Aug. 15, 1967 E. R. ROSSI 3,335,910

HEATABLE SHAVING LATHER DISPENSER

Filed March 30, 1966 5 Sheets-Sheet 1

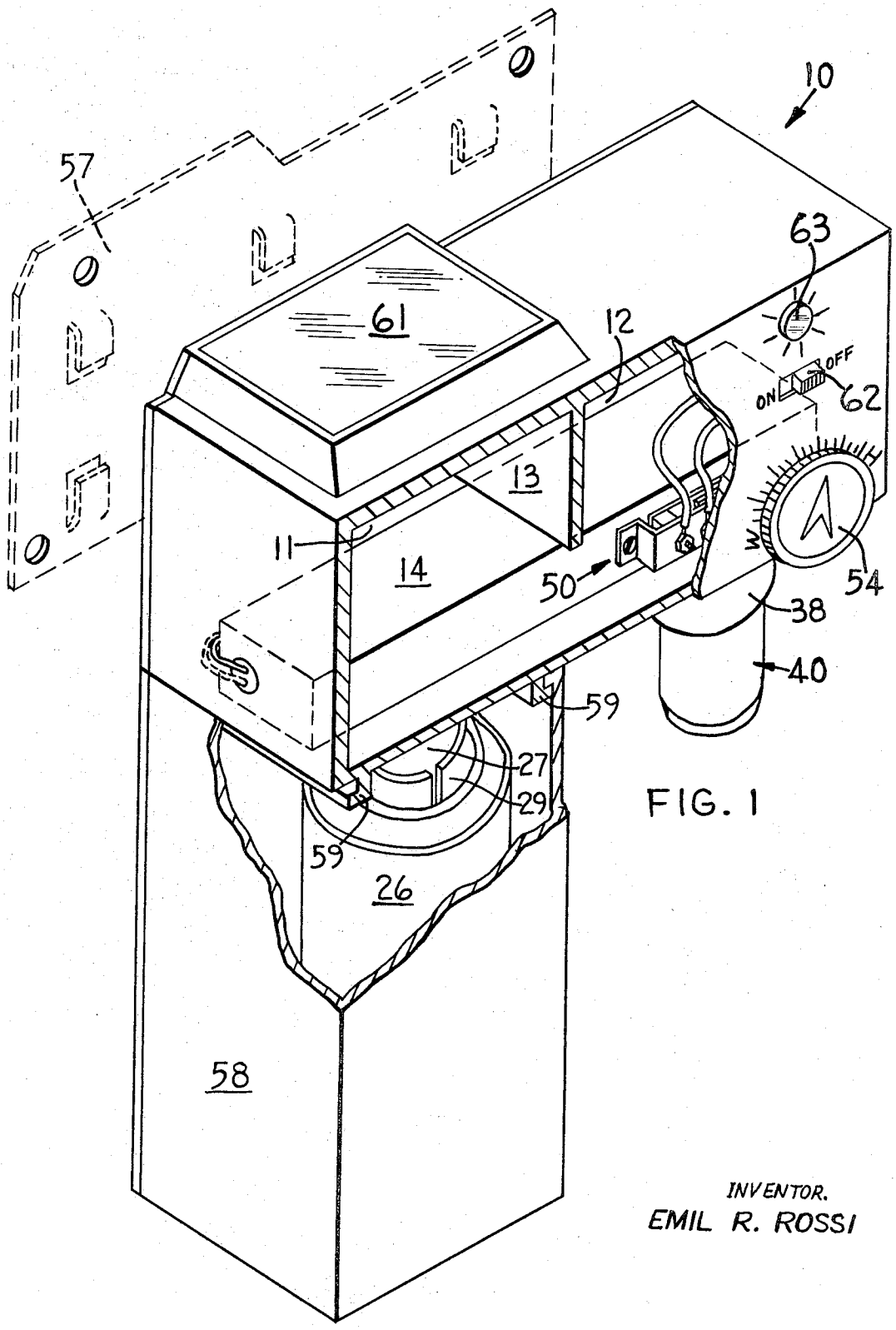


FIG. 1

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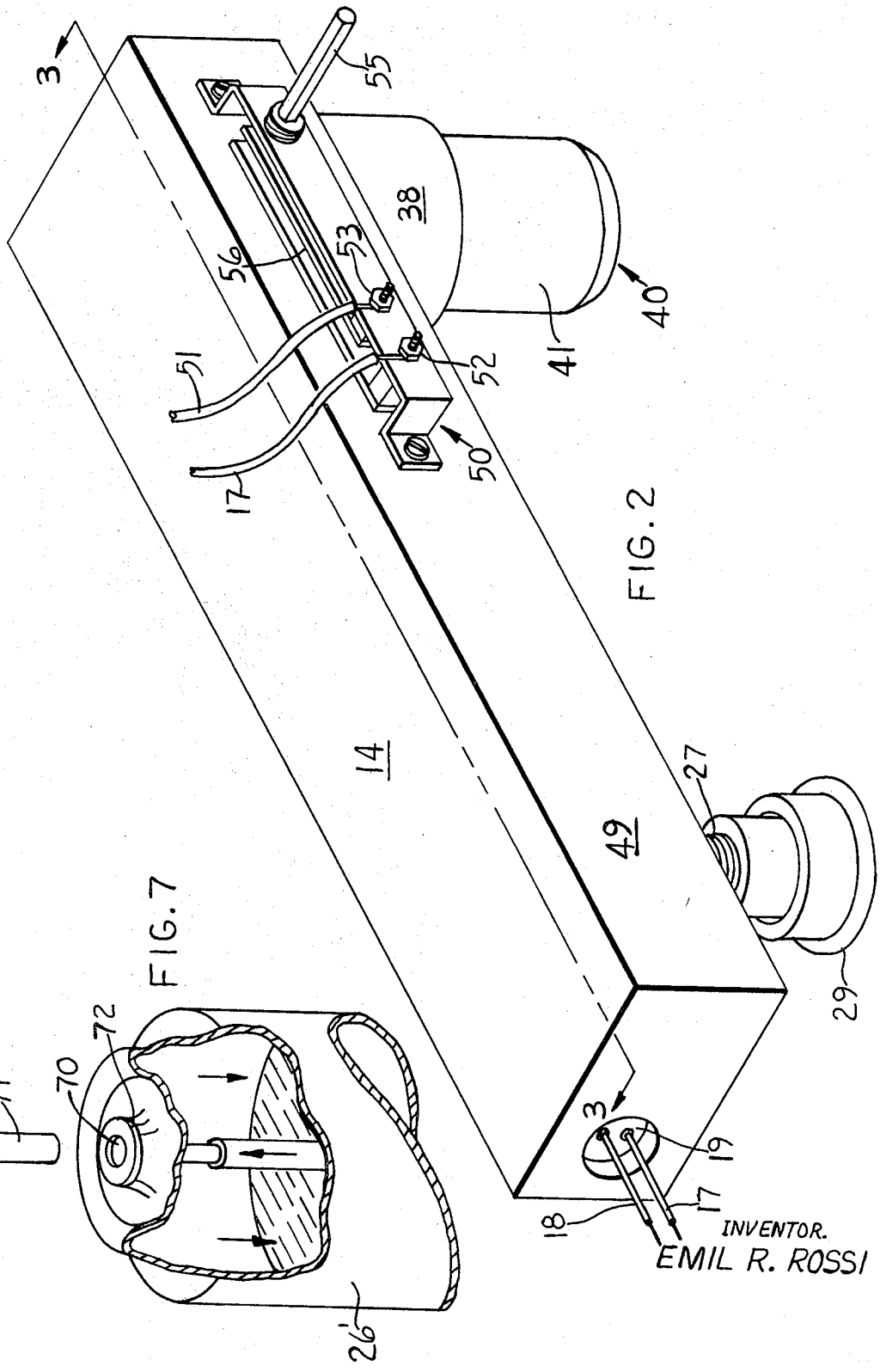


