April 5, 1932. P. H. LAMOTHE 1,852,617

LIQUID TREATMENT COMB

Filed Oct. 18, 1930

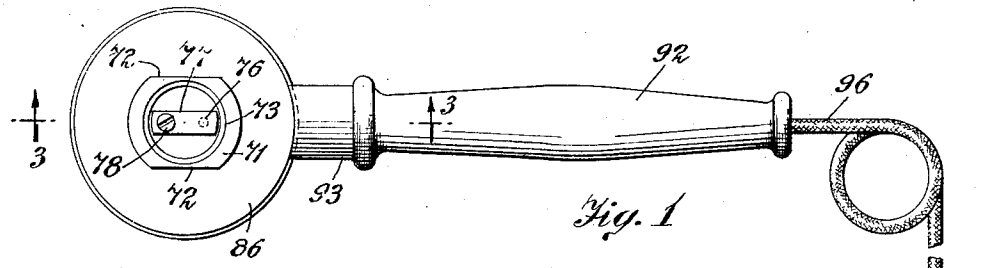

Fig. 1

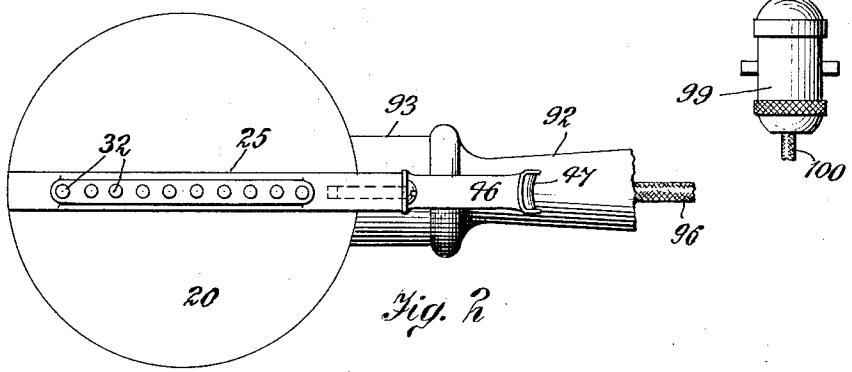

Fig. 2

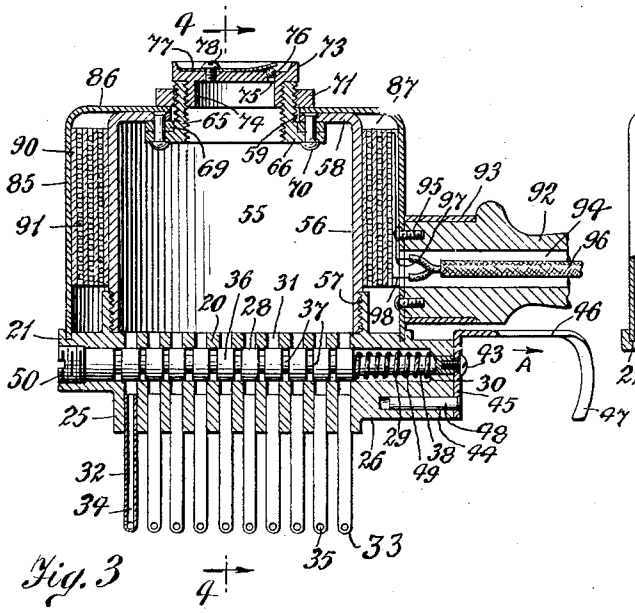

Fig. 3

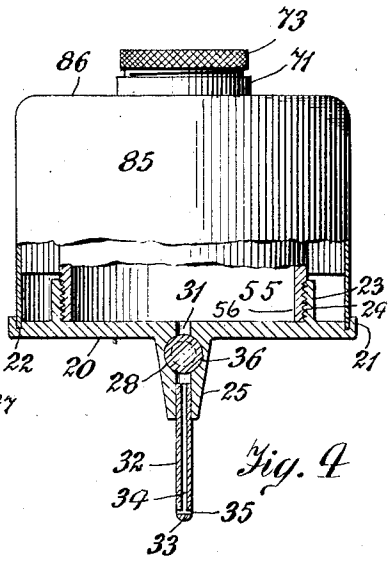

Fig. 4

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UNITED STATES PATENT OFFICE

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LIQUID TREATMENT COMB

Application filed October 18, 1930. Serial No. 489,518.

