

[54] HEATED COMB WITH MIST FEATURE

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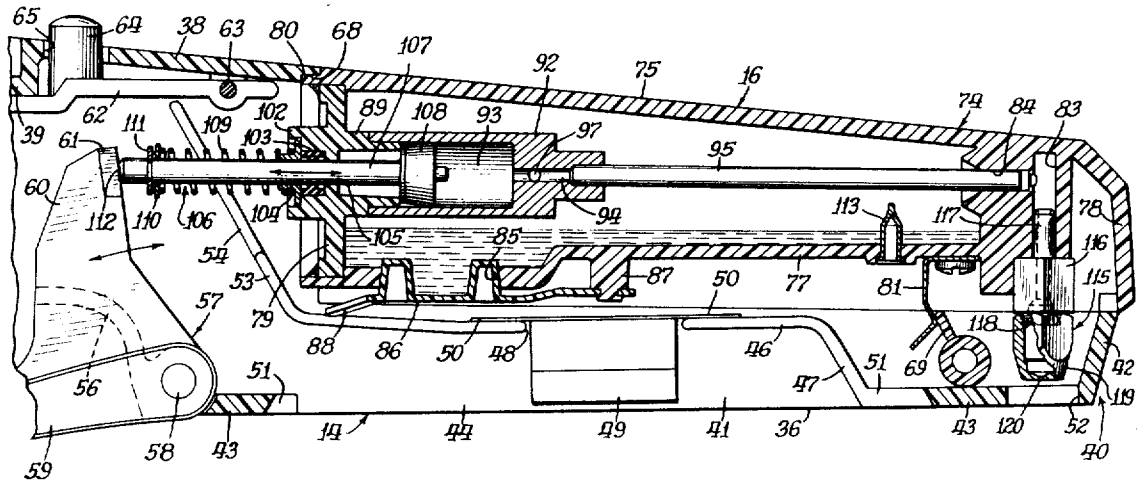