FIG. 2

FIG. 7

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FIG. 3

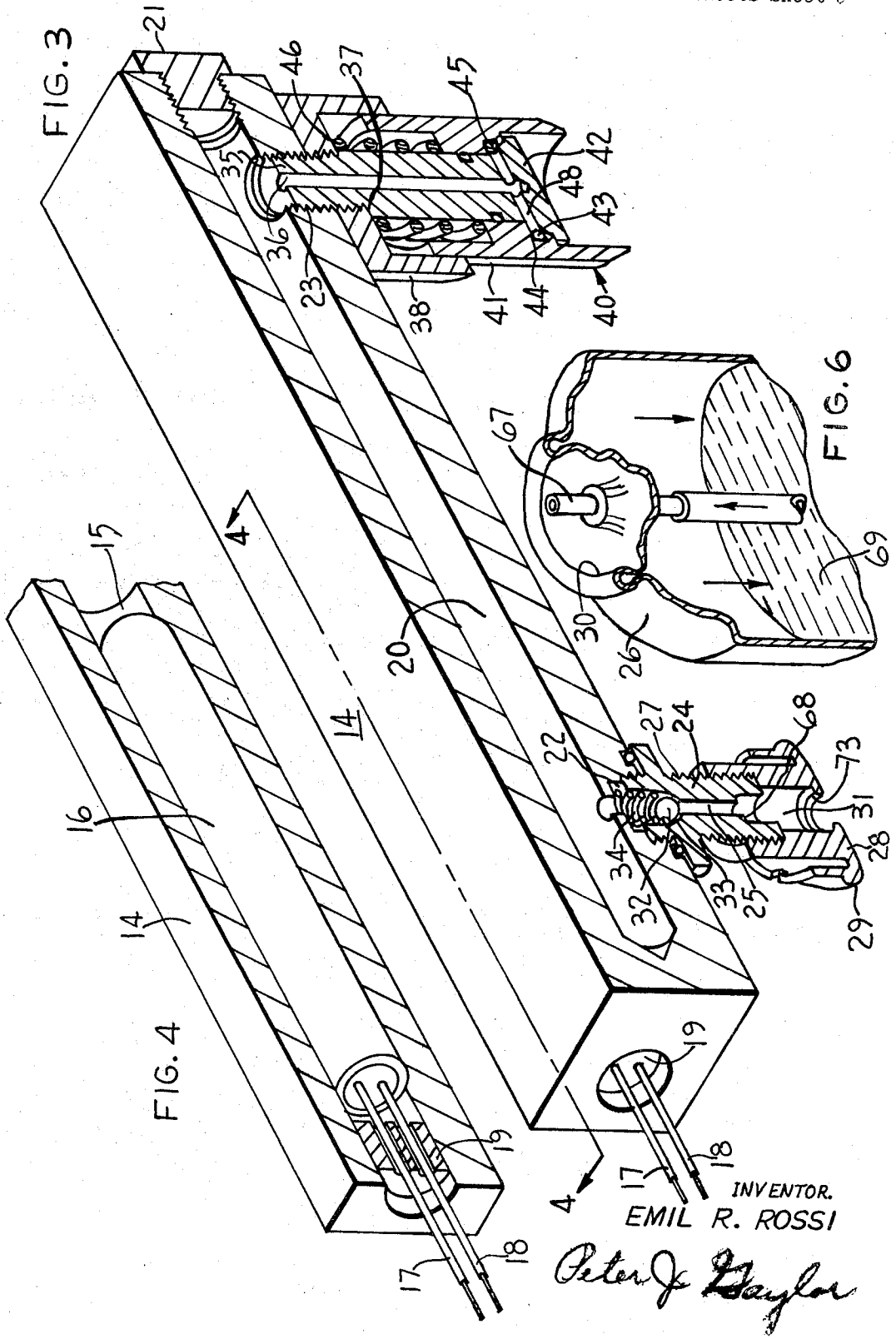


FIG. 6

FIG. 4

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FIG. 9

