July 23, 1963 H D FOUTS ETAL 3,098,925

HEATING DEVICE FOR AEROSOL SHAVING LATHER DISPENSERS AND THE LIKE

Filed Feb. 7, 1962

FIG. 1

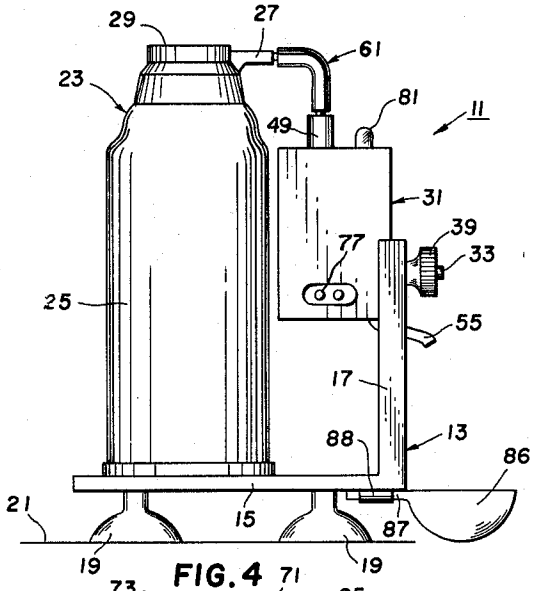


FIG. 2

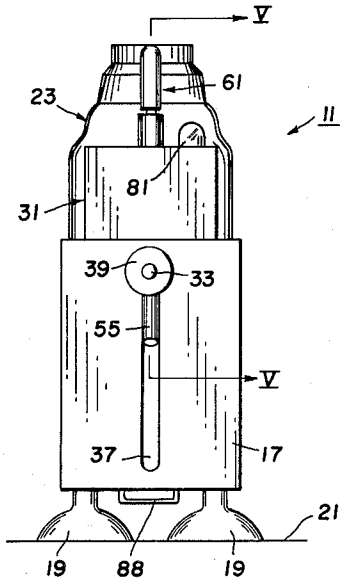


FIG. 4

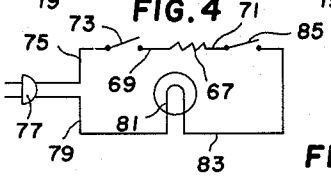


FIG. 3

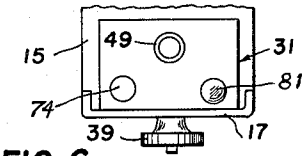


FIG. 5

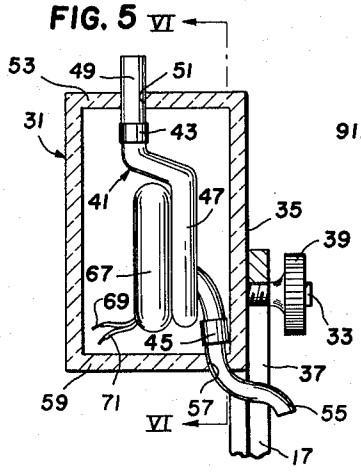


FIG. 8

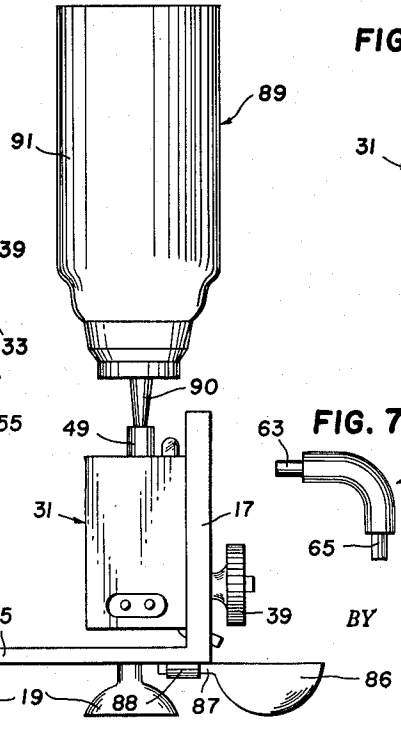


FIG. 6

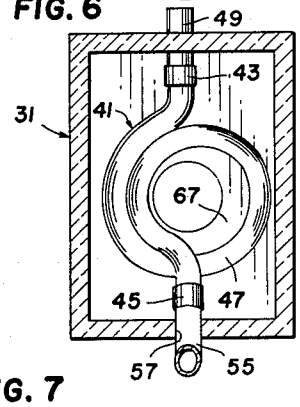


FIG. 7

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HEATING DEVICE FOR AEROSOL SHAVING LATHER DISPENSERS AND THE LIKE

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This invention relates to a heating device for aerosol shaving lather dispensers and the like.

