(54) Title: TOUCH UP/MOUSTACHE HAIR FLUID APPLICATOR

(57) Abstract: A hair fluid applicator (10) dispensing member for dispensing a fluid includes a body having a proximate end (21) and a distal end (23) and a bendable neck (19) disposed between the proximate end (21) and the distal end (23). The dispensing member also includes a plurality of bristles (24) extending from the distal end. One or more orifices (30) can be provided in the distal end (23) that are fluidly connectable to the fluid during dispensing of the fluid. In other embodiments, the distal end includes a plurality of bristles with at least one of the bristles including an orifice that is fluidly connectable to the fluid during dispensing of the fluid. The fluid can include at least one of the dye, colorant, shampoo, conditioner, and hair straightener.
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TOUCH UP/MOUSTACHE HAIR FLUID APPLICATOR

RELATED APPLICATION

This application claims the benefit of U.S. Provisional Application No. 60/434,192, filed December 17, 2002, the entire teachings of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

Conventional hair dye applicator devices that utilize a compressible bottle containing liquid, such as a dye, are well known in the art. However, such devices typically do not provide means for controlling application of the fluid to the user's hair in an acceptable manner. Furthermore, these prior art devices do not provide means for controlling application of the liquid in a desired pattern.

SUMMARY OF THE INVENTION

A hair fluid applicator dispensing member for dispensing a fluid is provided that includes a body having a proximate end and a distal end and a bendable neck disposed between the proximate end and the distal end. The dispensing member also includes a plurality of bristles extending from the distal end. One or more orifices can be provided in the distal end that are fluidly connectable to the fluid during dispensing of the fluid. In other embodiments, the distal end includes a plurality of bristles with at least one of the bristles including an orifice that is fluidly connectable to the fluid during dispensing of the fluid. The fluid can include at least one of dye, colorant, shampoo, conditioner, and hair straightener.

A hair fluid applicator is also provided that includes a collapsible fluid container for containing a fluid, the fluid container having an open end for allowing egress of the fluid. The applicator also includes a compressible air container encasing a majority of the fluid container, a one-way air valve configured to allow
air into the air container and to prevent air from exiting therefrom, and a dispensing member having a proximate end, which is attachable to the air container, and a distal end. The distal end can include at least one orifice in fluid communication with the open end of the fluid container. The dispensing member can also include a bendable neck disposed between the proximate end and the distal end. The applicator also includes a one-way fluid valve disposed between the open end of the fluid container and the dispensing member. The one-way fluid valve allows egress of the fluid while preventing fluid from entering the fluid container.

A method of applying a fluid to hair to be treated is also provided that includes providing a hair fluid applicator including a dispensing member that includes body having a proximate end and a distal end and a bendable neck disposed between the proximate end and the distal end. The dispensing member also includes a plurality of bristles extending from the distal end. The method further includes adjusting the neck to a desired angle for applying fluid to the hair and applying fluid to the hair to be treated through the dispensing member.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and other objects, features and advantages of the invention will be apparent from the following more particular description of various embodiments of the invention, as illustrated in the accompanying drawings in which like reference characters refer to the same parts throughout the different views. The drawings are not necessarily to scale, emphasis instead being placed upon illustrating the principles of the invention.

FIG. 1 is an exploded view of a touch up/moustache hair fluid applicator in accordance with an embodiment of the invention.

FIG. 2 is a perspective view of the dispensing member illustrated in FIG. 1.

FIG. 3 is a perspective view of the tip of the dispensing member provided in accordance with an embodiment of the invention.

FIG. 4 is a perspective view of the tip of the dispensing member provided in accordance with another embodiment of the invention.
FIG. 5 is a perspective view of the one-way air valve in accordance with an embodiment of the invention.

FIG. 6 is a sectional, perspective view of the one-way air valve illustrated in FIG. 5.

FIG. 7 is a perspective view of a one-way fluid valve in accordance with an embodiment of the invention.

FIG. 8 is a sectional, perspective view of the one-way fluid valve illustrated in FIG. 7.

DETAILED DESCRIPTION OF THE INVENTION

A description of various embodiments of the invention follows.

