LIQUID DISPENSING DEVICE FOR HAIR TREATMENT

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Filed Feb. 15, 1968, Ser. No. 705,826
Int. Cl. B65d 5/74

U.S. Cl. 222—568

ABSTRACT OF THE DISCLOSURE

A liquid dispensing device comprising a liquid container, and an applicator including a cap section attached to the liquid container and a pair of elongated nozzle sections mounted on the cap section and projecting outwardly therefrom.

This invention relates to a liquid dispensing device and more particularly to a device for applying a liquid solution to the hair, such as hair dyes, lotions, rinses, conditioners and the like. This invention further contemplates a novel applicator particularly adapted to applying liquid solutions to the hair.

In the profession of hair styling, it often in desirable to apply liquid solutions to the hair. Such solutions usually are used for various hair treatments including hair lightening, dyeing or toning, and for applying hair lotions and rinses. It also is desirable in many instances to apply conditioners for the scalp and hair, such as dandruffics, creams, oils, and the like.

In the prior art, there are various types of devices for applying liquid solutions to the hair and scalp. It has been found, however, that such devices have not been entirely satisfactory in performance. Often, such prior art devices have been found not to be sufficiently effective in applying the liquid solution to selected areas of the hair and scalp, in a fast and efficient operation.

Accordingly, it is the principal object of this invention to provide an improved liquid dispensing device.

Another object of the present invention is to provide a novel liquid applicator.

A further object of the present invention is to provide an improved device for applying liquid solutions to the hair.

Another object of the present invention is to provide a novel applicator for applying liquid solutions such as lighteners, dyes, toners, lotions and rinses to the roots or new growth of hair.

A further object of the present invention is to provide a novel device for applying liquid solutions to the hair which also is adapted to position strands of hair for applying the liquid solution.

A still further object of the present invention is to provide an improved device for applying liquid solutions to the hair which is simple in construction, inexpensive to manufacture, and comparatively easy to use.

Other objects and advantages of the present invention will become more apparent to those persons having skill in the art to which the invention pertains, from the following description taken in conjunction with the accompanying drawings, wherein:

FIGS. 1a, 1b and 1c illustrate an embodiment of the invention being used to apply a liquid solution to the roots or new growth of hair.

FIG. 2 is an enlarged fragmentary view of the embodiment shown in FIGS. 1a, 1b and 1c, illustrating the technique of picking up a strand of hair immediately prior to applying liquid solution to the new growth portion of the hair.

FIG. 3 is an enlarged end view of the embodiment shown in FIGS. 1a, 1b and 1c, illustrating the embodiment being placed in position relative to a strand of hair.

FIG. 4 is a view similar to the view shown in FIG. 3, illustrating the device during the liquid dispensing phase of the procedure.

FIG. 5 is a cross-sectional view taken along line 5—5 of FIG. 4, and

FIG. 6 is a cross-sectional view taken along line 6—6 of FIG. 5.

Briefly described, the present invention generally relates to a liquid dispensing device comprising a liquid container, an applicator including a cap section attached to the liquid container, and a pair of elongated nozzle sections mounted on the cap section and projecting outwardly therefrom.

Referring to the drawings, there is illustrated an embodiment of the invention. The embodiment generally includes a liquid container 10 and an applicator 11. The container 10 may be constructed of any suitable material although it is preferred that such container be constructed of a pliable and nonreactant material such as plastic. The length of the container is sufficiently long to permit the container to be held in the palm of the hand and squeezed by the thumb and fingers as illustrated in FIGS. 1a through 1c, to force the liquid solution within the container through the applicator. The open end of the container is provided with a neck section 12 provided with a threaded portion as best illustrated in FIGS. 5 and 6, for removably attaching the applicator 11. The container 10 can be of any size which will permit the device to be readily held and manipulated in one hand, as illustrated in FIGS. 1a through 1c.

The applicator includes a cap section 13 and a pair of elongated nozzle sections 14 and 15. The cap section 13 is provided with a top wall portion 16 and annular portion 17 having inner threads 18 for threading the applicator onto the neck portion 12 of the container.

Each of the nozzle sections 14 and 15 are formed integral with the top wall portion 16 of the cap section and have an elongated conical configuration. The longitudinal axes of the nozzle sections 14 and 15 are offset radially relative to the longitudinal centerline of the container, as best illustrated in FIGS. 3, 4 and 5 to permit liquid solution within the container to flow easily into and through the nozzle sections when the device is in the position illustrated in FIGS. 3, 4 and 5, and when the nozzle sections are tipped downwardly, as illustrated in FIGS. 1a, 1b and 1c.

As best illustrated in FIG. 6, the longitudinal axes of the nozzle sections 14 and 15 converge so that the spacing between the nozzle sections is equal along the entire lengths thereof. Also, as illustrated in FIG. 6, the nozzle section 14 is of slightly shorter length than nozzle section 15. In addition, the size of the liquid dispensing opening 19 of nozzle section 14 is slightly larger than the liquid dispensing opening 20 of nozzle section 15.

The tips of the nozzle sections 14 and 15 are spaced apart approximately one quarter inch. This provides a spacing between the nozzle sections sufficient to receive a strand of hair therethrough, as will hereinafter be described.