This invention relates to a liquid treatment comb.

The object of the invention is the production of a comb, by means of which heated oils or other ingredients can be easily applied to the scalp or other portions of the body, without spilling and without injury to the part treated. The second object of the invention is the production of a comb having a heating element, which can be easily connected to a source of electric current. The third object of the invention is the production of a liquid treatment comb, whereby the discharge of the fluid, or other ingredient used therewith is easily controlled by the operator and the discharge thereof automatically shut off.

In the accompanying drawings Fig. 1 represents a top plan view of an exemplification of the improved liquid treatment comb; Fig. 2 shows an enlarged partial bottom view of Fig. 1; Fig. 3 indicates an enlarged section of Fig. 1 on the line 3, 3 and Fig. 4 is an end view and section of Fig. 3 on the line 4, 4.

The comb in this exemplification comprises the disc 20 having the annular flange 21, and adjacent to the latter the annular groove 22. A flange 23 having the interior thread 24 extends from the disc 20. A tapered nozzle 25 extends from and below the disc 20, and somewhat laterally from said disc, to form the supporting end 26. A longitudinal port and valve seat 28 having the extending portion 29 and end wall 30, is formed in said tapered nozzle, and extends into the supporting end 26. A plurality of cross ports 31, at right angles to the port and valve seat 28, extend through the disc 20 and the tapered nozzle 25. In the lower portions of the ports 31 are tightly secured the teeth 32, having the lower closed curved ends 33. A longitudinal port 34 is formed in each tooth 32, which meets a cross port 35 adjacent to its closed end.

In the longitudinal port and valve seat 28 is slidably supported the plug valve 36, having formed in its outer circumferential surface the annular ports 37. A shank 38 of a diameter smaller than the plug valve 36 extends from one end thereof and is seated in the extending portion 29 of the port 28. The outer end of the shank 38 has a threaded opening for the screw 43. A guide opening 44 is formed in the supporting end 26. An operating handle is indicated to comprise the vertical member 45, the longitudinal portion 46 and the handle per se 47. A guide pin 48 extends from the vertical member 45, and is guided in the guide opening 44, and the screw 43 tightly clamps the vertical member 45 to the outer face of the supporting end 26.

A helical spring 49 is supported on the shank 38 and bears between the plug valve 36 and the wall 30. A threaded plug 50 engages a threaded opening in the port and valve seat 28 at its end opposite the portion 29.

A heating chamber 55 is indicated to comprise the cylindrical shell 56, having the exterior thread 57 at its lower end and the head or roof 58, having the opening 59. The thread 57 is in threaded engagement with the thread 24.

A sleeve 65 having the flange 66 at one end extends through the opening 59. The said sleeve has an exterior thread and an interior thread. A washer 69 preferably of heat insulating material is interposed between the flange 66 and the bottom face of the top wall 58. Rivets 70 clamp the flange 66, the washer 69 and the head or roof 58. A lock nut 71 having the flat sides 72 is in threaded engagement with the exterior thread of the sleeve 65. A screw cap is indicated with the head 73 and from the latter extends the sleeve 74 having an exterior thread. The latter thread is in threaded engagement with the interior thread of the sleeve 65. In the head 73 is indicated a port 75, which at its upper end has formed therewith a valve seat for the ball valve 76. A spring 77 has one end connected to the head 73, by means of the screw 78, and the other end of the spring 77 bears on the ball valve 76.

An outer shell having the cylindrical wall 85 and the head 86 encircles the chamber 55. The wall 85 is spaced from the shell 56 and the head 86 bears on the head 58. The lock nut 71 detachably clamps the head 86 in op-

erative position. An annular heating chamber 87 is formed between the shell 56 and the wall 85.

