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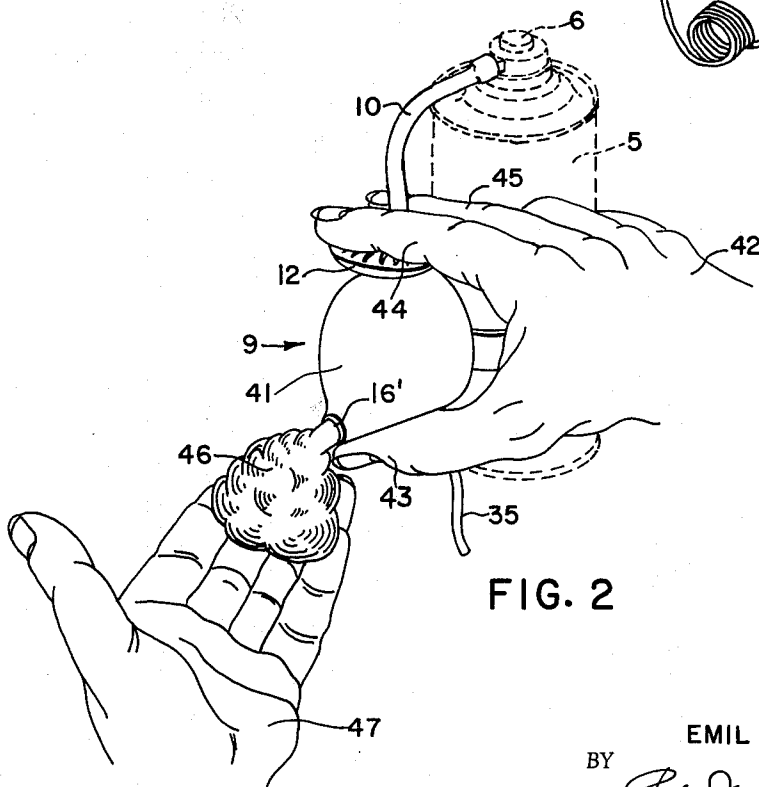
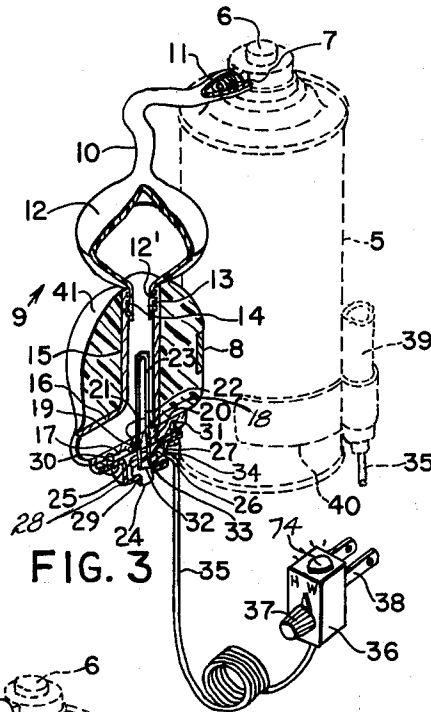
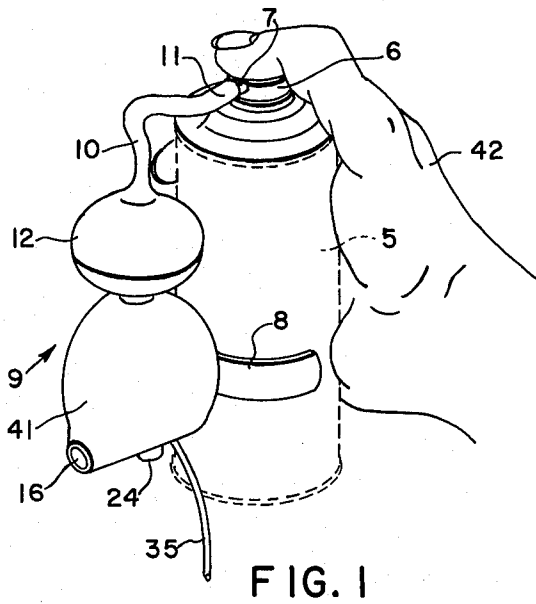
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INSTANT LATHER HEATER AND DISPENSER