As is well known, shaving cream is packaged in aerosol dispensers of two general types, i.e., the upright type, in which the can is held in an upright position and the shaving cream is dispensed by downward pressure on a valve in the top of the can; and the inverted type, in which the aerosol can is held in an inverted position and the shaving cream is dispensed by pushing laterally against an elongated centrally disposed nozzle which in turn actuates a valve and through which nozzle the shaving cream flows.

Other attempts have been made at providing a heating device for aerosol dispensers, but none have been adaptable enough to be used with both the upright type and the inverted type of dispensers. For example, in one heating device for aerosol dispensers, the heating means is provided in a tubular member which fits on the end of the outlet of an upright type of aerosol dispenser, and would be obviously impractical for use with aerosol dispensers of the inverted type. In addition, there is a danger of the heat from the tubular member causing the contents of the can to explode.

Thus, one of the objects of the present invention is to provide a heating device for aerosol shaving lather dispensers which overcomes the disadvantages of previous heating devices.

A further object is to provide a heating device for an aerosol shaving lather dispenser that is adapted to be used with any type of aerosol dispenser, including the upright type and the inverted type.

A further object is to provide such a heating device that is completely safe so that there is no danger of exploding the contents of the aerosol dispenser and so that there is no danger of a person burning his hands.

A further object is to provide such a heating device including a base formed of magnetic material for holding and storing the aerosol dispenser.

A further object is to provide such a heating device in which the housing for the heating element is movably mounted for selective positioning between upper positions for the upright type of dispenser and lower positions for the inverted type of dispenser.

A further object is to provide such a heating device including an adapter that provides complete flexibility for different sizes and designs of dispenser outlets.

A further object is to provide suction cup means on such a heating device so that the device can be easily and conveniently mounted on a suitable supporting surface.

A further object is to provide in such a heating device a removable drip cup for catching the shaving lather.

A further object is to provide such a heating device that is thermostatically controlled and so arranged that an indicator light shows when the device is of a sufficient temperature for shaving.

A further object is generally to improve the design and construction of heating devices for aerosol shaving lather dispensers and the like.

The means by which the foregoing and other objects of the present invention are accomplished and the manner of their accomplishment will be readily understood from the following specification upon reference to the accompanying drawings, in which

FIG. 1 is a side elevational view of the device of the

present invention, showing the device in use with an upright type of aerosol dispenser.

FIG. 2 is an end elevational view thereof, with a portion thereof being removed.

FIG. 3 is a top fragmentary view of a portion of the device of FIG. 2 but with the dispenser and the adapter tube being removed.

FIG. 4 is a schematic diagram of the wiring circuit of the device of the present invention.

FIG. 5 is an enlarged fragmentary sectional view taken as on the line V—V of FIG. 2, but with the dispenser and the adapter tube being removed.

FIG. 6 is an enlarged sectional view taken as on the line VI—VI of FIG. 5.

FIG. 7 is an enlarged side elevational view of the adapter, per se.

FIG. 8 is a view similar to FIG. 1 but showing the device in use with an inverted type of aerosol dispenser.

Referring now to the drawings in which the various parts are indicated by numerals, the heating device 11 of the present invention comprises a stand 13 that includes a flat horizontal portion 15 and a vertical portion 17 preferably integrally formed with the horizontal portion adjacent one end thereof and upstanding therefrom.

A plurality of suction cups 19 are fixedly attached to the underside of horizontal portion 15 and face downwardly so that the stand is adapted to be removably affixed to a supporting surface as at 21. If desired, suction cups 19 may be omitted and the stand 13 may be more permanently attached by suitable means, not shown, to a wall or the like.

Horizontal portion 15 is preferably formed of a magnetic material for holding an aerosol dispenser thereon for storage, or for use when an aerosol dispenser of the upright type is used, as in FIGS. 1 and 2. The aerosol dispenser 23 is of the upright type and of usual construction including a can 25 and an outlet 27 for the shaving cream to be dispensed when downward pressure is exerted on the valve 29 in the top of the can 25.

