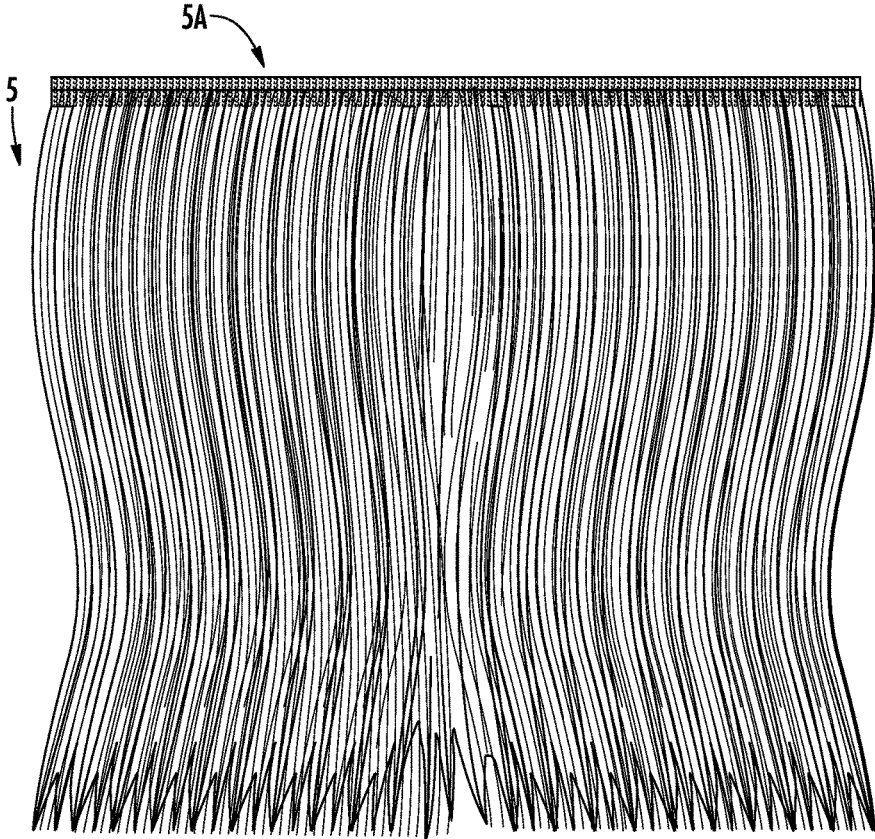


FIG. 2A

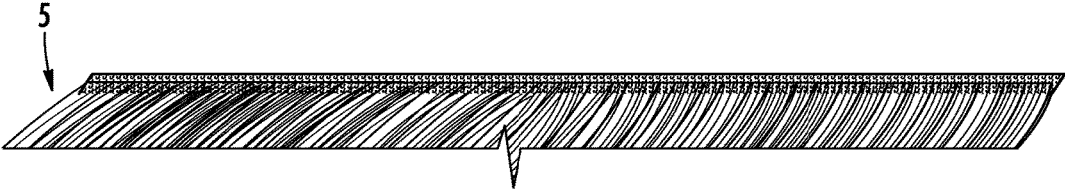


FIG. 2B

HAIR EXTENSION CAP AND SYSTEM**FIELD OF THE INVENTION**

[0001] The present invention relates to Hair Extensions; more particularly, the present invention relates to novel ways that hair can be attached to the crown of a person's head.

BACKGROUND OF THE INVENTION

[0002] Typically, a hair cap is a crown of plastic or similar synthetic material shaped as a concave bowl. A hair cap is utilized to cover a person's head and or hair whilst wearing a wig or hairpiece. The cap is placed about the head with any existing hair underneath it.

[0003] Another type of hair assistance is call a hair extension system. These systems are typically synthetic hair made in a laboratory or human hair obtained from users for just compensation that are collected and bound together in bundles. These bundles are either glued, sewn, pinned or otherwise attached to a plastic or paper strip; then these bundles are placed near a suitable portion of the pre-existing hair on the crown of a person's hair and attached to pre-existing hair thereto using pins.

[0004] Another connection mechanism involves having two snap type connectors attached to the strip of plastic or paper at the end of the hair bundle. The strip of plastic or paper is brought into proximity to the position desired and the two snap connectors are attached together through the existing hair thereby engaging the two snap connectors. Thus, the hair bundle is affixed to a suitable location on the crown of the head.