Filed June 14, 1963

2 Sheets-Sheet 1



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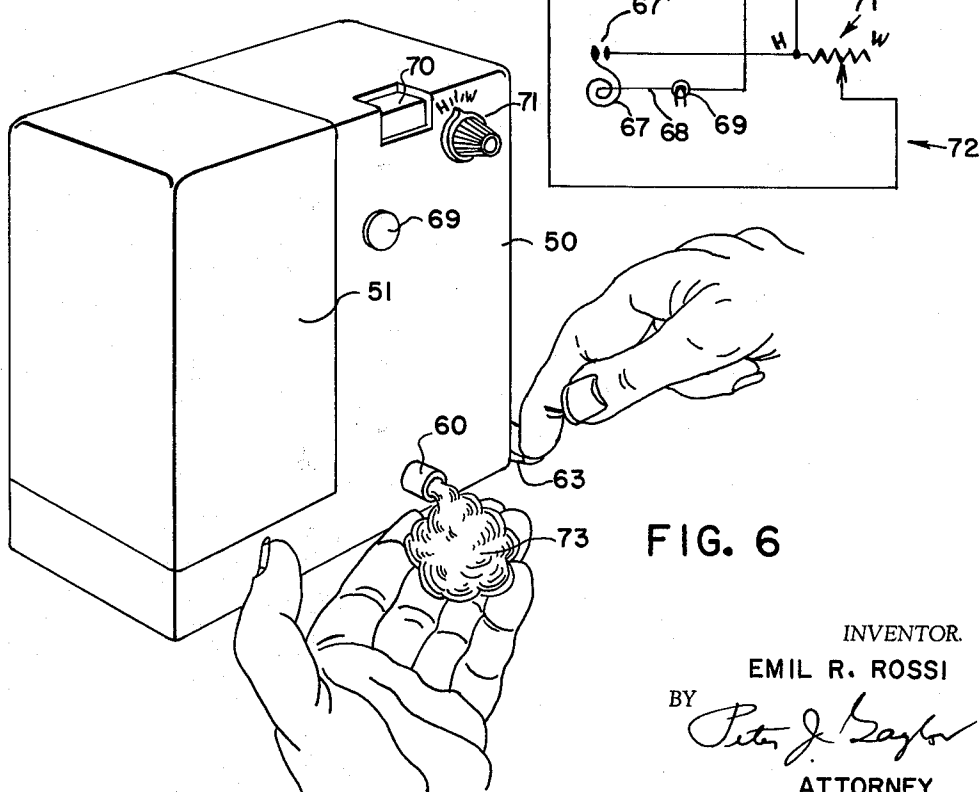
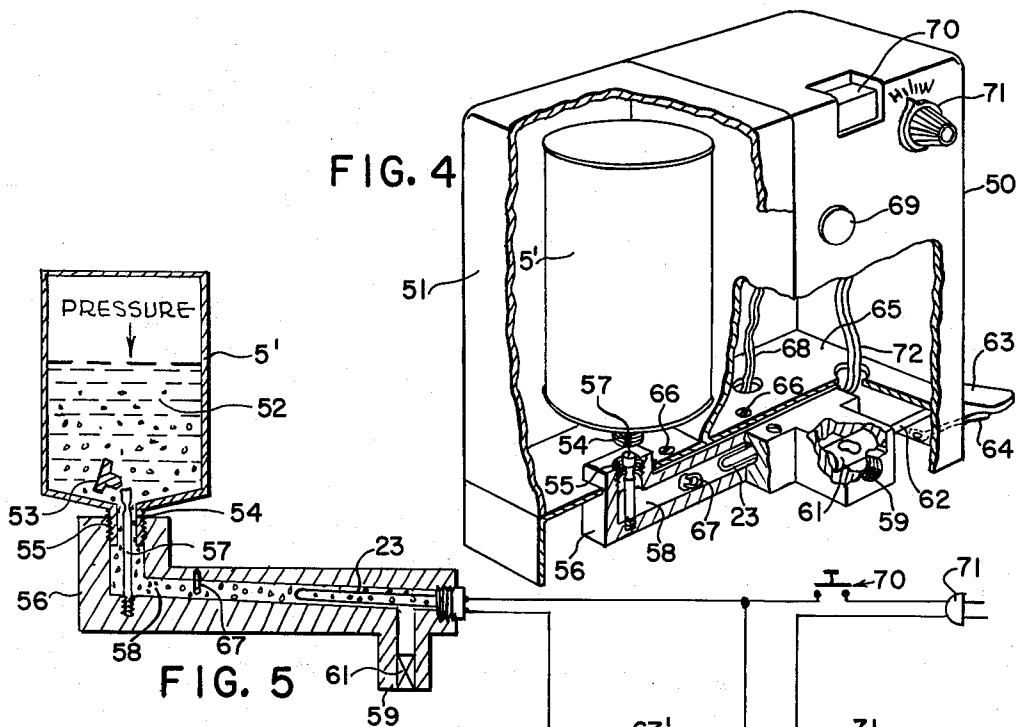
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INSTANT LATHER HEATER AND DISPENSER