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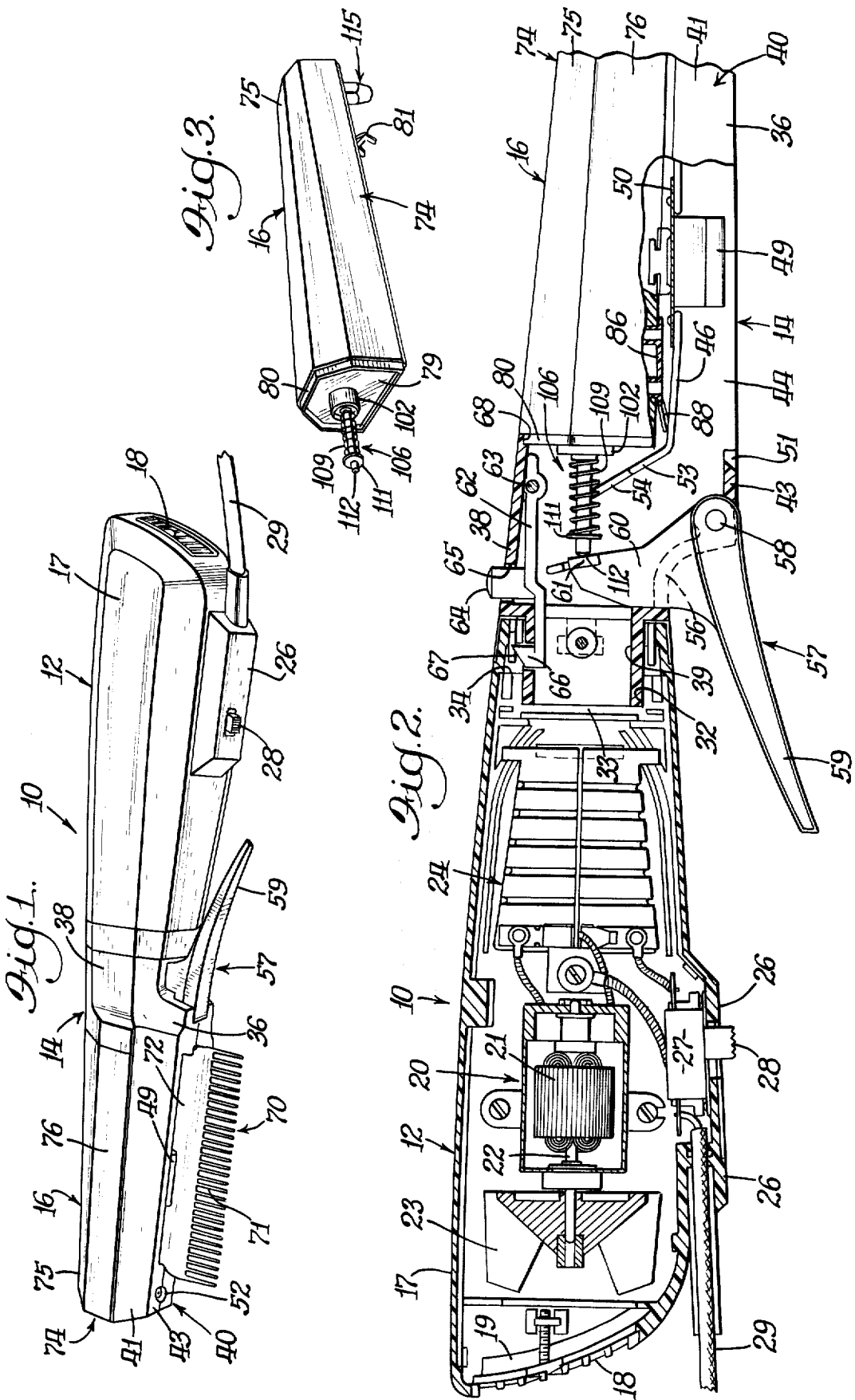