An enclosed housing 31 which is formed of heat insulating material is adjustably and movably mounted on vertical portion 17 by the following means: A threaded stud 33 is fixedly attached to the front 35 of housing 31 and projects horizontally therefrom through a vertical slot 37 provided in vertical portion 17. A knurled nut 39 is threadedly engaged on stud 33 on the outside of vertical portion 17 so that the vertical portion is clamped between nut 39 and front 35 to selectively hold housing 31 at the desired height.

A tube 41 is provided that includes a first insulated portion 43 adjacent the upper end of the tube and which forms an extension thereof, and includes a second insulated portion 45 adjacent the lower end of the tube and which also forms an extension thereof. Between insulated portions 43, 45 the tube is coiled to provide a coiled or heat conducting portion 47 in housing 31 which is formed of a heat conducting material, as copper tubing or the like. Tube 41 additionally includes an upstanding tubular receptacle 49 coupled to the upper end of insulated portion 43 so that it forms an extension thereof and extends upwardly through an aperture 51 in the top 53 of housing 31. Also, tube 41 includes an exit spout 55 coupled to the lower end of insulated portion 45 and forming an extension thereof. Exit spout 55 extends downwardly through an aperture 57 provided in the bottom 59 of housing 31 and then the spout extends outwardly through slot 37 beyond front 35. It will be understood that exit spout 55 can be insulated and formed integral with portion 45, and receptacle 49 can be insulated and formed integral with portion 43 without departing from the spirit and scope of the present invention.

An adapter tube 61 has a reduced end portion 63 of

suitable shape removably fitted in the end of outlet 27 of aerosol dispenser 23. Adapter tube 61 curves downwardly and is provided with a reduced end portion 65 removably received in the upper end of tubular receptacle 49 so that a continuous passageway is provided from can 25, through outlet 27, adapter tube 61, tubular receptacle 49, insulated portion 43, coiled portion 47, insulated portion 45, and exit spout 55.

An annular electrical heating element 67 of well known construction and including conductors 69, 71 leading thereto is provided in housing 31 adjacent coiled portion 47 so that the heat therefrom is transferred to the coiled portion and the shaving cream therein. The circuit means for heating element 67 is shown schematically in FIG. 4 wherein it will be seen conductor 69 leads to an off and on switch 73 actuated by a button 74, and a conductor 75 leads from the switch to a plug 77 mounted on the outside of housing 31 so that the receptacle of an extension cord, not shown, can be connected thereto to supply electricity to the circuit, as for example, the usual extension cord provided on an electric razor can be used. Another conductor 79 leads from plug 77 to an indicator light 81 mounted on top of housing 31. Another conductor 83 leads from indicator light 81 to a thermostat switch 85 of well known construction, and conductor 71 connects the thermostat switch to heating element 67. Thermostat switch 85 is located in a suitable position adjacent coiled portion 47 to be responsive to the temperature of coiled portion 47. Thermostat switch 85 is set so that when coiled portion 47 is hot enough to heat the lather to be received therein to the desired temperature, then thermostat switch 85 will open and thereby open the circuit means. This will cut off the electricity to heating element 67 and will turn off light 81. Also, thermostat switch 85 is set so that when coiled portion 47 falls below a predetermined temperature, which would cause the lather to be below the desired temperature for shaving, the thermostat switch will again close to heat up the heating element 67. In other words, the heat of coiled portion 47 will be maintained within a desired predetermined range of temperatures.

A drip cup 86 having a handle 87 projecting therefrom is removably attached to stand 13 by means of a U-shaped bracket 88 fixedly attached beneath the bottom of horizontal portion 15, which bracket removably receives handle 87. Drip cup 86 is located beneath exit spout 55 to catch the drippings therefrom.

In using the device 11 of the present invention with an upright shaving cream dispenser 23, the housing 31 is positioned in an upward position, best seen in FIGS. 1 and 2, the dispenser is placed on horizontal portion 15 where it is held by the magnetic attraction, and adapter tube 61 is put in place as heretofore described. The circuit means is turned on by closing the switch 73 and when the device has sufficiently warmed up, indicator light 81 will turn off. Then, the valve 29 is pressed downwardly and the heated shaving cream will flow through the continuous conduit heretofore described and out exit spout 55.