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1

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INSTANT LATHER HEATER AND DISPENSER

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3 Claims. (Cl. 222-23)

This invention relates to an instant lather heater and dispenser. More specifically, it deals with a dispenser and heating device attachable to an aerosol lather container, and to the discharge outlet thereof, to preheat a dispensed portion of said lather and to discharge the heated lather for application to the skin to be shaved.

Present aerosol dispensers of shaving lather discharge a cold stream of soap lather which, particularly on a winter day, not only is uncomfortable, but also is slow in softening the beard for the shaving operation. Aerosol lather heaters have been disclosed in the art which dispense the lather directly through a heated tube. These are not only wasteful of lather (each dispensing of which loses a tubeful), but they depend on can pressure for operation, and also offer difficulties in cleaning of the unit.

According to the present invention, a lather heater is provided which is independent of can pressure for dispensing and which enables one to discharge, from an aerosol container, a predetermined volume of lather into a collapsible chamber. Thereafter, by a simple squeezing of the collapsible wall of the chamber, or by the opening of a discharge valve of the unit, and simultaneous actuation of a heater switch by the same hand, it is possible to discharge the dispensed volume of lather through an instantly-heated tube, and onto the other hand for application to the face.

The invention will be more readily understood by reference to the accompanying drawings in which a preferred embodiment is described, and in which FIGURE 1 illustrates a perspective side view of a lather heater of the present invention, as applied to an aerosol shave lather can, ready for use. A similar view of the unit, as used in dispensing the heated lather, is shown in FIGURE 2. Another similar view, partly in cross-section, of the lather heater, disclosed in FIGURES 1 and 2, is depicted in FIGURE 3. A perspective front view of a different embodiment of the invention, partly cut away, is depicted in FIGURE 4, while FIGURE 5 presents a diagrammatic cross-sectional view thereof with an electrical circuit to illustrate the operation of the unit. FIGURE 6 illustrates the unit shown in FIGURES 4 and 5 in dispensing operation. Similar numerals refer to similar parts in the various figures.

Referring again to the drawings, and particularly to FIGURES 1-3, numeral 5 designates, generally, an aerosol can designed to dispense a shaving lather, and having dispensing valve 6 and outlet nipple 7 for discharge therethrough of the lather. Attachable to the side of can 5 by clamp 8 is the lather heating unit of the present invention, designated generally by the numeral 9.

