



US 20130094892A1

(19) **United States**
(12) **Patent Application Publication**
Spadaro

(10) **Pub. No.: US 2013/0094892 A1**
(43) **Pub. Date: Apr. 18, 2013**

(54) **HAIR CARE PRODUCT APPLICATOR APPARATUS**

(52) **U.S. Cl.**
USPC **401/28; 401/209**

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(57) **ABSTRACT**

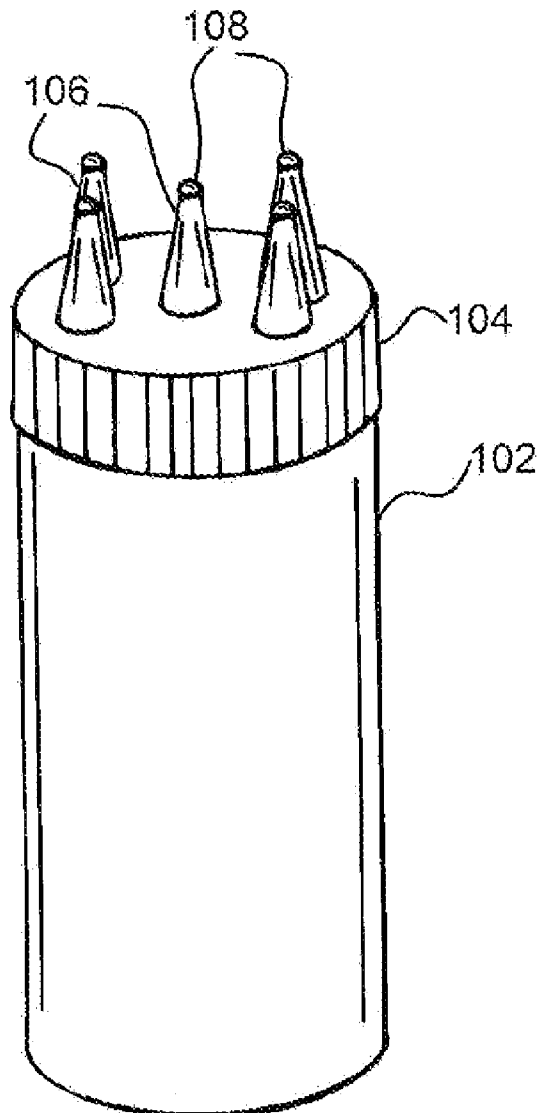
(21) Appl. No.: **13/274,641**

(22) Filed: **Oct. 17, 2011**

A hair preparation applicator apparatus is disclosed. The apparatus includes a container for holding the hair preparation; a reservoir for holding a predefined amount of the hair preparation, wherein the reservoir is attached to the container; an orifice in the reservoir adjacent to the container for allowing hair preparation to flow from the container into the reservoir; at least one tubular element extending from the reservoir and having an interior volume continuous with an interior volume of the reservoir; and wherein each of the at least one tubular elements includes a roller ball on a first end that allows hair preparation to exit the first end for application to a consumer's skin via the roller ball.

Publication Classification

(51) **Int. Cl.**
A45D 34/04 (2006.01)
A45D 19/00 (2006.01)