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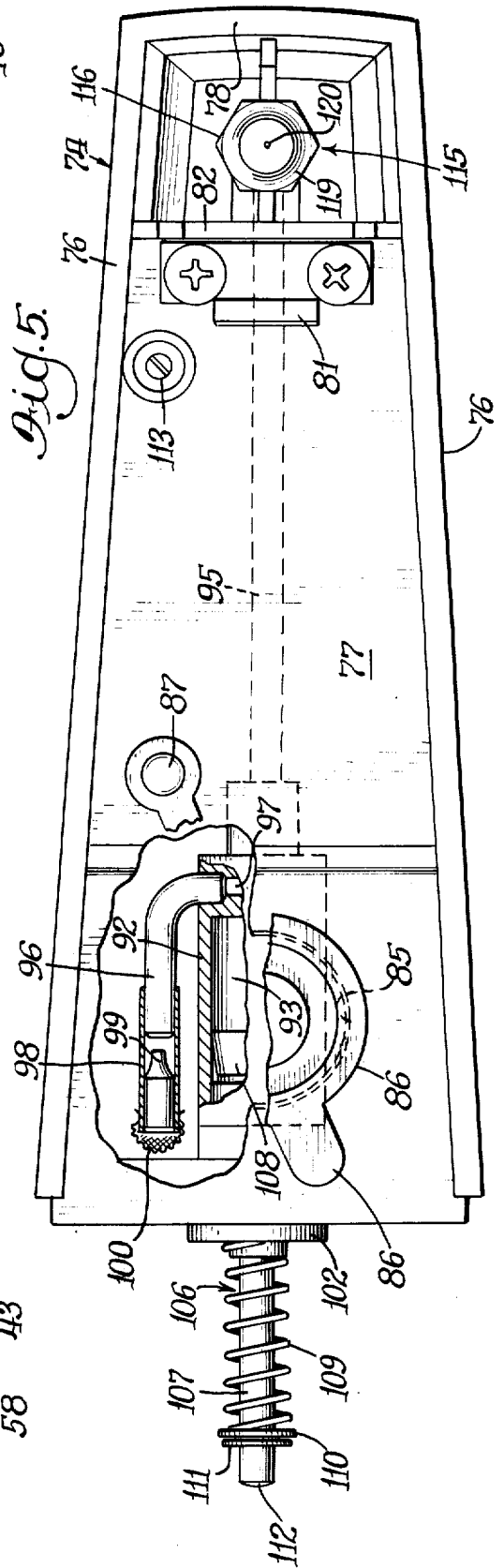
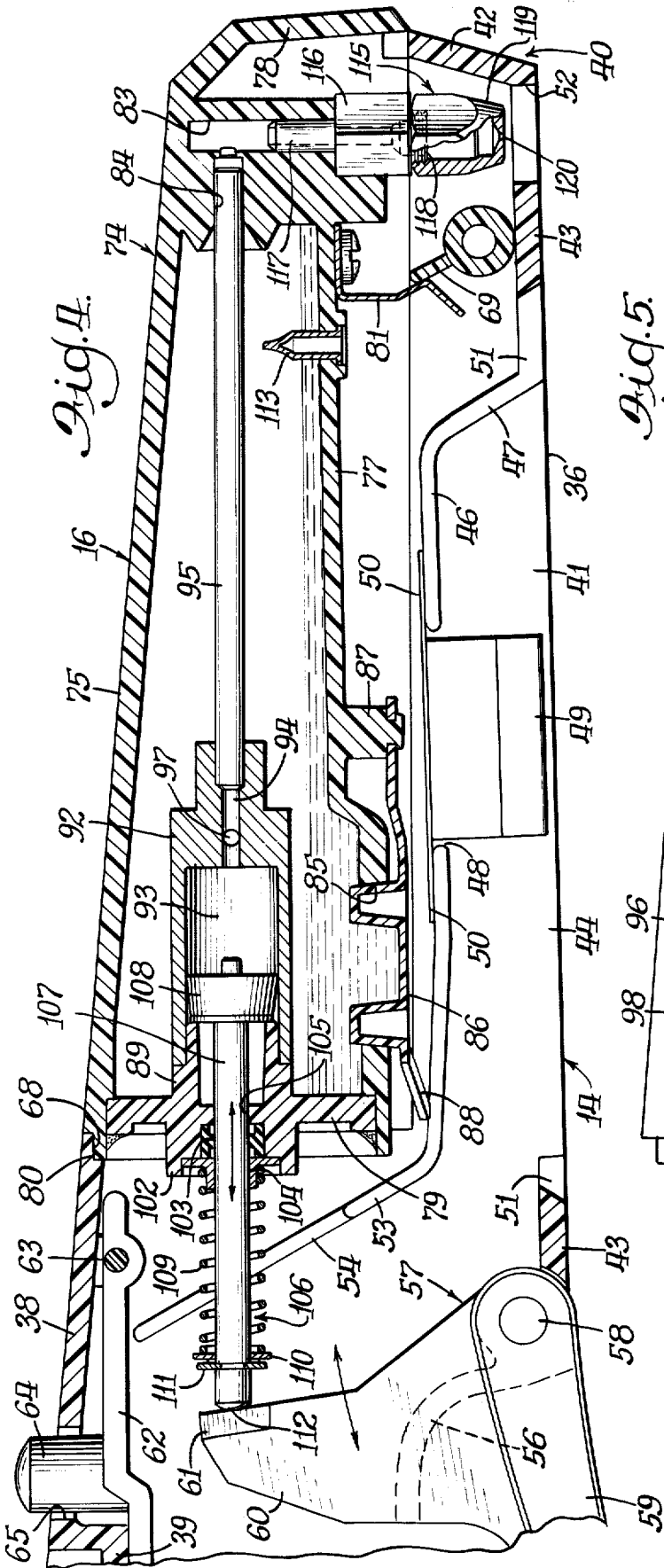
[57] ABSTRACT