The heater device 9 of the present invention comprises a flexible plastic tube 10 having an end 11 connectable, in sealing relation to the outside, to outlet 7 of can 5. This tube 10 connects at its other end with collapsible chamber 12, which also is preferably made of soft clear or transparent plastic, and is preferably in the shape of a sphere or bellows. Chamber 12 has an outlet end 12', which may be threaded on the outside with threads 13 which engage inner threads 14 inside of heater tube 15. The lather tube is made of heat-resistant material, preferably a boro-silicate glass or porcelain, or high temperature-resistant epoxy or phenol-formaldehyde resin. Heater tube 15 has a lower portion 16 curved forwardly so as to discharge the lather conveniently into a hand 47 held at its outlet 16'.

2

At the bottom of the curved portion of tube 15 is a threaded hole 17 into which is screwed porcelain or plastic insulating insert 18 having two vertical holes 19 and 20. Inserted, in cemented relation into the upper portions of holes 19 and 20, are the ends 21 and 22 of loop immersion heater element 23 which projects into the vertical portion of heater tube 15 when insert 18 is screwed into hole 17. Switch push button 24, made of insulating plastic, has attached metal projections 25 and 26 which fit into holes 19 and 20, but are normally out of contact with heater element ends 21 and 22, being kept this way by the action of leaf spring 27. Housing 28 holds button 24 in its hole 29, and is held to the heater tube end by screws 30 and 31, the latter screw also serving as an anchorage for the end of spring 27. Electrical wires 32 and 33 connecting contact prongs 25 and 26 within button 24, are led as a cord 35 out of hole 34 in housing 24.

Cord 35 may be connected to a transformer or resistance 36 which may carry a warm-hot switch 37, leading to plug 38 for connection with the house current. Or, alternately, cord 35 may be connected with a battery 39 clamped by clamp 40 onto the side of can 5. Since the current drain is for a very short period during the day, even though at full power, the amount of drain on the battery is not excessive, so that a long battery life is insured. The heater loop element 23 is of the high current capacity type which is instantly heated to a temperature adequate to immediately heat the foam passing through tube 15 to the desired shaving temperature.

The entire tube 15, except for its outlet 16' and switch housing 28 and button 24, is coated with a waterproof insulating material 41, preferably of foamed plastic, or similar material.

When in use, the can 5 with attached lather heater 9, is grasped as in FIGURE 1 in one hand 42, and container valve 6 is pressed so as to permit lather foam to pass through tube 10 and into chamber 12. When enough lather is contained in chamber 12 (as is visible through the transparent or translucent wall thereof), pressure is removed from can valve 6, and the lather heater 9 then is grasped as in FIGURE 2, with thumb 43 on switch button 24 and, with the index and middle fingers 44-45 straddling tube 10, pressure is applied on both thumb and fingers, which action causes the heater element 23 to heat up rapidly, and the chamber 12 to be collapsed so that foam lather 46 therein is discharged through heater tube 15, past, and in contact with heater element 23, and out through discharge outlet 16', onto the other hand 47, for application to the face. When the hand 42 is removed from the unit, the heat is automatically cut off, and lather heater 9 is again ready for use.

As is apparent from the foregoing, an instantly-heated lather is made readily available for use. Collapsing chamber 12 one or two additional times, permits entry of air and clearing out of the remaining portions of lather in both chamber 12 and heater tube 15, so that very little lather is wasted.

In FIGURES 4-6, there is disclosed a unit housed in a plastic case 50, said case having a removable section 51 to enable insertion, within the unit, of an aerosol shaving lather container 5'. Although a number of types of containers may be adapted for this use, the one described herein, as shown in greater detail in FIGURE 5, has the pressurized lather composition 52 enclosed in container 5', the outlet 54 of which is sealed from the inside with plastic plug 53. Outlet 54 of the container (FIG. 4) is screwed into opening 55 of discharge block 56 in outside sealing relation therewith. Centrally-disposed in opening 55, is thrust pin 57 which serves to eject plug 53, as can outlet 54 is screwed into opening 55.

