

[54] **MIST APPLICATOR COMB**
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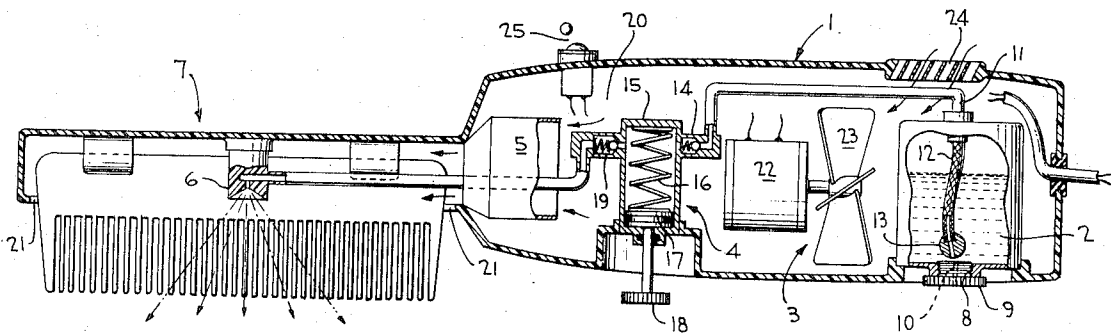
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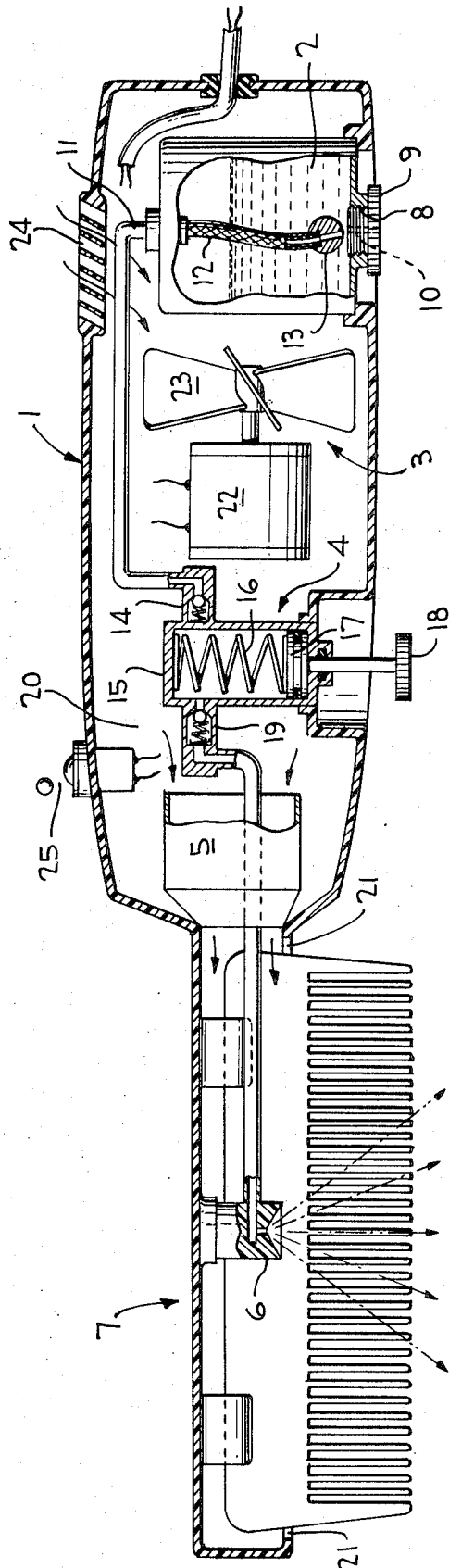
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[57] **ABSTRACT**

The subject invention relates to a comb having a handle in which is situated a reservoir for water or other liquid and having means for spraying the fluid from the reservoir directly on the hair while combing. Also provided is a hot air generating system which allows hot air to be blown on the hair while the comb is being used. The heater of the hot air generating system may be used to heat the fluid which is sprayed directly on the hair.

3 Claims, 1 Drawing Figure





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MIST APPLICATOR COMB

BACKGROUND

There have been many attempts to combine a fluid applicator with a comb, but all have been unduly cumbersome and awkward to use. The main problems created by this combination are leaking, clogging and flow control.

It is the main object of this invention to provide a light and easy to use comb which allows the user to spray water, conditioner, or other hair treatment preparation on the hair at the same time he is combing his hair.

It is well known that the application of heat to the hair is beneficial for styling, treatment and drying. It is another purpose of this invention to provide a person with a comb which not only sprays fluid on the hair, but also blows hot air over the hair at the same time. When the heater is provided within the handle of the comb the spray fluid may be routed in its vicinity and thereby heated so that a warm spray is emitted. This comb which applies hot air and a heated conditioning spray greatly facilitates general grooming and even complicated styling.

The details of this invention are illustrated in FIG. 1 which is a side view of the device having half of the handle body removed to show the interior components of the device.

DESCRIPTION

The preferred embodiment of the device is shown in FIG. 1 and is constructed basically of seven components: a hollow handle 1, a reservoir 2, a blower unit 3, a pump unit 4, a heater 5, a nozzle 6, and a combing head 7.

More specifically the reservoir 2 is situated within the hollow handle 1 and is provided with a reservoir inlet 8 and removable inlet plug 9 which allow for the filling of the reservoir 2. The plug 9 is constructed with a breather passage 10 so that the pressure within the reservoir remains at the ambient level. The reservoir 2 has an outlet 11 consisting of a flexible dip tube 12 which extends into the reservoir and has a weight 13 at its innermost end. This construction is such that the reservoir outlet opening 11 remains under water at all times in spite of the orientation of the appliance.