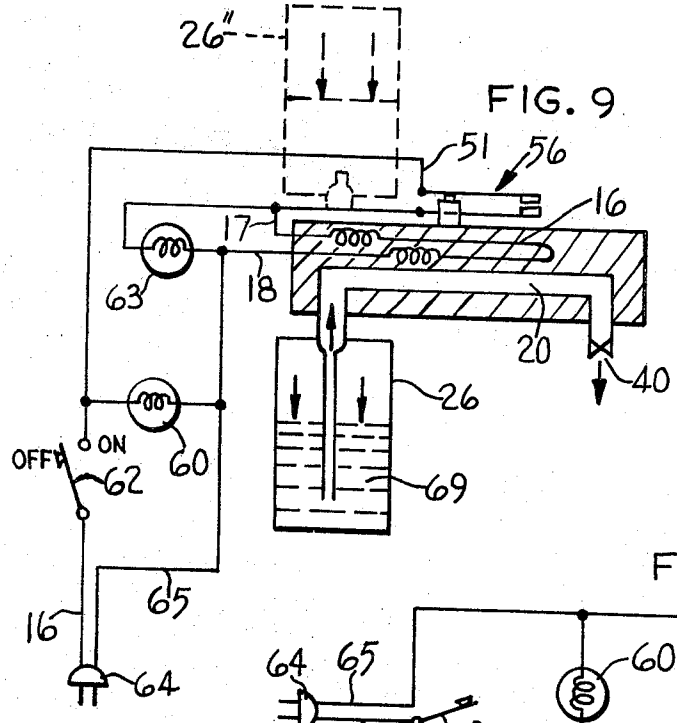
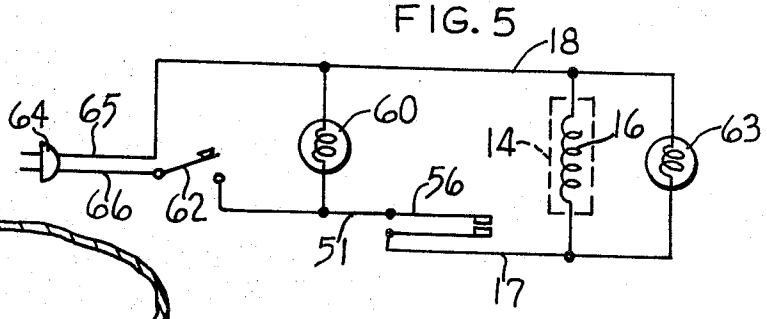


FIG. 5



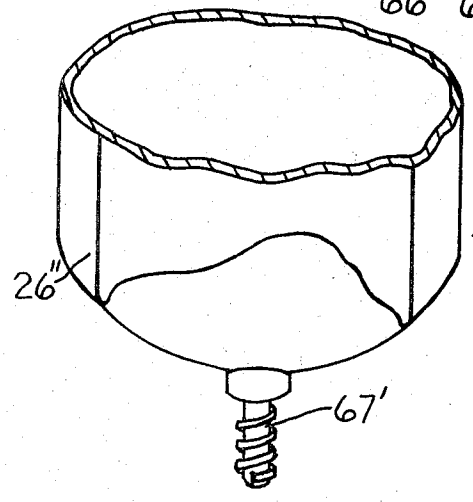
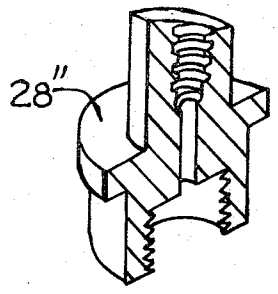