When a shaving cream dispenser of the inverted type, as shown at 89, is used, adapter tube 61 is removed from receptacle 49 and the exit tube 90 of dispenser 89 is inserted directly into the receptacle with the dispenser in an inverted position, as shown in FIG. 8. Also, housing 31 is preferably moved to a lowered position, as shown in FIG. 8, in order to steady the device. When it is desired to dispense shaving cream, the can 91 of dispenser 89 is pushed to one side and since the exit tube 90 is held stationary, the valve therein will be actuated to cause the shaving cream to be dispensed through the exit tube, receptacle 49, insulated portion 43, coiled portion 47, insulated portion 45, and exit spout 55.

From the foregoing description it will be understood that the heating device 11 of the present invention is a very versatile one that is adapted to be used with any type of aerosol dispenser. Thus, it can be used with an aerosol dispenser of any height since the housing 31 can be adjusted vertically. Also, since it is contemplated that the reduced end portion 63 of adapter tube 61 be of various sizes and shapes to fit various exit spouts, the versatility of the device 11 of the present invention is unlimited. In addition, it will be understood that the device 11 of the present invention can be used with various sizes of inverted types of aerosol dispensers, since there is nothing to interfere with the dispensers being of a greater length and since the exit tubes 90 are tapered and regardless of the size thereof will fit into the receptacle 49. In addition, it will be understood that the device 11 of the present invention is completely safe since the aerosol dispensers are completely insulated from the heating element 67 and coiled portion 47 by the insulated portion 43. In addition, the exit spout 55 does not become hot due to the insulated portion 45 and thus cannot burn the user. Also, there is no chance of overheating in the device 11 since thermostat switch 85 will cut off at the proper time.

Although the invention has been described and illustrated with respect to a preferred embodiment thereof, it is to be understood that it is not to be so limited since changes and modifications may be made therein which are within the full intended scope of this invention as hereinafter claimed.

We claim:

1. A heating device adapted to be used with a valve operated aerosol shaving lather dispenser of the upright type and of the inverted type, comprising a stand including a horizontal portion and a vertical portion attached to said horizontal portion and upstanding therefrom, said horizontal portion being of a magnetic material for holding an aerosol shaving lather dispenser of the upright type, suction cup means attached to said stand for holding said stand on a supporting surface, an insulated housing, means adjustably and movably mounting said housing on said stand for vertically positioning said housing relative to said stand, a tube in the interior of said housing, said tube including a first insulated portion adjacent one end thereof and a second insulated portion adjacent the opposite end thereof, said tube additionally including a coiled portion intermediate said first and second insulated portions, an upstanding tubular receptacle coupled to said first insulated portion, an exit spout coupled to said second insulated portion, an electrical heating element adjacent said coiled portion of said tube, circuit means for supplying electricity to said heating element, said circuit means including a thermostat responsive to the heat of said coiled portion to operate said electrical heating element to maintain said coiled portion within a desired pre-determined range of temperature, said circuit means additionally including a light means connected in series with said thermostat to indicate when the temperature is in said pre-determined range, an adapter tube having on one end a reduced end portion for plugging into the outlet of an aerosol shaving dispenser of the upright type that is held on said horizontal portion; said adapter tube having an opposite reduced end portion received in said tubular receptacle whereby a continuous conduit is provided for the shaving cream to move from the dispenser, through the outlet thereof, through said adapter tube, through said first insulated portion, through said coiled portion where the shaving cream is heated by said electrical heating element, through said second insulated portion, and out said exit spout; said adapter tube being removable from said tubular receptacle so that an aerosol shaving lather dispenser of the inverted type can be inserted directly into said receptacle, and a cup attached to said stand below said outlet spout to catch the drippings therefrom.

2. A heating device adapted to be used with a valve operated aerosol shaving lather dispenser of the upright type and of the inverted type, comprising a stand includ-

ing a horizontal portion and a vertical portion attached to said horizontal portion and upstanding therefrom, said horizontal portion being of a magnetic material for holding an aerosol shaving lather dispenser of the upright type, suction cup means attached to said stand for holding said stand on a supporting surface, an insulated housing, means adjustably and movably mounting said housing on said stand; tubular means carried by said housing and including a receptacle adjacent one end thereof, an exit spout adjacent the opposite end thereof, a heat conducting portion in said housing intermediate said receptacle and said exit spout, and insulating portions respectively insulating said exit spout from said heat conducting portion and said heat conducting portion from said receptacle; electrical heating means adjacent said heat conducting portion for the heating thereof, circuit means for supplying electricity to said heating means, an adapter tube having on one end a reduced portion for plugging into the outlet of an aerosol shaving dispenser of the upright type that is held on said horizontal portion; said adapter tube having an opposite reduced end portion received in said tubular receptacle whereby a continuous conduit is provided for the shaving cream to move from the dispenser, through the outlet thereof, through said tubular means where the shaving cream is heated in said heat conducting portion, and out said exit spout; said adapter tube being removable from said tubular receptacle so that an aerosol shaving lather dispenser of the inverted type can be inserted directly into said receptacle.