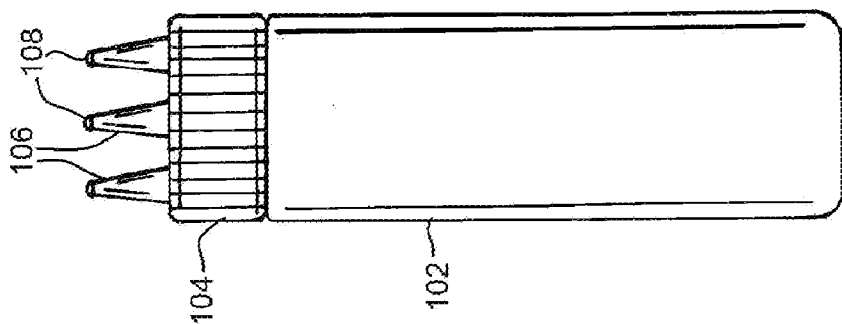


FIG. 1

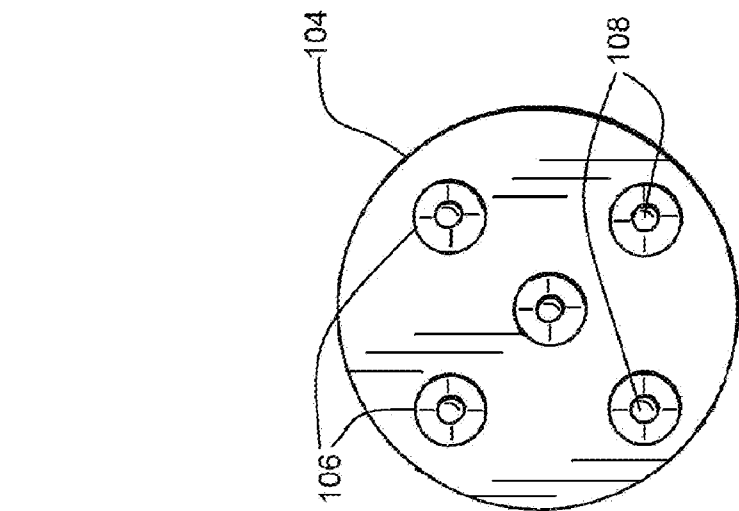


FIG. 2

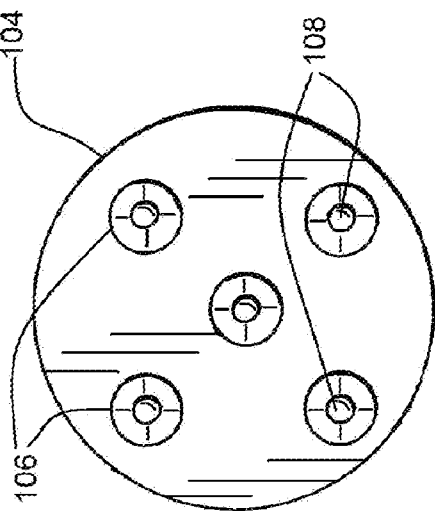


FIG. 3

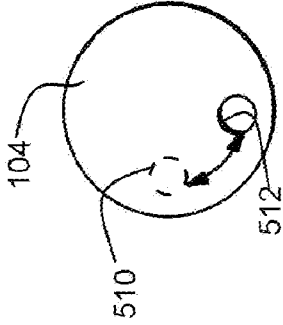


FIG. 6

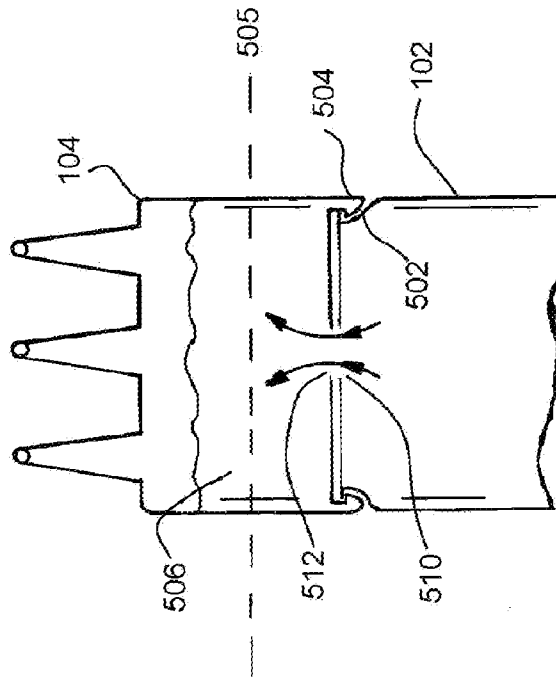


FIG. 5

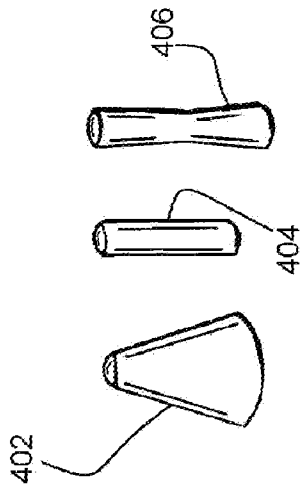


FIG. 4

HAIR CARE PRODUCT APPLICATOR APPARATUS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Not Applicable.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] Not Applicable.

INCORPORATION BY REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC

[0003] Not Applicable.

FIELD OF THE INVENTION

[0004] The invention disclosed broadly relates to the field of cosmetics, and more particularly relates to the field of applicators for hair care products.