Discharge block 56 has channel 58 connecting with opening 55, and in this channel is mounted loop immer-

sion heater 23 designed to heat up the lather instantaneously when switched on. Discharge block 56 terminates with discharge opening 59 into which may be screwed discharge tip 60 (FIG. 6). Discharge opening 59 is provided with valve 61 having shaft 62 leading to spring-loaded handle 63, which is designed to open valve 61 by finger pressure, and be closed, upon release of finger pressure, by leafspring 64. When aerosol can 5' is screwed into block opening 55, the entire block interior remains under can pressure when valve 61 is closed. Block 56 is mounted on plate 65 of housing 50 by screws 66.

As can be seen from FIGURE 5, a thermostat 67 is connected through line 68 with signal light 69, so that, when thermostat switch 67' closes at the set temperature, light 69 will ignite and stay lit as long as finger switch 70 is closed (assuming plug 71 is inserted in an electrical source). A resistance 71 is provided in circuit 72 to regulate the heat developed in heating coil 23.

In operation, after can 5' is screwed into opening 55 of block 56, and valve 61 is (normally) closed, when lather is required, switch 70 is first pressed with the finger. This closes circuit 72 and permits heater 23 to heat up to the desired temperature (as set by resistance 71). When this temperature is reached (say 150° F.), thermostat switch 67' closes and light 69 goes on, which is the signal that the unit is ready for dispensing. Thereafter, valve handle 63 is pressed down with the same finger, if desired, which action opens valve 61 and allows flow of preheated lather 73 (FIG. 6) on to the other hand.

Indicating light 74 on resistance unit 36 (FIG. 3) is connected in a manner such that when knob 37 is turned left to the "off" position, light 74 is turned off, and, turning knob to the right thereafter results in lighting light 74.

I claim:

1. A lather heater and dispenser attachable to the outlet nipple of a pressurized lather-dispensing container provided with an outlet plug inwardly of said nipple, comprising, in combination,

a discharge conduit connectable in outside-sealing relation with an outlet nipple of a pressurized lather container and having container plug removal means located in said conduit so as to extend into said outlet nipple to remove said plug upon connection of said conduit to said nipple to maintain in open condition a container after connection of said conduit with said pressurized container outlet nipple, a heater element disposed in said conduit, and a valved discharge outlet in said conduit designed to maintain conduit under container pressure until said valved discharge is opened.

2. A lather heater and dispenser attachable to the outlet nipple of an inverted pressurized lather-dispensing container provided with a venting means, comprising, in combination,

a housing,

a discharge conduit mounted in said housing and connectable in outside-sealing relation with an outlet nipple of a pressurized lather container,

a heater element disposed in said conduit,

a thermostat mounted in said conduit and connected with a signal device to signal when the set temperature of said thermostat is reached,

a switch mounted on said housing and connectable to an electrical source and to said heater element and to said thermostat in a manner such that, when the switch is closed, the heater element becomes heated and the thermostat signal is given when the set temperature in the conduit is reached,

a thrust pin mounted in said conduit in register with a container venting means in a manner such that when a container is connected in outside-sealing relation in said conduit, said pin would release said venting means whereby container contents would be permitted to pass freely under pressure into said conduit, and

a valved discharge in said housing designed to maintain said conduit under container pressure and to discharge heated lather when the valve is opened after the thermostat switch signal is given.

3. A lather heater and dispenser attachable to the outlet nipple of a pressurized lather container, comprising, in combination,

a flexible tube having one end attachable to an outlet nipple of said pressurized lather container,

a collapsible container made of material through which lather is visible and attached to the other end of said tube, and having an outlet, and designed to eject its contents upon being squeezed,

a heat-resistant tube having one end attached to said chamber outlet and having a forwardly-bent lower portion,

a heater element disposed in said tube bend,

a finger actuatable electric switch mounted below said tube bend and designed to permit current to pass from a lead through said heating element, and attaching means on said tube and designed for attachment to said pressurized lather container.

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