3. A heating device adapted to be used with a valve operated aerosol shaving lather dispenser having an outlet, comprising a stand including a horizontal portion for supporting the lather dispenser, a housing, means adjustably and movably mounting said housing on said stand for vertically positioning said housing relative to said horizontal portion to accommodate different sizes of dispensers, tubular means carried by said housing for interconnection with the outlet of the aerosol dispenser whereby the shaving lather can be dispensed therethrough; said tubular means including a receptacle adjacent one end thereof, an exit spout adjacent the opposite end thereof, and a heat conducting portion in said housing intermediate said receptacle and said exit spout; and heating means adjacent said heat conducting portion for heating the shaving lather dispensed through said tubular means.

4. A heating device adapted to be used with a valve operated aerosol shaving lather dispenser having an outlet, comprising a stand, a housing, means adjustably and movably mounting said housing on said stand for vertically positioning said housing relative to said stand, tubular means carried by said housing for interconnection with the outlet of the aerosol dispenser whereby the shaving lather can be dispensed therethrough; said tubular means including a receptacle adjacent one end thereof, an exit spout adjacent the opposite end thereof, a heat conducting portion in said housing intermediate said receptacle and said exit spout, and insulating portions respectively insulating said exit spout from said heat conducting portion and said heat conducting portion from said receptacle; and heating means adjacent said heat conducting portion for heating the shaving lather dispensed through said tubular means.

5. A heating device adapted to be used with an aerosol type of dispenser having an outlet, comprising a stand,

tubular means supported from said stand adapted for interconnection with the outlet of the aerosol dispenser whereby the contents of the dispenser can be dispensed through said tubular means; said tubular means including a heat conducting portion, an exit spout, and insulating portions respectively insulating said exit spout from said heat conducting portion and said heat conducting portion from the outlet of the aerosol dispenser; and heating means adjacent said heat conducting portion for heating the material dispensed through said tubular means.

6. The combination with a valve operated aerosol shaving lather dispenser having an outlet, of a heating device for the lather ejected from said dispenser comprising a stand, a housing, means adjustably and movably mounting said housing on said stand for vertically positioning said housing relative to said stand, tubular means carried by said housing and interconnected with the outlet of said dispenser whereby the shaving lather can be dispensed therethrough; said tubular means including a receptacle adjacent one end thereof, an exit spout adjacent the opposite end thereof, and a heat conducting portion in said housing intermediate said receptacle and said exit spout; and heating means adjacent said heat conducting portion for heating the shaving lather dispensed through said tubular means.

7. A heating device adapted to be used with a valve operated aerosol shaving lather dispenser of the upright type and of the inverted type, comprising a stand including a horizontal portion and a vertical portion attached to said horizontal portion and upstanding therefrom, suction cup means attached to said stand for holding said stand on a supporting structure, an insulated housing, means adjustably and movably mounting said housing on said stand; tubular means carried by said housing and including a receptacle adjacent one end thereof, an exit spout adjacent the opposite end thereof, a heat conducting portion in said housing intermediate said receptacle and said exit spout, and an insulating portion respectively insulating said exit spout from said heat conducting portion and said heat conducting portion from said receptacle; electrical heating means adjacent said heat conducting portion for the heating thereof, circuit means for supplying electricity to said heating means, an adapter tube having on one end a reduced portion for plugging into the outlet of an aerosol shaving lather dispenser of the upright type which is held on said horizontal portion; said adapter tube having an opposite reduced end portion received in said tubular receptacle whereby a continuous conduit is provided for the shaving cream to move from the dispenser, through the outlet thereof, through said tubular means where the shaving cream is heated in said heat conducting portion, and out said exit spout; said adapter tube being removable from said tubular receptacle so that an aerosol shaving lather dispenser of the inverted type can be inserted directly into said receptacle.

References Cited in the file of this patent

UNITED STATES PATENTS

1,077,035	Boyer	Oct. 28, 1913
1,724,767	Mercer	Aug. 13, 1929
2,087,586	Tishman	July 20, 1937
2,472,713	Lijoi	June 7, 1949
2,873,351	Lannert	Feb. 10, 1959