[0005] One type of 3M Dual Lock extension prior art system is as follows. A bundle of hair having 3M Dual Lock strips attached at an end of the bundle thus forming a completed extension for a ponytail type of extension. A corresponding top and bottom 3M Dual Lock strips are integrally attached to an end of the bundle and form an attachment mechanism for a ponytail type of extension. When a user wishes to extend a pony tail, it is wrapped about an existing portion of hair thereby engaging the dual lock strips on top and bottom together.

[0006] However, a problem arises in that a user has to constantly engage his or her hair to provide for effective hair extension. Thus, he or she has a problem of losing hair that have been stressed by the procedure or that are caught in the various pins, snap connectors, 3M dual lock etcetera.

[0007] Thus, there needs to be some solution to overcome the aforementioned problems that drastically reduces the amount of connectors that directly attach to pre-existing hair and thereby reduce stress on the hair and scalp and resultant loss thereof.

SUMMARY OF THE INVENTION

[0008] The present invention overcomes the deficiencies of the known art and the problems that remain unsolved by providing a Hair Extension Cap and System.

[0009] A hair extension system comprising:

[0010] a concave hair cap having

[0011] an integral connection device permanently attached thereto.

[0012] In another aspect, further comprising:

[0013] a plurality of integral connection devices permanently attached to the concave hair cap.

[0014] In another aspect, further comprising:

[0015] an array of integral connection device permanently attached to the concave hair cap.

[0016] In another aspect, wherein the array further comprises:

[0017] a staggered array of integral connection devices.

[0018] In another aspect, wherein the array further comprises:

[0019] a parallel array of integral connection devices.

[0020] In another aspect, wherein the array further comprises:

[0021] an offset array of integral connection devices.

[0022] In another aspect, further comprising:

[0023] a portion of the hair cap having a closed border forming a space in the hair cap within that border for integrally attaching the integral connection device.

[0024] In another aspect, further comprising:

[0025] a plurality of portions of the hair cap having closed borders forming spaces in the hair cap within that border for integrally attaching a plurality of integral connection devices one to each space.

[0026] In another aspect, further comprising:

[0027] a plurality of locations on a top surface of the hair cap for integrally attaching a one of the integral connection devices at each one of the plurality of locations.

[0028] In another aspect, further comprising:

[0029] a plurality of locations on a top surface of the hair cap for integrally attaching a one of the integral connection devices at each one of the plurality of locations.

[0030] In another aspect, further comprising:

[0031] a plurality of locations on a top surface of the hair cap for integrally attaching a one of the integral connection devices at each one of the plurality of locations.

[0032] In another aspect, further comprising:

[0033] a plurality of locations on a top surface of the hair cap for integrally attaching a one of the integral connection devices at each one of the plurality of locations.

[0034] In another aspect, further comprising:

[0035] a plurality of locations on a top surface of the hair cap for integrally attaching a one of the integral connection devices at each one of the plurality of locations.

[0036] In another aspect, wherein the integral connection device further comprises a velcro device.

[0037] A hair attachment device further comprising:

[0038] a bundle of hair having

[0039] a single type of attachment device connected to an end of the bundle.

[0040] In another aspect, further comprising:

[0041] a first surface portion of the bundle of hair for positioning the attachment device wherein the attachment device is a velcro device and

[0042] a second surface portion of the bundle of hair opposite the first surface portion having no attachment device.

[0043] These and other aspects, features, and advantages of the present invention will become more readily apparent from the attached drawings and the detailed description of the preferred embodiments, which follow.

BRIEF DESCRIPTION OF THE DRAWINGS

[0044] The preferred embodiments of the invention will hereinafter be described in conjunction with the appended drawings provided to illustrate and not to limit the invention, in which:

[0045] FIG. 1A presents an isometric view of a head or hair cap having an attachment system integrally formed thereon in an embodiment taught herein.

[0046] FIG. 1B presents a cross section view of a portion of a piece of velcro attachment material attached to a strip of material for further integral attachment to a space in or to a top surface of a hair cap as taught herein in an embodiment.

[0047] FIG. 1C presents a cross section view of a hair cap having a space for placement of the velcro strip of material shown in FIG. 1B in an embodiment taught herein.

[0048] FIG. 1D presents a cross section view of a velcro strip of material attached to a space in the hair cap in an embodiment taught herein.

[0049] FIG. 1E presents a plan level view of a symmetrical array type of arrangement of the velcro strips of material about the surface of the cap in an embodiment taught herein.