The reservoir outlet 11 is connected directly to the pump unit 4 by a length of tubing. At the inlet to the pump there is placed a one-way valve 14 which allows fluid flow only into the pump cylinder 15. Pump unit 4 may simply be a cylinder and piston device with a biasing spring 16. The pump piston 17 is actuated manually by pressing on plunger 18. At the outlet of the pump is another one-way valve 19 which allows fluid flow only out of the pump cylinder 15.

A spray nozzle 6 is mounted in the combing head 7 and is connected to the pump outlet valve 19 by heat conducting tubing. This tubing may be secured in the vicinity of the heating element 5 in order to head the fluid on its way to the spray nozzle 6.

The entire handle and combing head of the device are hollow and form an interior passage 20 in which is placed the fluid dispensing system described above. In the vicinity of the comb there is an outlet slot 21 in which forms an outlet for the body and combing head passage 20. In the preferred embodiment we also pro-

vide a hot air generating system which consists simply of the motor 22 having an impellar 23 which is connected to its rotor. The motor 22 is securely mounted in the passage 20 in a way which allows free rotation of the impellar 23. The impellar 23 is formed so that during its rotation it creates a current of air in the direction of the passage outlet 21 and draws air into the passage 20 through inlet 24. The air current passes over the heating element 5 which heats the air before it exits from the outlet 21.

The electrical supply to the hot air generating system may be of any convenient design and may have separate controls to allow the actuation of the motor 22 and heater 5 separately. However all that is required is a simple on-off switch as shown at 25.

OPERATION

It is clear that the fluid dispensing system may be operated separately from the hot air generating system as well as simultaneously. The fluid generating system is operated by first filling the reservoir 2 with water, conditioner or other hair treatment preparation. When it is desired to spray the fluid onto the hair, the plunger 18 is pressed thereby depressing the pump piston 17 against spring 16. This action closes pump inlet valve 14 and forces air out of the pump outlet valve 19. When the piston 17 is returned to its normal position a vacuum, is created in the pump cylinder 15 closing outlet valve 19 and drawing fluid through the pump inlet 14. Once the pump cylinder 15 is filled, fluid will be dispensed from the nozzle 6 with each subsequent depression of the plunger 18.

To operate the hot air generating system, switch 25 is energized providing power to the motor 22 and the heater 5. Rotation of the impellar 23 draws air into the passage through inlet vent 24 in the handle forcing it over the heating element 5 and out through outlet slot 21.

In order to operate the two systems simultaneously the user merely depresses plunger 18 while the hot air generating system is energized. It should be noted that during simultaneous operation the fluid spray emitted will be hot.

I claim:

1. A comb comprising:

- a. a hollow handle suitable for hand use having a combing head attached thereto, the interior of said handle and combing head defining a passage having an air inlet located in the handle and an air outlet located in the combing head;
- b. a fluid reservoir located in the interior passage and being fillable from the exterior of the handle;
- c. a pump in communication with the reservoir by means of a tube and a valve which allow fluid to be withdrawn from the reservoir, said pump having an outlet valve which allows the fluid withdrawn from the reservoir to be directed toward the combing head when the pump is actuated;
- d. a nozzle constructed to emit an atomized spray communicating by means of a tube with the outlet valve of the pump, to receive the fluid directed therefrom and to emit said fluid in a spray onto the surface of the hair being combed;
- e. an electrical resistance heating element mounted in said passage in a position in the vicinity of the

- tube connecting the pump to the nozzle in order to heat the fluid passing through said tube;
- f. an electric motor having an impellar attached thereto for free rotation thereof when the motor is energized, mounted in the passage in a position that allows the rotation of the impellar to draw air in through the passage inlet and to blow the air over the heating element and outward through the passage outlet over the hair being combed; and
 - g. control means for operating the blower motor, and the heating element simultaneously.
2. A comb comprising:
- a. a hollow handle suitable for hand use having a combing head attached thereto;
 - b. a fluid reservoir mounted within the handle having an inlet and an outlet, said inlet providing means which allows said reservoir to be filled from the exterior of the handle and said outlet having a length of flexible tubing attached thereto and extending into the interior of the reservoir, said tubing being weighted at its interior end such that the end remains emersed in the fluid in spite of the orientation of said reservoir;
 - c. a pump in communication with the reservoir outlet to withdraw fluid from the reservoir and force it towards the combing head;
 - d. a nozzle communicating with the pump to receive the fluid forced therefrom and to direct said fluid outward onto the surface of the hair being combed; and

- e. heater means to heat the fluid before it reaches the nozzle so that a hot spray of fluid is emitted from the nozzle.
3. A comb comprising:
- a. a hollow handle suitable for hand use having a combing head attached thereto;
 - b. a fluid reservoir mounted within the handle having an inlet and an outlet, said inlet providing means which allow said reservoir to be filled from the exterior of the handle and said outlet having a length of flexible tubing attached thereto and extending into the interior of the reservoir, said tubing being weighted at its interior end such that the end remains emersed in the fluid in spite of the orientation of said reservoir;
 - c. a pump in communication with the reservoir to withdraw fluid from the reservoir and force it towards the combing head;
 - d. a nozzle communicating with the pump to receive the fluid forced therefrom and to direct said fluid outward onto the surface of the hair being combed;
 - e. heater means to heat the fluid before it reaches the nozzle so that a hot spray of fluid is emitted from the nozzle; and
 - f. blower means mounted in the hollow handle for creating a flow of air from within the handle outward over the hair being combed.

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