FIG. 10



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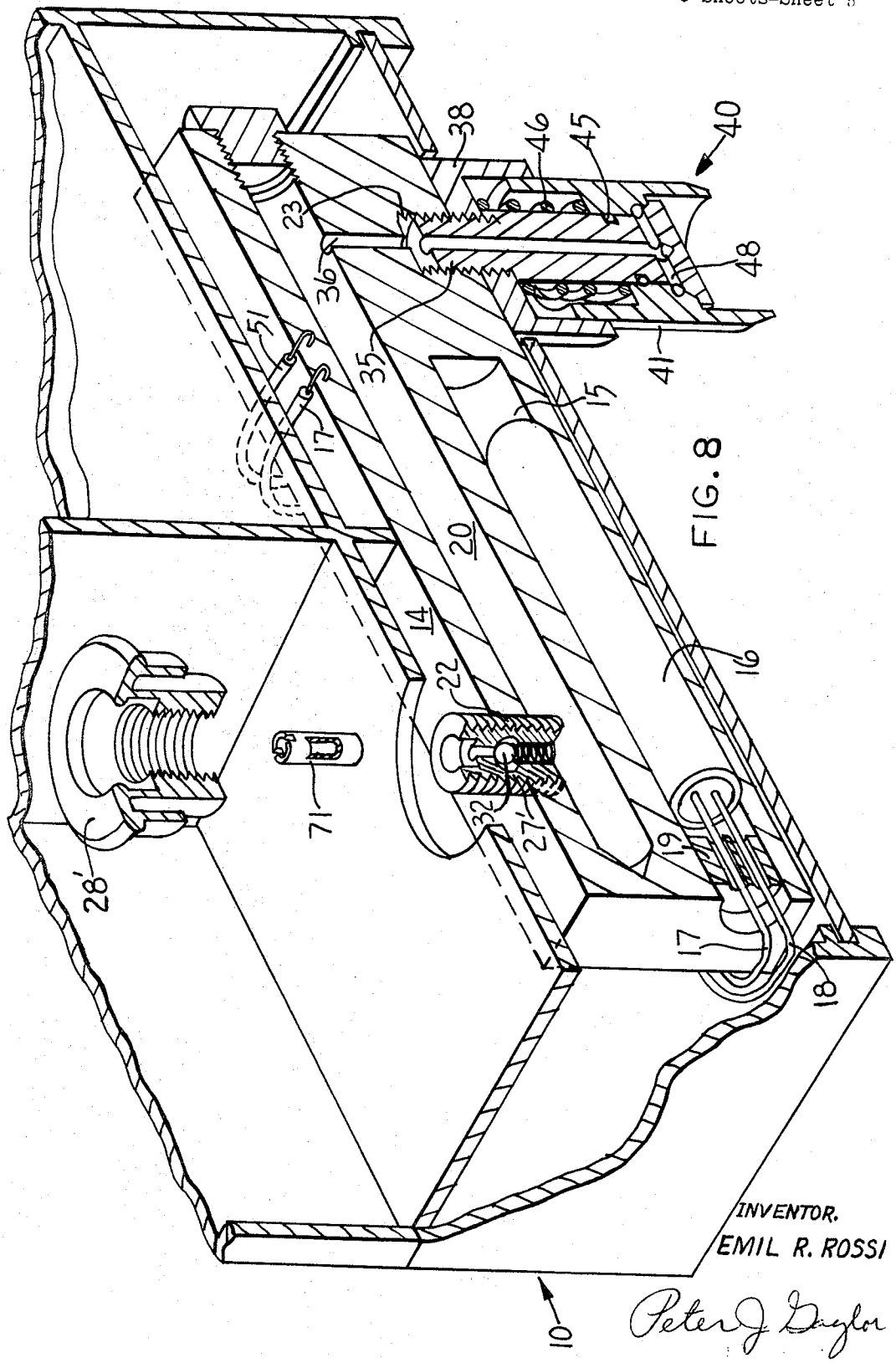


FIG. 8

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3,335,910

HEATABLE SHAVING LATHER DISPENSER

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Filed Mar. 30, 1966, Ser. No. 538,732
8 Claims. (Cl. 222—54)

This invention relates to a dispenser for shaving lather. More specifically, it deals with a unit for dispensing heated shaving lather drawn out of an aerosol lather container.