A touch up/moustache hair fluid applicator 10, which can be disposable or reusable, is illustrated in FIG. 1. Generally, the applicator 10 includes an air container 12 that encases at least a majority of a collapsible fluid container 14 that can contain a fluid, such as a colorant, dye, shampoo, conditioner, hair straightener, etc. The air container 12 is resiliently compressible, i.e., deformable when squeezed, but returns to its original shape, and can include a one-way air valve 16 for allowing air into the air container while preventing air from exiting therefrom. The air container 12 includes an open end 18 coupleable to a dispensing head, head part, brush head, or dispensing member 20 through which the fluid is delivered to hair to be treated. In a particular embodiment, the dispensing member 20 can be screwed onto the air container 12 or otherwise affixed thereto. A one-way fluid valve 22 is disposed between the open end 18 of the air container 12 and the dispensing member 20 for allowing egress of the fluid from the fluid container 14 while preventing fluid from entering the fluid container (see, for example, FIG. 47 of U.S. Patent 6,357,449, the entire teachings of which are incorporated herein by reference).

FIG. 2 illustrates the dispensing member 20 that includes a body 26 that can include a bendable neck 19 disposed between a proximate end 21, which is attachable to the air container 12, and a tip or distal end 23. A plurality of fine bristles/teeth 24 are provided at the distal end 23, which is designed to allow the user to selectively apply fluid to hair to be treated, such as sideburns and moustaches.
The neck 19 can be designed to be bendable similar to the accordion-type configuration of a bendable straw. In other embodiments, the neck 19 can include a pivoting mechanism, such as a ball bearing, to effect the bending of the neck 19. Other mechanisms can be used to allow the neck 19 to articulate. In a particular embodiment, the bristles 24 are soft and bendable.

As illustrated in FIG. 3, the distal end 23 can include a plurality of orifices 28 that fluidly connect to the fluid container 14 for delivering fluid to the hair to be treated. In other embodiments, orifices can be provided at the base and/or along the shaft of some or all of the bristles 24. FIG. 4 illustrates an embodiment wherein bristles 30 can be provided that include orifices that are fluidly connectable to the fluid container 14. In further embodiments, a combination of the bristles 24, 30 can be implemented.

An embodiment of the one-way air valve 16 is illustrated in FIGS. 5 and 6 and includes a duckbill-type valve 32 having a slit 34 through which air is allowed to flow into the air container 12, although other types of one-way valves can be implemented. The valve 16 can include raised members or bumpers 36 that support the fluid container 14 above the slit 34 so that air can flow into the air container 12. The valve 16 can also include a flange 38 that snap-fits into the air container 12 and provides a seal.

An embodiment of a one-way fluid valve 22 (FIGS. 7 and 8) can include a flange 40 that forms a seal between the fluid container 14 and the dispensing member 20. The one-way valve 22 can also include a duckbill-type valve 42 that includes a slit 44 such that the fluid passes in a one-way direction through the valve 22. In other embodiments, other types of one-way fluid valves can be implemented.

In operation, when the air container 12 is compressed, the air pressure between the air container and the fluid container 14 increases since the air cannot escape. This increased pressure collapses the fluid container 14 that pumps fluid up through the one-way fluid valve 22 into the dispensing member 20 and out through the orifices 28 and/or bristles 30. When the compression on the air container 12 is relieved, the one-way fluid valve 22 does not allow the back flow of fluid to the fluid container 14. Due to the higher outside pressure, air outside rushes in through the
one-way air valve 16 and enters the space between the two containers 12, 14 to equalize the pressure. With no backflow, the fluid container 14 collapses and by repeating the steps, fluid continuously flows out of the dispensing member 20 with every compression until the desired amount of fluid is evacuated from the fluid container, regardless of the orientation of the applicator 10. The neck 19 can be bent to allow the user flexibility in applying the fluid to the hair to be treated. In particular embodiments, the valves 16, 22 can be formed from a flexible material, for example, a thermoplastic elastomer, such as silicone. The one-way fluid valve 22 can be formed from a chemically-resistant material. In specific embodiments, the air container 12 can be formed from a low density polyethylene and the dispensing member 20 can be formed from polypropylene. In one embodiment, the fluid container 14 is formed from a low density polyethylene/PPO blend.

Any of the hair fluid applicators disclosed herein can be used on humans as well as animals, such as a dog.

While this invention has been particularly shown and described with references to various embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the scope of the invention encompassed by the appended claims.
What is claimed is:

1. A hair fluid applicator dispensing member for dispensing a fluid, comprising:
   a body having a proximate end and a distal end and a bendable neck
   disposed between the proximate end and the distal end; and
   a plurality of bristles extending from the distal end.

2. The dispensing member of Claim 1, further comprising one or more orifices
   in the distal end fluidly connectable to the fluid during dispensing of the
   fluid.