[0050] FIG. 1F presents a plan level view of an offset type of arrangement of the velcro strips of material about the surface of the cap in an embodiment taught herein.

[0051] FIG. 1G presents a cross section view of a velcro strip of material attached to a top surface of the hair cap in an embodiment taught herein.

[0052] FIG. 1H presents an isometric view of a staggered or offset array of velcro devices attached so that the previous one in a sequence is set somewhat above the next device in the sequence and the succeeding device in the sequence is set below what is considered the 'next' one in an embodiment taught herein and vice versa.

[0053] FIG. 2A presents an elevation view of a hair extension system having a hair bundle with a strip of material attached to the hair bundle where the strip of material has velcro devices integrally attached thereto as taught in an embodiment herein.

[0054] FIG. 2B shows a perspective view of the hair extension device of FIG. 2A as taught herein.

[0055] Like reference numerals refer to like parts throughout the several views of the drawings.

DETAILED DESCRIPTION

[0056] The following detailed description is merely exemplary in nature and is not intended to limit the described embodiments or the application and uses of the described embodiments. As used herein, the word "exemplary" or "illustrative" means "serving as an example, instance, or illustration." Any implementation described herein as "exemplary" or "illustrative" is not necessarily to be construed as preferred or advantageous over other implementations. All of the implementations described below are exemplary implementations provided to enable persons skilled in the art to make or use the embodiments of the disclosure and are not intended to limit the scope of the disclosure, which is defined by the claims. For purposes of description herein, the terms "upper", "lower", "left", "rear", "right", "front", "vertical", "horizontal", and derivatives thereof shall relate to the invention as oriented in each figure.

[0057] Furthermore, there is no intention to be bound by any expressed or implied theory presented in the preceding technical field, background, brief summary or the following detailed description. It is also to be understood that the specific devices and processes illustrated in the attached drawings, and described in the following specification, are simply exemplary embodiments of the inventive concepts

defined in the appended claims. Hence, specific dimensions and other physical characteristics relating to the embodiments disclosed herein are not to be considered as limiting, unless the claims expressly state otherwise.

[0058] FIG. 1A presents an isometric view of a hair cap having an attachment device integrally formed thereon in an embodiment taught herein. A hair cap **1** is made from spandex, lycra, plastic, polymer, neoprene, nylon, cotton, polyester, textile or similar manmade material. The surface of the hair cap has portions **3** thereof where only the underlying material surface is visible at the top surface thereof. Additionally, it has a variety of locations or spaces for placement of connection devices **2** such as a strip of material having a Velcro hook or loop device attached to said strip of material.

[0059] It should be apparent that the positioning of the connection devices in this arrangement presents a set of circular pathways for the connection devices as well as columns of alternating strips of velcro and portions **3** of the cap **1**. If necessary, the sizes of the connection devices **2** and the spaces or locations on the surface of the material are resized to permit various types of symmetries. The connection devices **2** are each situated through these spaces or at these locations. If at a space, these are subsequently permanently integrated with sewing, glue or adhesives to the borders of the spandex or other material that form the boundaries of the space. Alternatively, the connection devices are integrally attached with sewing, glue or adhesives to the locations at the top of the manmade material. Thus, the first manner of attachment is to a space in the cap for their subsequent attachment at the periphery of the connection device to the boundaries of the space and the second way is directly to the top surface of the cap without a corresponding prearranged space in the cap material.

[0060] FIG. 1B presents a cross section view of a piece of velcro attachment material attached to a strip of material for further integral attachment to a space in or directly to a top surface of a hair cap as taught herein in an embodiment. A connection device **2** is made from velcro hook or loop material that is integrally attached to a small strip of material; the strip and the velcro are referred herein together as the connection device **2**. This material is sized and shaped to permit appropriate attachment to a corresponding space within the underlying material of hair cap.

[0061] FIG. 1C presents a cross section view of a hair cap having a space for placement of the velcro strip of material **2** shown in FIG. 1B in an embodiment taught herein. The connection device **2** shown in FIG. 1B is to be located within the space or hole provided between the right and left borders **6A** of the space and integrally attached to this border about the connection device's **2** entire periphery and to the other sides **6B** in this view that similarly are attached using glue, adhesive or sewing. Items **6A** one to the right and one to the left indicate the shorter portion of a rectangular space in the cap whilst **6B** represents both a front and back (or upper and lower) borders of the rectangular space in the cap **1**. Typically, a regular space such a rectangular, square, elliptical, circular or trapezoidal shape is chosen but even more involved shapes such as diamonds, hearts etcetera are envisioned for marketing purposes.