A number of aerosol lather dispensers have appeared on the market. Some of them are attachable to the aerosol can and are heated by running hot water between conductive channels through which the lather is fed. Such units have not proved generally useful due to the fact that they require readily-available hot water, and because the heating is of short duration. The troubles experienced with other dispensers generally involve difficulties in obtaining adequate heating of the lather and in the feeding of the lather onto the hand which rubs it onto the beard. Another difficulty involves the fact that only certain types of aerosol containers may be used with such units.

An object of the present invention is the provision of a heating duct of high heat capacity, designed to hold enough heat to heat all of the lather required for the shaving operation. Another object is to make available a readily-releasable feeder valve for feeding the heated lather onto the hand without need of much manipulation. A still further object includes the provision for accommodation of most types of aerosol containers to be used for the lather supply. Additional objects will become apparent from the description which is to follow.

The invention will be more readily understood by reference to the accompanying drawings in which a preferred embodiment is described and in which the same numerals refer to similar parts in the various figures. In the drawings:

FIGURE 1 depicts a perspective front elevational view of a dispenser of the present invention to be mounted on a wall bracket, and having a front and side housing portion partly cut away to show inner constructional features.

FIGURE 2 presents a similar view of the lather heating and dispensing block mountable within the dispenser.

FIGURE 3 illustrates a cross-sectional front view taken along the plane of line 3—3 in FIGURE 2.

FIGURE 4 shows a cross-sectional front view taken along the plane of line 4—4 in FIGURE 3.

FIGURE 5 presents an electrical diagram employed in the unit depicted in FIGURES 1–4.

FIGURES 6 and 7 illustrate perspective side views, partly cut away, of the upper portions of two different types of upright lather foam containers useable with the dispenser of FIGURE 1.

FIGURE 8 shows a perspective cut-away front elevational view of a dispenser of the present invention, as adapted for use with an inverted lather container.

FIGURE 9 depicts a schematic wiring diagram indicating how it may be used with the unit shown in FIGURE 8.

FIGURE 10 presents an adapter to be used with the valve of one type of inverted aerosol container.

Referring again to the drawings, numeral **10** represents generally an electrical insulating plastic housing containing inner compartments **11** and **12**, separated by divider **13**. Inserted within both compartments, and held in place by divider **13**, is conductive block **14** made of heat-conductive material, such as aluminum, or the like.

Cut lengthwise into block **14** is a hole or channel **15** in which is inserted eelctrical heating cartridge **16**, having electrical leads **17** and **18**. An insulating disk **19** serves to keep heater **16** in place. Also cut lengthwise into block **14**, and adjacent hole **15**, is another hole or duct **20**, which may be plugged, at the cutter entrance, with plug **21**. A threaded lather inlet hole **22** is cut through the bottom of block **14**, near one end thereof, and in connecting relation with longitudinal duct **20**. Near the other end of block **14**, another similar hole **23** is provided as the lather outlet opening.

Into hole **22** is screwed a threaded nipple **24** having narrow channel **25** for passage therethrough of lather foam from aerosol container **26**. Attached to the bottom threaded portion **27** of nipple **24** is adapter **28** made of electrically-insulating plastic and having a plastic locking rib **29** which is designed to lock onto complementary rib **30** on the aerosol contaner **26**. Adapter **28** is provided with a channel **31**, interconnecting with channel **25** in nipple **24**. A ball valve **32**, held down on seat **33** by spring **34**, is used to prevent back-flow of lather in the event the aerosol container **26** is removed from adapter **28**.