A heating element is located in the heating chamber 87. The said heating element in this instance comprises the winding 90 of mica, and between the members of the said winding is interposed a coil of wire 91.

A supporting handle 92 is indicated with the ferrule 93 at one end thereof. A longitudinal opening 94 is formed in said handle. A cable 96 extends through the opening 94. Screws 95 secure the handle 92 to the wall 85. The cable comprises the wires 97 and 98 which are respectively connected to the ends of the coil 91. An electric switch 99 is connected to the cable 96 and a cable 100 extends from said switch and leads to a source of electric current.

To use the liquid treatment comb, oil or fluid or ingredient is located within the chamber 55, by unscrewing the screw cap having the head 73, and after said chamber has the requisite amount of oil or other ingredient therein the said screw cap is screwed in place. Next the electric switch 99 is closed and the coil of wire 91 is energized, by means of which the substance in the chamber 55 is heated to the required degree. In case of excessive vapor pressure in the chamber 55, the said excessive pressure is released by the rise of the ball valve 76 which opens the port 75. The comb is now ready for use and the user grasps the supporting handle 92 with a finger of his hand engaging the handle 47.

The comb is now moved over the scalp or other portion of the body to be treated, and the handle 47 is moved in the direction of the arrow A (Fig. 3) until the ports 37 are in line with the ports 31 until a sufficient amount of the ingredient in the chamber 55 flows from the latter through the ports 34 of the teeth 30 and discharged from the cross ports 35. When it is desired to stop the flow of the ingredient through the ports of the teeth 32, the handle 47 is released, and the tension of the spring 49 automatically moves the plug valve 36 in a direction opposite to the arrow A. Thereby the cross ports 31 are closed and the flow of the ingredient from the chamber 55 to the teeth 32 is shut off. It will be noted that the curved closed ends 33 of the teeth 32 obviate any sharp corners or points coming in contact with the surface treated and thereby prevent injury.

Various modifications may be made in the invention and the present exemplification is to be taken as illustrative and not limitative thereof.

Having described my invention what I desire to secure by Letters Patent and claim is:

1. In a comb the combination of a head, teeth each having a port extending from said head, a shell extending from said head and constituting a chamber for an ingredient used in the comb and ejected from said teeth, means to open communication between said chamber and the ports of said teeth and automatic means to close said communication.

2. In a comb the combination of a head, teeth each having a port extending from said head, said head having a chamber for an ingredient used in the comb connected thereto, said head having ports leading to said chamber and a valve in said head to open and close communication between said chamber and the ports of said teeth, a handle in connection with said valve to move it in one direction and a spring bearing against said valve to automatically move it in an opposite direction.

3. In a comb of the character described the combination of a shell, constituting a heating chamber for an ingredient used in the comb, a heating element adjacent to said chamber, the head of the comb connected to said shell, said head having a longitudinal port and valve seat formed therein, said head also having cross ports intersecting said longitudinal port and valve seat, teeth having ports extending from said head, a valve slidably supported in said longitudinal port to establish and close communication between said heating chamber and the ports of said teeth, a handle in connection with said valve to move it in one direction and a spring bearing against said valve to move it in an opposite direction.

4. In a comb the combination of a head having a longitudinal port and valve seat, cross ports in said head intersecting its longitudinal port, said longitudinal port having an extending portion, an end wall for said extending portion, a plurality of teeth each having a port fastened to said head and in line with said cross ports, a plug valve having a plurality of annular ports formed in its outer face slidably located in said longitudinal port, a shank extending from said valve and positioned in said extending portion of said longitudinal port, a spring in said extending portion surrounding said shank and bearing between said plug valve and the wall of said extending portion and an operating handle fastened to said shank.

Signed at the borough of Manhattan, city of New York, in the county of New York, and State of New York, this 16th day of October, A. D. 1930.

PAUL H. LAMOTHE.