BACKGROUND OF THE INVENTION

[0005] There are many different hair care products on the market today, from shampoos and conditioners to hair growth preparations. Similarly, there are many different applicator apparatuses available for applying those hair care products to an individual's hair or scalp. With regard to hair growth preparations, the conventional apparatus for applying the preparation to a consumer's scalp comprises a dropper that consists of a shaft having two open ends, with an elastic bulb placed on one end of the shaft. The consumer squeezes and then relaxes the bulb to draw the hair growth preparation, usually a liquid, into the shaft and then squeezes the bulb to expel the preparation onto the scalp. Once on the scalp, the consumer must use his hands to massage the hair growth preparation onto the scalp.

[0006] One of the problems with the aforementioned conventional apparatus for applying hair growth preparation to a consumer's scalp is that the application process can be messy. Once applied to the user's scalp, the hair growth preparation, being a liquid, can drip down onto the consumer's forehead, eyes and face, which can be annoying to a consumer and requires clean-up afterwards. Much of the hair growth preparation ends up on a consumer's hair, which is wasteful, since the preparation must be applied to the scalp. Further, the manual massaging process requires that the consumer wash his hands to remove the hair growth preparation from his hands. Another problem with the conventional apparatus is that the consumer must use his hands during the massaging process, which can cause hair to grow on the consumer's hands, due to the nature of the hair growth preparation. Finally, the conventional apparatus can be unwieldy and difficult to use on a daily basis, which is usually required for hair growth preparations.

[0007] Therefore, a need exists to overcome the problems with the prior art as discussed above, and particularly for a more efficient way to apply hair care products, such as hair growth preparations, to a consumer's hair and scalp.

SUMMARY OF THE INVENTION

[0008] Briefly, according to an embodiment of the present invention, a hair preparation applicator apparatus is disclosed. The apparatus includes a container for holding the

hair preparation; a reservoir for holding a predefined amount of the hair preparation, wherein the reservoir is attached to the container; an orifice in the reservoir adjacent to the container for allowing hair preparation to flow from the container into the reservoir; at least one tubular element extending from the reservoir and having an interior volume continuous with an interior volume of the reservoir; and wherein each of the at least one tubular elements includes a roller ball on a first end that allows hair preparation to exit the first end for application to a consumer's skin via the roller ball.

[0009] The foregoing and other features and advantages of the present invention will be apparent from the following more particular description of the preferred embodiments of the invention, as illustrated in the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The subject matter, which is regarded as the invention, is particularly pointed out and distinctly claimed in the claims at the conclusion of the specification. The foregoing and other features and also the advantages of the invention will be apparent from the following detailed description taken in conjunction with the accompanying drawings. Additionally, the left-most digit of a reference number identifies the drawing in which the reference number first appears.

[0011] FIG. 1 is a perspective view of a hair care preparation applicator, according to one embodiment of the present invention.

[0012] FIG. 2 is a side view of the hair care preparation applicator of FIG. 1.

[0013] FIG. 3 is a top view of the hair care preparation applicator of FIG. 1.

[0014] FIG. 4 is an illustration of various embodiments of the tubular elements of the hair care preparation applicator of FIG. 1, according to one embodiment of the present invention.

[0015] FIG. 5 is a coronal or vertical cross sectional view of the hair care preparation applicator of FIG. 1.

[0016] FIG. 6 is a transverse or horizontal cross sectional view of the hair care preparation applicator of FIG. 1.

DETAILED DESCRIPTION

[0017] The present invention solves the problems of the prior art by providing an apparatus for applying hair growth preparation directly to a consumer's scalp using a process that is quick, clean and does not produce a mess. The apparatus of the present invention allows a user to roll small amounts of the hair care preparation directly onto the user's scalp, thereby reducing or eliminating the possibility of the preparation ending up on the consumer's hair, or dripping onto the user's forehead and face, while also keeping the preparation away from the consumer's hands. This eliminates cleanup and reduces the amount of time taken in applying the hair growth preparation to the consumer's scalp. Finally, the apparatus of the present invention is simple and easy to use on a daily basis, which is beneficial since hair growth preparations usually require daily use. In this specification, the term hair care preparation or hair preparation refers to any commercially available consumer hair product, including shampoo, conditioner, dye, oil, mousse, gel, straightener, detangler, or the like, whether in liquid, solid, semi-solid or quasi-liquid form. The term hair growth preparation refers to any commercially

available consumer hair growth product, including minoxidil and finasteride, whether in liquid, solid, semi-solid or quasi-liquid form.