[0062] FIG. 1D presents a cross section view of a hair cap where the connection device **2** is integrally attached to the hair cap; thus, the periphery of the the connection device **2** is attached to the borders right and left **6A**, front and back

6B of a space for placement thereof in the hair cap as shown in FIG. 1B in an embodiment taught herein.

[0063] FIG. 1E presents a plan level view of a symmetrical array type of arrangement of the connection device about the surface of the cap in an embodiment taught herein. The connection device 2 shown in FIG. 1B is to be located within the space or hole provided between the right and left borders 6A and the upper and lower borders 6B; thus, these are integrally attached to these borders about the connection device's 2 entire periphery to the sides 6A, 6B in the cap in this view that are attached using glue, adhesive or sewing. Items 6A one to the right and one to the left indicate the shorter portion of a rectangular space in the cap whilst 6B represents both a front and back borders (or upper and lower) of the rectangular space in the cap 1. Typically, a regular space such a rectangular, square, elliptical, circular or trapezoidal shape is chosen but even more involved shapes such as diamonds, hearts etcetera are envisioned for marketing purposes.

[0064] FIG. 1F presents a plan level view of an offset type of arrangement of the connection devices about the surface of the cap in an embodiment taught herein. In this view the connection devices 2 are offset or staggered vertically one from the other in a preceding or succeeding column so that a spiral or curve forms around the hair cap 1. It should be understood that the nature of the offset or stagger is both to the left or to right based on perspective of the viewer and these create a spiraling effect about the surface of the cap so that several spirals of connection devices 2 and or hair cap material 3 are clearly visible. Additionally, should it be necessary, the sizes of the connection devices 2 or portions of hair cap material 3 are altered in size and shape to form the spiral shape as it proceeds to the top of the crown or they can be maintained the same throughout as originally envisioned.

[0065] FIG. 1G presents a cross section view of a connection device 2 attached to a top surface of the hair cap 1 in an embodiment taught herein. Here a connection device 2 is attached by sewing, glue or similar attachment to a top surface 3A of the hair cap 1 at a location 6C.

[0066] FIG. 1H presents an isometric view of a staggered or offset array of velcro devices. When viewed from left to right in the drawing, these are attached so that the previous one in a sequence is set somewhat above the next device in the sequence and the succeeding device in the sequence is set below what is considered the 'next' one in an embodiment taught herein. Alternatively, one can view the arrangement shown herein such that the previous one in a sequence is set somewhat below the next device in the sequence and the succeeding device in the sequence is set above what is considered the 'next' one in an alternative view of the embodiment taught herein.

[0067] FIG. 2A presents an elevation view of a hair extension system having a hair bundle 5 with a strip of material attached to the hair bundle where the strip of material has velcro strip device integrally attached thereto as taught in an embodiment herein. A one sided velcro attachment device 5A is attached to the end of a hair bundle using sewing, glues and or adhesives along a top surface of the hair bundle 5 and at an end thereof. The bottom surface of the hair bundle does not have an attachment device attached thereto.

[0068] FIG. 2B shows a perspective view of the hair extension device of FIG. 2A as taught herein.

[0069] The above-described embodiments are merely exemplary illustrations of implementations set forth for a clear understanding of the principles of the invention. Many variations, combinations, modifications or equivalents may be substituted for elements thereof without departing from the scope of the invention. Therefore, it is intended that the invention not be limited to the particular embodiments disclosed as the best mode contemplated for carrying out this invention, but that the invention will include all the embodiments falling within the scope of the appended claims.

1. A hair extension system comprising:

- a hair cap made from a fabric material surface having
- a first integral connection device permanently attached to the fabric material surface such that there is a first portion of the fabric material surface about an entire first perimeter of the first integral connection device such that the first portion of the fabric material surface circumscribes the first integral connection device; and
- a second integral connection device permanently attached to the fabric material surface such that there is a second portion of the fabric material surface about an entire second perimeter of the first integral connection device such that the second portion of the fabric material surface circumscribes the second integral connection device; and

wherein the first integral connection device and the second integral connection device are separate from one another and do not make contact with one another.

2. The hair extension system of claim 1, further comprising:

- a plurality of integral connection devices permanently attached to the fabric material surface of the concave hair cap such that the plurality of integral connection devices each has a corresponding portion of the fabric material surface about each one of the plurality of integral connection devices;

such that the corresponding portion of the fabric material surface separates each one of the plurality of interconnection devices from nearby interconnection devices such that they are not directly connected to one another.