A heated comb with mist feature having three generally aligned body portions including an elongated handgrip power handle body portion having an air inlet at the rear end, a heated air outlet at the forward end, an electric motor powered fan adjacent the air inlet and a heater element between the fan and air outlet, a comb holder body portion releasably connected to the forward end of the power handle and a downwardly opening heated air discharge recess adapted to selectively receive fine or course combs or a brush, a pump-reservoir body portion releasably mounted on the comb holder body portion and having a spray mist nozzle adjacent the forward end of the heated air discharge recess, and a lever pivotally mounted on the comb holder body portion for actuating the pump and having a finger-engageable portion extending along a portion of the underside of the power handle body portion in spaced relation to facilitate convenient actuation of the pump by a person holding the power handle body portion while styling his or her hair.

5 Claims, 5 Drawing Figures







HEATED COMB WITH MIST FEATURE**BACKGROUND OF THE INVENTION****1. Field of the Invention**

Our present invention pertains to a heated comb hair styler having a spray mist feature for convenient spot wet styling.

2. Description of the Prior Art

While heated combs are known to be old in the art, applicants are unaware of any prior art patents which disclose a heated comb having a mist spray feature which is formed of three releasably interconnected body portions which provide an attractive personal care product of this type.

SUMMARY OF THE INVENTION

The present invention is concerned with a heated comb having a mist feature whereby spot wet styling is readily available to a person styling his or her hair. With the present trend in hairstyles being toward longer hair on both men and women, a personal care product of this type is in great demand. The heated comb with mist feature hair styler of the present invention provides an elongated three-part housing which is extremely attractive and is well adapted for its stated purpose. As will be described in greater detail herein, this hair styler comprises a power handle having an air inlet at its rear end and a heated air outlet at its forward end. Mounted within the handle are an electric motor powered fan adjacent the air inlet and a heater assembly between the fan and the air outlet. A power cord is provided for energizing the motor and the heater assembly and on-off and/or high-low switches may be provided. The power handle by itself may be used for spot drying hair or fingernail polish. A comb holder body portion which blends into the outer configuration of the power handle is releasably attachable to the forward end thereof. The underside of this body portion is provided with a heated air discharge recess which is in communication with the heated air outlet of the power handle, and is provided with a spring clip for releasable mounting a fine or course comb or a brush in this recess depending on the needs of the particular hairstyle desired. Releasably mounted on the comb holder body portion is a pump-reservoir body portion which completes the overall pleasing design of this hair styler and which includes a mist spray nozzle adjacent the forward end of the heated air discharge recess. A pump actuating lever is pivotably mounted on the comb holder with a finger-engageable portion thereof extending along a portion of the underside of the power handle in spaced relation thereto to facilitate convenient actuation of the spray mist pump by a person holding the power handle during a hair styling operation.

It is an object of the present invention to provide a new and novel heated comb having a mist feature.

It is a further object of the present invention to provide such a heated comb which is characterized by three releasably interconnected body portions including a power handle, a comb holder and a pump-reservoir unit.

A still further object of the present invention is to provide such a heated comb wherein the power handle includes an air inlet at its rear end, a heated air outlet at its forward end, a motor driven fan adjacent the air inlet and a heater assembly between the fan and the air

outlet, wherein the comb holder attachable to the heated air outlet end of the power handle includes a downwardly opening heated air discharge recess with clip means therein for releasably holding a comb or brush and a pivotably mounted finger-engageable lever, and wherein the pump-reservoir unit releasably mounted on the comb holder includes a pump adapted to be actuated by the lever, a fluid reservoir and a spray mist discharge nozzle disposed adjacent the forward end of the heated air discharge recess.

Further objects and advantages of the present invention will become apparent as the following description proceeds, and the features of novelty which characterize the invention will be pointed out with particularity in the claims annexed to and forming a part of this specification.

BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of the present invention, reference may be had to the accompanying drawings in which:

FIG. 1 is a perspective view of a heated comb with mist feature embodying our invention;

FIG. 2 is an enlarged partially broken front elevational view with the power handle and a major portion of the comb holder shown in vertical section;

FIG. 3 is a perspective view of the pump-reservoir unit shown in FIGS. 1 and 2;

FIG. 4 is an enlarged vertical sectional view of the interconnected comb holder and pump-reservoir unit; and

FIG. 5 is a bottom plan view of the pump-reservoir unit of FIG. 4 with a portion of the bottom wall thereof broken away for clarity.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings in which like parts are designated by like numerals in the various views, there is shown in FIG. 1 a heated comb with mist feature, designated generally by reference numeral 10, which embodies our invention. As is best shown in FIGS. 1 and 2, the heated comb with mist feature 10 of the present invention is characterized by three releasably interconnected portions including a power handle 12, a comb holder 14 and a pump-reservoir unit 16. Referring particularly to FIG. 2, the power handle 12 is characterized by a generally tubular hand grip body portion 17 having an air inlet grill 18 formed at the rear end of the body portion 17 (to the left in FIG. 2) with a screen 19 being provided inwardly of the grill portion 18. Also provided in the body portion 17 is a motor mounting frame 20 which may be suitably attached to the interior of the body portion 17 in which is mounted an electric motor 21 having a drive shaft 22. A conventional fan 23 is mounted on the rear end of the drive shaft 22 adjacent the air inlet grill 18. A heater assembly 24 of conventional type is mounted within the body portion 17 forwardly of the motor 21.