3. The dispensing member of Claim 1, wherein the distal end includes a
   plurality of bristles, at least one of the bristles including an orifice that is
   fluidly connectable to the fluid during dispensing of the fluid.

4. The dispensing member of Claim 1, further comprising one or more orifices
   in the distal end fluidly connectable to the fluid during dispensing of the
   fluid, the distal end also including a plurality of bristles, at least one of the
   bristles including an orifice that is fluidly connectable to the fluid during
   dispensing of the fluid.

5. The hair fluid applicator of Claim 1, wherein the fluid includes at least one of
   dye, colorant, shampoo, conditioner, and hair straightener.

6. A hair fluid applicator, comprising:
   a collapsible fluid container for containing a fluid, the fluid container
   having an open end for allowing egress of the fluid;
   a compressible air container encasing a majority of the fluid
   container;
a one-way air valve configured to allow air into the air container and
to prevent air from exiting therefrom;

a dispensing member having a proximate end attachable to the air
container and a distal end having at least one orifice in fluid communication
with the open end of the fluid container, there being a bendable neck
dispersed between the proximate end and the distal end; and

a one-way fluid valve disposed between the open end of the fluid
container and the dispensing member, the one-way fluid valve allowing
egress of the fluid while preventing fluid from entering the fluid container.

7. The hair fluid applicator of Claim 6, wherein the distal end includes a
plurality of bendable bristles.

8. The hair fluid applicator of Claim 6, further comprising one or more orifices
in the distal end fluidly connectable to the open end of the fluid container.

9. The hair fluid applicator of Claim 6, wherein the distal end includes a
plurality of bristles, at least one of the bristles including an orifice that is
fluidly connectable to the open end of the fluid container.

10. The hair fluid applicator of Claim 6, further comprising one or more orifices
in the distal end fluidly connectable to the open end of the fluid container,
the distal end also including a plurality of bristles, at least one of the bristles
including an orifice that is fluidly connectable to the open end of the fluid
container.

11. The hair fluid applicator of Claim 6, wherein the distal end includes a
plurality of bristles, at least one of the bristles including an orifice that is
fluidly connectable to the open end of the fluid container.
12. The hair fluid applicator of Claim 6, wherein the fluid includes at least one of dye, colorant, shampoo, conditioner, and hair straightener.

13. A hair fluid applicator, comprising:
   a collapsible fluid container for containing a liquid, the fluid container having an open end for allowing egress of the liquid;
   a one-way fluid valve in communication with the open end of the fluid container for allowing egress of the liquid;
   a compressible air container encasing at least part of the fluid container, the air container having an open end for receiving the fluid container, the air container also including a one-way air valve for allowing air into the air container while preventing air from exiting therefrom; and
   a dispensing member connectable to the air container for delivering fluid to hair to be treated, the dispensing member including one or more orifices fluidly connected to the fluid container, the dispensing member also including a proximate end and a distal end and a bendable neck disposed therebetween;
   wherein as the air container is compressed by a user, the fluid container collapses to force the liquid out of the fluid container.

20  14. The hair fluid applicator of Claim 13, wherein the distal end includes a plurality of bendable bristles.

15. The hair fluid applicator of Claim 13, wherein the distal end includes a plurality of bristles, at least one of the bristles including an orifice that is fluidly connectable to the fluid container.

25  16. The hair fluid applicator of Claim 13, wherein the orifices are provided in one or more of the bristles.
17. The hair fluid applicator of Claim 13, wherein the fluid includes at least one of dye, colorant, shampoo, conditioner, and hair straightener.

18. The hair fluid applicator of Claim 13, wherein the one-way air valve includes one or more raised members that can support the fluid container above a slit in a duckbill valve of the one-way air valve.

19. The hair fluid applicator of Claim 13, wherein the one-way air valve includes a flange that forms a seal between the fluid container and the dispensing member.

20. A method of applying a fluid to hair to be treated, comprising:

   providing a hair fluid applicator including a dispensing member that includes a body having a proximate end and a distal end and a bendable neck disposed between the proximate end and the distal end, the dispensing member also including a plurality of bristles extending from the distal end;

   adjusting the neck to a desired angle for applying fluid to the hair;

   and

   applying fluid to the hair to be treated through the dispensing member.
INTERNATIONAL SEARCH REPORT

PCT/US 03/40299

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A45D19/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A45D A46B B43M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

Date of the actual completion of the international search: 5 May 2004
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Name and mailing address of the ISA
European Patent Office, P.B. 5816 Patentlaan 2 NL – 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016

Authorized officer
Acerbis, G.
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