3. The hair extension system of claim 1, further comprising:

- group of integral connection devices permanently attached to the concave hair cap fabric material surface such that the group is formed from a plurality of integral connection devices;

wherein each one of the plurality of integral connection devices has a corresponding portion of the fabric material surface disposed about each one of the plurality of integral connection devices;

such that the corresponding portion of the fabric material surface separates each one of the plurality of interconnection devices from nearby interconnection devices such that they are not directly connected to one another.

4. The hair extension system of claim 3, wherein the group further comprises:

- a staggered group of integral connection devices. such that each one of a plurality of integral connection devices is attached to the concave hair cap fabric material surface offset laterally from a previous one of the plurality of integral connection devices; and

wherein each one of a plurality of integral connection devices is attached to the concave hair cap fabric

- material surface offset vertically from a previous one of the plurality of integral connection devices.
5. The hair extension system of claim 3, wherein the group further comprises:
- a parallel group of integral connection devices such that each one of a plurality of integral connection devices is attached to the concave hair cap fabric material surface offset laterally from a previous one of the plurality of integral connection devices;
 - and wherein each one of the plurality of integral connection devices is not offset vertically from a previous one.
6. The hair extension system of claim 3, wherein the group further comprises:
- an offset group of integral connection devices such that each one of a plurality of integral connection devices is attached to the concave hair cap fabric material surface offset laterally from a previous one of the plurality of integral connection devices.
7. The hair extension system of claim 1, further comprising:
- a first portion of the fabric material surface of the hair cap having a first closed border forming a first space in the hair cap within that border for integrally attaching the first integral connection device.
8. The hair extension system of claim 7, further comprising:
- a second portion of the fabric material surface of the hair cap having a second closed border forming a second space in the hair cap within that second border for integrally attaching the second integral connection devices.
9. The hair extension system of claim 3, further comprising:
- a plurality of portions of the fabric material surface of the hair cap having a plurality of closed borders forming a plurality of spaces in the hair cap within the plurality of closed borders for integrally attaching one of the plurality of integral connection devices to one of the plurality of borders.
10. The hair extension system of claim 2, further comprising:
- a plurality of portions of the fabric material surface of the hair cap having a plurality of closed borders forming a plurality of spaces in the hair cap within that plurality of closed border for integrally attaching one of a plurality of integral connection devices to one of the plurality of borders.
11. (canceled)
12. (canceled)
13. A hair extension system of claim 2, further comprising:
- a set of integral connection devices permanently attached to a concave hair cap fabric material surface such that the set is formed from a plurality of integral connection devices:
- wherein each one of the plurality of integral connection devices has a corresponding portion of the fabric material surface disposed about each one of the plurality of integral connection devices;
 - such that the corresponding portion of the fabric material surface separates each one of the plurality of interconnection devices from nearby interconnection devices such that they are not directly connected to one another.
14. The hair extension system of claim 13, further comprising:
- a staggered set of integral connection devices such that each one of a plurality of integral connection devices is attached to the concave hair cap fabric material surface offset laterally from a previous one of the plurality of integral connection devices; and
 - wherein each one of a plurality of integral connection devices is attached to the concave hair cap fabric material surface offset vertically from a previous one of the plurality of integral connection devices..
15. The hair extension system of claim 13, further comprising:
- a parallel set of integral connection devices such that each one of a plurality of integral connection devices is attached to the concave hair cap fabric material surface offset laterally from a previous one of the plurality of integral connection devices; and
 - wherein each one of the plurality of integral connection devices is not offset vertically from a previous one.
16. The hair extension system of claim 13, further comprising:
- an offset set of integral connection devices such that each one of a plurality of integral connection devices is attached to the concave hair cap fabric material surface offset laterally from a previous one of the plurality of integral connection devices.
17. The hair extension system of claim 13, further comprising:
- wherein each one of the plurality of integral connection devices is a hook or loop fastener.
18. The hair extension system of claim 1, wherein the first integral connection device further comprises a hook or loop fastener.
19. The hair extension system of claim 13, further comprising:
- a plurality of portions of the fabric material surface of the hair cap having a plurality of closed borders forming a plurality of spaces in the hair cap within that plurality of closed borders for integrally attaching one of a plurality of integral connection devices to one of the plurality of borders.
20. (canceled)

* * * * *