Mounted in threaded outlet hole **23** is a nipple **35** having a channel **36** interconnecting with block duct **20**. Disposed on shoulder **37** of nipple **35** is bracket **38** made of insulating plastic and having inner walls, against which slide the outer walls **41** of slide valve **40**. The latter also is made of electrically-insulating plastic. The lower portion **42** of nipple **35** is wider so as to provide a seat **43** against which rests sealing edge **44** of valve **40**. This edge may be provided with an O-ring **45** to insure an adequate seal at the seat. A spring **46** exerts a thrust against a shoulder of valve **40** and against the inner surface of bracket **38** uring valve **40** to remain in seated position. A horizontal channel **48** is provided to connect with channel **36** and with seat **43**, so that when valve **40** is pushed upwardly with the open hand, lather foam could be forced through duct **20** and channels **36** and **48**, and onto thet open hand.

Adapter **28** is desirably made of a meltable plastic, such as of an acetyl copolymer sold commercially under the trademark "Delrin," which has a heat-distortion temperature of about 270° F. In the event block **14** becomes overheated from the heat of cartridge **16**, this heat softens adapter **28**, thus causing it to drop aerosol container **26**, which is hung thereon, so that any possibility of explosion of the container in avoided.

On the front face **49** of block **14** is mounted a thermostatic control for heater **16**, and this is indicated generally as **50**. Leads **17** and **51** of the heater circuit (FIGURE 5) are connected to terminals **52** and **53** of the control. When the temperature of the block (set by knob **54** mounted on shaft **55**) reaches the preselected temperature, bimetallic element **56** opens and prevents further heating of cartridge **16**. The dispenser may be mounted on a wall bracket, such as bracket **57**.

A plastic cover **58** may be used to cover container **26**, and this cover may be slid on raceways **59** projecting from the bottom of housing **10**. Also, an electric light bulb **60** may be inserted in space **13** in housing **10**, and a transparent or translucent panel **61** may be provided to serve as a night light. A switch **62** is provided to actuate heater cartridge **16**, and a neon light **63** serves to indicate when the heater is in the "on" position. The dispenser unit may be plugged into house current by means of plug **64**.

When in operation, assuming that plug **64** is in a live condition when switch **62** is turned on, current flows through lines **65** and **66**, thus lighting neon bulb **63**, and it passes through lines **17** and **18** to heater cartridge **16**. which thus heats block **14**. When the block has reached the temperature set by knob **54**, thermostatic control **56** opens the circuit to the cartridge.

When container **26** is locked onto adapter **28**, projecting valve plug **67** of the container is depressed by shoulder **68** on nipple **24**, whereby foam **69** from the container passes through channels **25** and **22** and into opening **20**

in block **14**. However, due to the action of spring **46**, valve **40** is closed, and no lather is dispensed.

When the shaver desires heated shaving lather from container **26**, he turns on switch **62** and, after a few minutes when block **14** is warmed up, he pushes upwardly valve **40** with the palm of his hand, whereupon heated lather from opening **20** is forced through channels **36** and **48** and onto the palm of his hand.

Container **26**, having raised valve plug **67**, is known as the container having the trademarked "Precision" valve. In the case of the container **26'** (known under the trademark "Canco"), wherein the valve is in recessed opening **70**, there is provided an adapter plug **71** which may be inserted into opening **70** to serve similarly to plug **67**. In this case, container **26'** is locked at its lip **72** by forcing said lip into locking position with inner rib **73** of adapter **28**.

Although an upright aerosol container is shown in FIGURES 1–7, the invention may be adapted for use with an inverted container, as shown in FIGURES 8–10. In this case heater opening **15** in block **14** is shown as disposed beneath lather passage duct **20**. Opening **22** comes out of the top of block **14**. Adapter **28'** is screwed onto nipple **27'**, so that inverted container or can **26''** may be locked into position onto the adapter **28'**. An adapter plug **71** is provided for use with containers having recessed valves. In the event a projecting tilt-operated valve plug **67'** is disposed on container **26''**, a special adapter **28''** is employed, instead of adapter **28'**. The electrical circuit in FIGURE 9 is very similar to that in FIGURE 5.