In using the device to apply a liquid solution such as a lightener, a dye or a toner to the roots or new growth of hair, the hair is first parted in four equal sections, as illustrated in FIG. 1a through 1c. Beginning at the upper end of the first section the hair is parted with the device, along substantially parallel lines, as indicated in FIG. 1a by the reference numeral 21. In doing so, the
container of the device is held in the palm of one hand with the fingers and thumb gripping the body of the container, and the nozzle sections are moved adjacent the scalp along one of the parting lines 21, so that a strand of hair is received in the space between the two nozzle sections. When the part is completed and the wall portion 16 of the cap section 13 engages the strand of hair, the strand of hair is positioned away from the operator. The device then is slowly retracted, while maintaining the tip portions of the nozzle sections adjacent the roots or new growth of the strand of hair and squeezing the container to dispense the liquid solution through the nozzle section openings 19 and 20. The first strand of hair is moved away from the operator, as illustrated in FIG. 1b to form another part with the nozzle sections. A second strand of hair is received between the nozzle sections in moving the device transversely relative to the second strand of hair. After the second part is formed, the second strand of hair is moved away from the operator, as illustrated in FIG. 1c, and the device is retracted. As the device is retracted, the tip portions of the nozzle sections are moved along the roots or new growth of the second strand of hair while the container member is squeezed gently to dispense the liquid solution along both sides of the strand of hair. This procedure is repeated until the entire section has been completed. The liquid solution is applied to the remaining sections in a similar manner.

The construction of the applicator 11 greatly facilitates the aforementioned method of applying a liquid solution to the roots or new growth of hair. As best illustrated in FIG. 2, it will be noted that the extra length of the nozzle section 20 greatly facilitates the formation of each part, by permitting the nozzle section 20 to position the applicator 11 at a distance prior to engagement of the lip of nozzle section 14 with the roots of the strand of hair or the scalp. Preferably, the spacing between the tips of the nozzle sections is one-quarter of an inch to assure a suitable thickness of the strand of hair which is to receive the liquid solution at the root portion thereof. After each part is formed in a section, the preceding part can be used to guide the nozzle section 14 in picking up a succeeding strand of hair.

The novel construction of the dispensing device further permits an easy and efficient operation for applying a liquid solution to the roots of the hair. Without much experience, an operator can learn to pick up a strand of hair between the nozzle sections, lay the strand of hair across the shorter nozzle section, retract the device while squeezing the container gently to apply the liquid solution, and then repeat the same procedure in a smooth, rhythmic motion. The construction of the applicator 11 not only is operable to apply a sufficient amount of liquid solution to the roots of the strands of hair, but also to facilitate in parting the hair to form appropriate strands to which the liquid solution is to be applied.

The speed of the withdrawal or retracting motion of the operator in using the dispensing device will depend upon the particular treatment and the nature of the liquid solution being applied. It will be appreciated that a slower withdrawal or retracting motion normally would be used under circumstances where more viscous liquids are being applied.

The offset positions of the nozzle sections relative to the longitudinal centerline of the container facilitate the flow of liquid into and through the nozzle sections. This construction further permits the device to be held at a smaller angle relative to the horizontal, which is preferable during the withdrawal or retracting phase of the operation. In addition, this construction permits continuous dispensing of the liquid solution when the amount of the solution in the container becomes low. As best illustrated in FIGS. 5 and 6, the cap member 13 is provided with a protuberance 22 disposed axially relative to the container member, on the inner side of the wall portion 16 of the cap section 13. The protuberance facilitates the flow of liquid from the container member into and through the nozzle sections.

Conical configurations of the nozzle sections 14 and 15 permit the use of the device in spreading liquid solution along strands of hair with an easy motion. This particularly is desirable where excess portions of liquid solution are dispensed. In such cases, the nozzle sections of the device can be used to wipe the excess solution along the length of the strand of hair.

It will be appreciated that the container 10 and the applicator 11 can be constructed of any suitable materials which will not react with any of the liquid solutions intended to be used with the device. The container member preferably should be constructed of a material to permit it to collapse in applying the liquid solution. The container can be of any size or configuration, but preferably, is cylindrical and of an appropriate diameter to permit the container to be held in the palm of the hand and squeezed by the thumb and fingers.

1. A liquid dispensing device comprising a liquid container having a length and width sufficient to permit said container to be positioned and held across the palm of the hand of a user, and an applicator including a cap section attached to said liquid container and a pair of elongated nozzles communicating with the interior of said liquid container, mounted on said cap section and projecting outwardly therefrom, longitudinally relative to the length of said liquid container, the centerlines of said nozzles lying in a plane at least partly spaced from the longitudinal centerline of said container and sections of the interior surfaces of said nozzles forming smooth continuation surfaces with the interior surface of the container.

2. A liquid dispensing device according to claim 1, wherein the length of one of said nozzle sections is greater than the length of the other of said nozzle sections.

3. A liquid dispensing device according to claim 1, wherein one of said nozzle sections has a liquid dispensing opening larger than the liquid dispensing opening of the other of said nozzle sections.

4. A liquid dispensing device according to claim 1, wherein the free end portions of said nozzle sections are spaced one-quarter inch apart.

5. A liquid dispensing device according to claim 1, wherein the length of one of said nozzle sections is greater than the length of the other of said nozzle sections and the shorter of said nozzle sections has a liquid dispensing opening larger than the liquid dispensing opening of the longer of said nozzle sections.

6. A liquid dispensing device according to claim 1, wherein said cap section includes threaded fastening means for attaching said applicator to said liquid container.

7. A liquid dispensing device according to claim 1, wherein said elongated nozzle sections are conically configured.

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