[0018] FIG. 1 is a perspective view of a hair care preparation applicator apparatus 100, according to one embodiment of the present invention. The apparatus 100 includes a cylindrical container 102 for holding a hair preparation, such as a hair growth preparation. The apparatus 100 also includes a cylindrical reservoir 104 for holding a predefined amount of the hair preparation, such as one milliliter, wherein the bottom end of the reservoir 104 is attached to the top end of the container 102. Five tubular elements 106 extend upwards from the reservoir 104, each having an interior volume continuous with an interior volume of the reservoir 104. Each of the five tubular elements 106 includes a roller ball 108 on its top end that allows hair preparation to exit the top end for application to a consumer's skin via the roller ball 108. The tubular elements 106 serve to apply the hair growth preparation directly to the consumer's scalp, while avoiding applying the preparation to the consumer's hair.

[0019] FIG. 2 is a side view of the hair care preparation applicator of FIG. 1. FIG. 3 is a top view of the hair care preparation applicator of FIG. 1. Note that although FIGS. 1-5 show five tubular elements 106, the present invention supports any number of tubular elements greater than one. Note also that although the figures show a cylindrical container 102 and cylindrical reservoir 104, the present invention supports any shape or size of container and reservoir that is well-known in the prior art in this field.

[0020] The purpose of the reservoir 104 is to hold a certain, predefined amount of the hair care preparation, which is then applied to the consumer's hair or scalp via the tubular elements. Certain hair care preparations, such as hair growth preparations, require a certain dosage that corresponds to a certain volume of liquid. The reservoir 104 is sized to hold exactly the amount of hair care preparation that is needed for the consumer for each use.

[0021] FIG. 4 is an illustration of various embodiments of the tubular elements 106 of the hair care preparation applicator of FIG. 1, according to one embodiment of the present invention. FIG. 4 shows that element 402, like elements 106 of FIG. 2, includes a decreasing diameter tube, as the tube extends from bottom to top. Element 402, however, includes a greater diameter at its base than elements 106 of FIG. 2. FIG. 4 shows that element 404 includes a continuous diameter tubular element, while element 406 includes a concave-shaped exterior surface. The roller balls 108 can be any roller balls that are well-known in the prior art, such as those used for well-known sunscreen and deodorant applicators in this field. As is known in the prior art, the roller balls 108 may require that pressure is placed upon them, so as to push them inwards and allow the liquid within the reservoir 104 and the tubular elements 106 to exit and be applied to the consumer's skin.

[0022] FIG. 5 is a coronal or vertical cross sectional view of the hair care preparation applicator 100 of FIG. 1. FIG. 5 shows that an exterior circumference of an outer brim of a top end of the container 102 comprises a gutter 502. FIG. 5 also shows that an interior circumference of an inner brim of a bottom end of the reservoir 104 comprises a raised lip 504 that fits securely into the gutter 502 of the container 102 when the reservoir is attached to the container. In one embodiment, the reservoir is rotatably attached to the container and the reservoir is not removable from the container when it is attached in

this manner. That is, the reservoir 104 can rotate about its central axis while the container 102 remains stationary.

[0023] FIG. 5 also shows that the top end of the container 102 includes an orifice 510 that faces the reservoir 104 and the bottom end of the reservoir 104 includes an orifice 512 that faces the container 102. The reservoir 104 may be rotated such that the orifice 512 is aligned with the orifice 510, thereby allowing the hair preparation 506 to flow from the container 102 to the reservoir 104.

[0024] FIG. 6 is a transverse or horizontal cross sectional view, along plane 505, of the hair care preparation applicator 100 of FIG. 1. FIG. 6 shows the interior surface of the bottom end of the reservoir 104. FIG. 6 shows a top view of the orifice 512 in reservoir 104. As shown in FIG. 6, orifice 512 is not aligned with orifice 510 of the container (shown in dotted lines). The arrow of FIG. 6 shows, however, that if the reservoir 104 is rotated clockwise such that the orifice 512 is aligned with the orifice 510, this would allow the hair preparation 506 to flow from the container 102 to the reservoir 104.