It will be observed that both primary and secondary electrical insulation are provided in the present dispenser. The housing **10** is made of electrically-insulating plastic, as are plug **19**, adapters **28**, **28'** and **28''**, and bracket **38**, as well as valve **40**. However, the heater may be actuated by a rechargeable battery which may be inserted in space **13** or **12**, if desired, Furthermore, an additional safety device is provided in adapters **28**, **28'** and **28''**, due to their heat-softening feature. The locking action of the container against adapter **28** causes valve plug **67** to effect a seal against nipple shoulder **68**, preventing loss of lather to the outside, and maintaining channels **25**, **22**, **20**, **36** and **48** under container pressure at all times.

The highly-conductive feature of block **14** results in a rapid heating of lather chamber **20**, thus requiring only a very short waiting time. By unscrewing nipples **24** and **35**, and disconnecting terminals **52** and **53**, the block **14** may be readily removed for cleaning or replacement. Another valuable feature of the present invention is the ability of the unit to adapt itself to the different aerosol containers now on the market.

For the purposes of the present invention, it is to be understood that the adapter valve plugs, such as plug **71**, are to be considered to be the equivalents of a built-in plug, such as plug **67**. Also, the adapter **28''** is to be considered the equivalent of an adapter and nipple **24** in maintaining the valve plug **67'** open to permit lather flow into duct **20**.

I claim:

1. A heatable dispenser for dispensing shaving lather from an aerosol container, comprising:

a housing,

an elongated block of high heat conductivity disposed within said housing and containing a lather-carrying duct and an adjacently-disposed heater channel,

a heater disposed within said heater channel,

a lather inlet disposed in said block near one end of said duct, and a lather outlet disposed in said block near the other end of said duct,

an inlet nipple connected to said lather inlet in outside sealing relation, and having a channel passing therethrough and connecting with said duct, and also having container plug opening means for maintaining, in open position, a valve plug of an aerosol container so as to permit flow of lather from said container and into said duct and to maintain said duct under container pressure,

a hollow adapter attached, in outside sealing relation, to said nipple, and having a locking connection means for connection with an aerosol lather container to be hung thereon in valve-opening relation with said plug-opening means,

an outlet nipple connected to said lather outlet, in outside sealing relation, and having a channel passing therethrough and connecting with said duct, and

a valve of electrically-insulating material attached to said nipple and projecting out of said housing and actuatable by pressure of the hand so as to dispense lather out of said duct and onto said hand.

2. A heatable dispenser, according to claim **1**, in which said adapter has an outer locking rim designed to engage inwardly a top rim of an aerosol container.

3. A heatable dispenser, according to claim **2**, in which said adapter also has an inner locking rim to engage outwardly a top rim of an aerosol container.

4. A heatable dispenser, according to claim **1**, in which said outlet nipple has a widened bottom portion having a laterally-directed channel connecting with said outlet nipple channel and the outside, and

a spring-loaded sleeve disposed over said nipple and having a valve seat projecting inwardly above said nipple widened portion and designed to normally press against said lateral channel to close off said channel and to maintain said channel open upon upward pressure of said sleeve when said sleeve is unseated and lather is permitted to flow through said channel.

5. A heatable dispenser, according to claim **1**, in which a thermostatic control is mounted on said block to control the temperature resulting from said heater.

6. A heatable dispenser, according to claim **1**, in which a ball valve is mounted in said inlet nipple for preventing back-flow of lather in the event a container is disconnected.

7. A heatable dispenser, according to claim **1**, in which the hollow adapter is made of softenable electrically-insulating plastic designed to soften when said block is overheated by said heater.

8. A heatable dispenser, according to claim **1** in which said adapter has an inner locking rim designed to engage outwardly the top rim of an aerosol container.

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