The underside of the body portion 17 is provided with a depending housing portion 26 in which is mounted an on-off switch 27 having a protruding actuating button 28. It is to be understood that a high-low switch could also be provided in this unit for higher fan speed and greater heater output. The switch 27 is connected to a power cord 29 with the heater assembly 24

and the motor 21 being connected to the switch 27 through suitable electrical leads.

The forward end of the body portion 17 is characterized by a substantial recess 32 with a screen 33 being provided at the inner end of the recess to prevent anyone from inserting a finger into the recess 32 and coming into contact with the heater assembly 24. The inner upper surface defining the recess 32 is provided with a notch 34 which is located approximately midway between the forward end of the recess 32. This notch 34 is for a purpose which will be described hereinafter. It is noted that the power handle 12 described thus far herein may be used by itself as a spot hair dryer or for drying wet nail polish.

The comb holder 14, as is best illustrated in FIG. 4, comprises a body portion 36 which is characterized by a generally tubular portion 38 having a rearwardly projecting reduced thickness portion 39 which is adapted to be telescopically received within the recess 32 formed in the forward end of the power handle 12. The comb holder body portion 36 is further characterized by a base portion 40 which extends forwardly from the lower portion only of the tubular portion 38 with the base portion 40 having side walls 41, a front end wall 42 and a bottom wall 43. The bottom wall 43 has a downwardly opening heated air discharge recess 44 formed therein with an upper wall 46 of the base portion 40 defining the upper surface of the downwardly opening heated air discharge recess 44. A downwardly and forwardly inclined wall portion 47 extends between the forward edge of the upper wall 46 and the bottom wall 43 at the forward end of the recess 44. The upper wall 46 is laterally slotted, as at 48, to accommodate the mounting end portions 50 of a resilient clip 49 which projects downwardly into the recess 44 and is adapted for releasably gripping either a fine tooth comb, a course tooth comb, or a brush. The bottom wall 43 is provided at the forward and rear ends of the recess 44 with aligned slots 51 which serve to accommodate the aforementioned combs and brush. A circular opening 52 is provided in the bottom wall 43 forwardly of the heated air discharge recess 44 for a purpose which will be described hereinafter. The rear end of the upper wall 46 of the base portion 40 is characterized by an upwardly and rearwardly inclined wall portion 53 having a central opening 54 formed therein, the purpose for which will also be described hereinafter. It is noted that the inclined wall portion 53, the upper wall 46 and the downwardly inclined wall portion 47 together with the side walls 41 of the base portion 40 define a passageway which serves to direct the heated air from the forward end of the power handle 12 downwardly to the heated air discharge recess 44.

The lower rear portion of the comb holder housing portion 36 is provided with an opening 56 in which is received a bell-crank type lever 57 which is pivotally mounted therein on a pivot pin 58. The lever 57 is characterized by a finger-engageable portion 59 which, when the comb holder 14 is connected to the power handle 12, is adapted to extend along a portion of the underside of the power handle 12 in spaced relation thereto whereby same may be conveniently actuated by anyone gripping the power handle 12. The lever 57 is further characterized by an actuating portion 60 which is disposed within the body portion 36 and which is provided with an enlargement 61 for actuating a mist spray pump to be described hereinafter.

A flexible latch member 62 has its forward end connected to the underside of the top wall of the tubular portion 38 of the comb holder body portion 36, as at 63 in FIG. 4. Intermediate its opposite ends, the latch member 62 is provided with an actuating button 64 which extends upwardly through an opening 65 formed in the upper wall of the tubular body portion 38. The rear end of the latch member 62 is provided with an upwardly extending latch finger 66 (FIG. 2) which, when the comb holder 14 is inserted into the forward end of the power handle 12, is engageable in the notch 34 formed in the upper surface of the forward recess 32 of the power handle 12. The latch finger 66 is provided with a downwardly and rearwardly inclined upper surface 67 whereby the latch member 62 is automatically depressed by a cam action upon insertion of the comb holder 14 into the recessed forward end of the power handle 12 until the latch finger 66 springs upwardly into engagement in the notch 34. To disassembly the comb holder 14 from the power handle 12, the actuating button 64 is manually depressed whereby to disengage the latch finger 66 from the notch 34, in a manner well known in the art.

To facilitate mounting of the pump-reservoir 16 on the comb holder 14, the forward edge of the tubular portion 38 of the comb holder body portion 36 is provided with a reduced thickness portion as illustrated at 68. Also, a detent 69 is provided on the upper surface of the bottom wall 43 of the base portion 40 intermediate the forward end of the recess 44 and the circular opening 52.