[0025] One or more of the components of the apparatus 100 can be manufactured from a flexible or elastic material such as plastic. The apparatus 100 can be made with a variety of plastics films, such as polyethylene (LDPE, LLDPE, etc.). Other materials include polystyrene, PVC, bioplastics, biodegradable plastics, thermoplastics (such as polyethylene, polypropylene, polystyrene, polyvinyl chloride and polytetrafluoroethylene) and thermosetting polymers. Further, it should be noted that the present invention anticipates any size of container, and therefore apparatus 100 may be of any size, shape, height and width. In another embodiment of the present invention, the components of the apparatus 100 may be composed a transparent and/or translucent plastic.

[0026] Although specific embodiments of the invention have been disclosed, those having ordinary skill in the art will understand that changes can be made to the specific embodiments without departing from the spirit and scope of the invention. The scope of the invention is not to be restricted, therefore, to the specific embodiments. Furthermore, it is intended that the appended claims cover any and all such applications, modifications, and embodiments within the scope of the present invention.

We claim:

1. A hair preparation applicator apparatus, comprising:
 - a container for holding the hair preparation;
 - a reservoir for holding a predefined amount of the hair preparation, wherein the reservoir is attached to the container;
 - a first orifice in the reservoir adjacent to the container for allowing hair preparation to flow from the container into the reservoir;
 - at least one tubular element extending from the reservoir and having an interior volume continuous with an interior volume of the reservoir; and
 - wherein each of the at least one tubular elements includes a roller ball on a first end that allows hair preparation to exit the first end for application to a consumer's skin via the roller ball.
2. The apparatus of claim 1, wherein the container comprises a cylindrical shape having a hollow internal volume.
3. The apparatus of claim 2, wherein an exterior circumference of an outer brim of a top end of the container comprises a gutter.

4. The apparatus of claim 3, wherein the reservoir comprises a container having a cylindrical shape and a hollow internal volume.

5. The apparatus of claim 4, wherein an interior circumference of an inner brim of a bottom end of the reservoir comprises a raised lip that fits securely into the gutter of the container when the reservoir is attached to the container.

6. The apparatus of claim 5, wherein the first orifice is located on a side facing the container and wherein the container includes a second orifice on a side facing the reservoir.

7. The apparatus of claim 6, wherein the reservoir is rotatably attached to the container, and the reservoir may be rotated such that the first orifice is aligned with the second orifice, thereby allowing the hair preparation to flow from the container to the reservoir.

8. The apparatus of claim 7, wherein the at least one tubular element comprises five tubular elements extending from the reservoir.

9. The apparatus of claim 8, wherein the at least one tubular element comprises five tubular elements, wherein each tubular element includes a decreasing diameter from the reservoir to a distal end.

10. The apparatus of claim 8, wherein the at least one tubular element comprises five tubular elements, wherein each tubular element includes a concave shape.

11. The apparatus of claim 8, wherein the reservoir is not removable from the container.

12. The apparatus of claim 8, wherein the reservoir and the container are composed of a plastic material.

13. A hair preparation applicator apparatus, comprising:
a cylindrical container for holding the hair preparation;

a cylindrical reservoir for holding a predefined amount of the hair preparation, wherein the reservoir is attached to the container;

a first orifice in the reservoir adjacent to the container for allowing hair preparation to flow from the container into the reservoir;

five tubular elements extending from the reservoir and having an interior volume continuous with an interior volume of the reservoir; and

wherein each of the five tubular elements includes a roller ball on a first end that allows hair preparation to exit the first end for application to a consumer's skin via the roller ball.

14. The apparatus of claim 13, wherein an exterior circumference of an outer brim of a top end of the container comprises a gutter.

15. The apparatus of claim 14, wherein an interior circumference of an inner brim of a bottom end of the reservoir comprises a raised lip that fits securely into the gutter of the container when the reservoir is attached to the container.

16. The apparatus of claim 15, wherein the first orifice is located on a side facing the container and wherein the container includes a second orifice on a side facing the reservoir.

17. The apparatus of claim 16, wherein the reservoir is rotatably attached to the container, and the reservoir may be rotated such that the first orifice is aligned with the second orifice, thereby allowing the hair preparation to flow from the container to the reservoir.

18. The apparatus of claim 17, wherein the reservoir is not removable from the container.

19. The apparatus of claim 18, wherein the reservoir and the container are composed of a plastic material.

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