As illustrated in FIG. 1, a comb 70 having a series of teeth 71 is shown mounted in the comb holder 14, a base portion 72 of the comb 70 being resiliently gripped by the comb clip 49.

As is best illustrated in FIGS. 3, 4 and 5, the pump-reservoir 16 is characterized by a body portion 74 including a top wall 75, side walls 76, a bottom wall 77, a front end wall 78 and a cover 79 which serves as a rear end wall. The rear edges of the body portion 74 are characterized by reduced thickness portions, as is best shown at 80 in FIG. 4, whereby to facilitate interengagement between the rear end of the pump-reservoir body portion 74 and the forward end of the tubular body portion 38 of the comb holder 14. The forward end of the body portion 74 is releasably engaged with the forward end of the base portion 40 of the comb holder 14 by means of a retainer clip 81 which is fastened to the bottom wall 77 of the body portion 74 and is resiliently engageable with the detent 69 provided on the base portion 40 of the comb holder 14, as illustrated in FIG. 4.

The forward end of the pump-reservoir is defined by a vertical wall 82 which is spaced somewhat rearwardly of the front end wall 78 of the body portion 74. The vertical wall 82 is further characterized by a boss portion having a vertically extending bore 83 which is adapted to receive a spray nozzle 115 to be more fully described hereinafter. The wall 82 is further provided with a horizontal bore 84 which intersects the vertical bore 83.

The bottom wall 77 of the pump-reservoir portion 74 is provided with a filler opening 85, with a cap 86 being provided for the filler opening 85. The filler cap 86 is attached to the pump-reservoir 16 by attachment of a portion thereof to a depending boss 87 formed on the underside of the bottom wall 77. The filler cap 86 is

further provided with a tab 88 to facilitate removal of same from the filler opening 85 when it is necessary to refill the reservoir.

The pump-reservoir cover 79 is provided on its inner surface with an integral inwardly extending tubular gland 89 having a reduced diameter portion 90 upon which is mounted the open end of a pump housing 92 whereby to define a pumping chamber 93 therein. The pump housing 92 is provided with an axial bore 94 with a pump outlet tube 95 extending between the axial bore 94 and the bore 84 formed in the reservoir front end wall 82. The pump housing 92 is also provided with an inlet bore 97 which intersects the axial bore 94 and is connected to one end of a pump inlet tube 96, the opposite end of which tube 96 is provided with an eyelet having a check valve 99 provided therein and a screen 100 at its outer end. The opposite or outer face of the reservoir cover 79 is provided with an outwardly projecting recessed gland 102 which is adapted to receive a center web gasket 103, and a piston rod bearing 104. A piston assembly 106 includes a piston 108 movable within the chamber 93 and which is connected to one end of a piston rod 107 which extends through an opening 105 formed in the cover 79 in centered relation relative to the glands 89 and 102. A return spring 109 is provided about the outer portion of the piston rod 107 and is seated between the piston rod bearing 104 and a washer 110 which is retained adjacent the outer end of the piston rod 107 by a spring retainer 111. As best seen in FIG. 4, the outer end 112 of the piston rod 107 is biased against the enlargement 61 provided on the actuating portion 60 of the pivotally mounted pump-actuating lever 57. The pump-reservoir 16 is also provided with a relief check valve 113 which is mounted in the bottom wall 77 thereof.

The spray nozzle 115 previously mentioned herein is characterized by a body portion 116 having a reduced end 117 which is fitted into the bore 83 adjacent the reservoir front wall 82. The body portion 116 is also provided with an externally threaded portion 118 upon which is threadedly mounted a nozzle head 119 having a central orifice 120 provided therein. Although not shown in the drawings, the nozzle head 119 includes the conventional ball valve, spring and spray plug. As illustrated in FIG. 4, it is noted that the nozzle orifice 120 is vertically aligned with the circular opening 52 provided in the bottom wall 43 of the comb holder 14 whereby, upon actuation of the pump through the lever 57, a spray mist is provided adjacent the specific portion of a person's hair being combed or brushed.

As is clearly illustrated in the drawings, the outer configurations of the interconnected power handle 12, comb holder 14 and pump-reservoir 16 are such that the meeting outer surfaces blend one into the other whereby to provide an overall appearance of a single elongated housing. For instance, as best shown in FIG. 2, the upper surface of the fully assembled heated comb with mist feature 10, disclosed herein, while being defined by respective contiguous upper surfaces of the handgrip body portion 17, the comb holder body portion 36 and the pump reservoir body portion 74, provides a smooth generally planer upper surface.

In use, the heated comb with mist feature 10 disclosed herein is readily grasped by gripping the power handle 12 and, if it should be desired to spot wet style, it is merely necessary to squeeze the lever 57 with the finger whereby to actuate the pump. It is evident that

with this personal care product, wet styling may be accomplished without the necessity of putting down a heated comb, turning on a faucet, and applying water directly to the hair.

While there has been shown and described a single embodiment of the present invention, it will be apparent to those skilled in the art that various changes and modifications may be made without departing from the invention in its broader aspects and it is, therefore, contemplated in the appended claims to cover all such changes and modifications that fall within the true spirit and scope of the present invention.

What is claimed as new and desired to be secured by Letters Patent of the United States is:

1. A heated comb with mist feature comprising an elongated housing portion having air inlet means provided at the rear end thereof and air outlet means provided on the underside thereof toward the forward end thereof, means for releasably attaching a comb to said housing portion adjacent said air outlet means with the comb teeth depending therefrom, a motor actuated fan disposed in said housing portion adjacent said air inlet means, heater means disposed in said housing portion between said fan and said air outlet means, a second body portion removably mounted on the forward end of said elongated body portion above said air outlet means, said second body portion defining a fluid reservoir and having a pump and spray nozzle mounted therein with said spray nozzle being disposed adjacent one end of said air outlet means, being directed in the same direction as said comb teeth and being in communication with an outlet of said pump, and a lever pivotally mounted on said elongated housing portion for actuating said pump.

2. A heated comb with mist feature comprising, a handgrip body portion having air inlet means at its rear end and air outlet means at its forward end, an electric motor mounted in said handgrip body portion and having a fan operable thereby disposed adjacent said air inlet means, heater means mounted in said handgrip body portion between said fan and said air outlet means, means for energizing said motor and said heater means, a comb holder body portion attachable to said forward end of said handgrip body portion and having an open bottom recess formed in the underside thereof, passage means in said comb holder body portion for directing heated air from said air outlet means of said handgrip body portion to said recess for discharge therefrom, a clip member mounted in said recess for resiliently gripping the upper edge of a comb inserted into said recess, a pump-reservoir body portion removably mounted on said comb holder body portion and having top and side walls blending into adjacent top and side walls of said comb holder body portion, said pump-reservoir body portion having a piston pump mounted therein with a piston rod thereof projecting rearwardly of said pump reservoir body portion and into said comb holder portion, a spray nozzle mounted in said pump reservoir body portion and adjacent the forward end of said recess in said comb holder body portion, a capped filler port formed in said pump-reservoir body portion in a location whereby same is accessible for filling said reservoir only when said pump-reservoir body portion is removed from said comb holder body portion, said piston pump having an inlet in communication with said reservoir and an outlet in communication with said spray nozzle, and a

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lever member pivotably mounted in said comb holder body portion and having an actuating portion engageable with said rearwardly projecting portion of said piston rod and a finger actuating portion extending rearwardly alongside a portion of the underside of said handgrip body portion in spaced relation thereto.

3. The heated comb with mist feature of claim 2 wherein said passage means in said comb holder body portion is characterized by a downwardly and forwardly inclined wall portion.

4. In a hair styling appliance of the type having a casing including a hand grip portion, a motor actuating fan mounted in said casing, air inlet and air outlet means formed in said casing, and heater means mounted in said casing between said fan and said air outlet means, a spray mist attachment comprising a body portion which is releasably attachable to said casing and which

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defines a fluid reservoir, said body portion having portions of its outer surfaces adapted to blend into adjacent outer surfaces of said casing, a spring-return reciprocating piston pump mounted in said body portion and having an inlet in communication with the interior of said reservoir, a spray nozzle mounted in said body portion in communication with the outlet of said pump and positioned adjacent said air outlet means, latch means for releasably attaching said body portion to said casing, and a finger actuated lever pivotally mounted on said body portion for actuating said piston pump.

5. In the hair styling appliance of claim 4, a capped port in said body portion for filling said reservoir with said capped filler port being located in a position such that it is accessible for filling the reservoir only when said body portion is detached from said casing.

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