Nov. 28, 1967 C. T. MENZEL 3,355,151

LATHER GENERATOR

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Fig. 1.

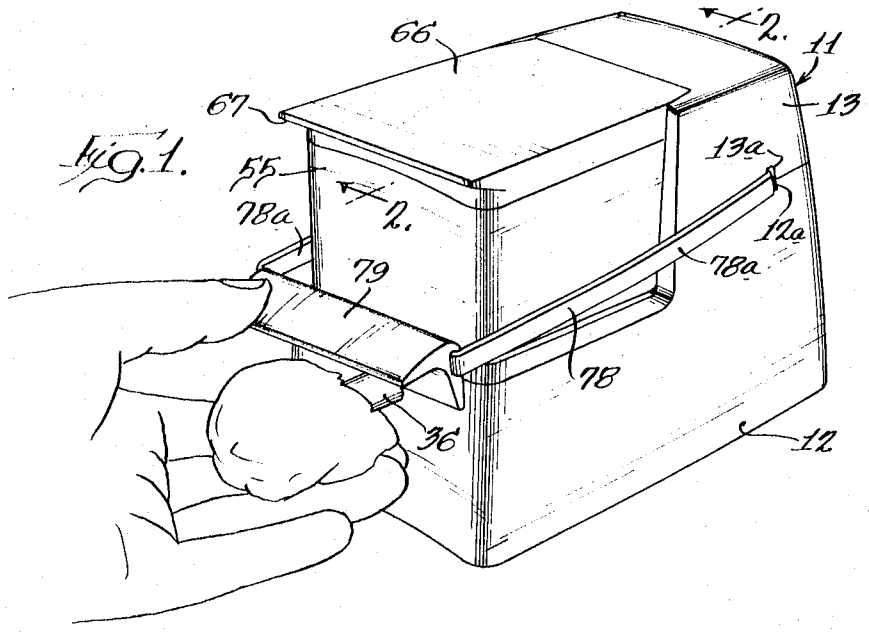


Fig. 2.

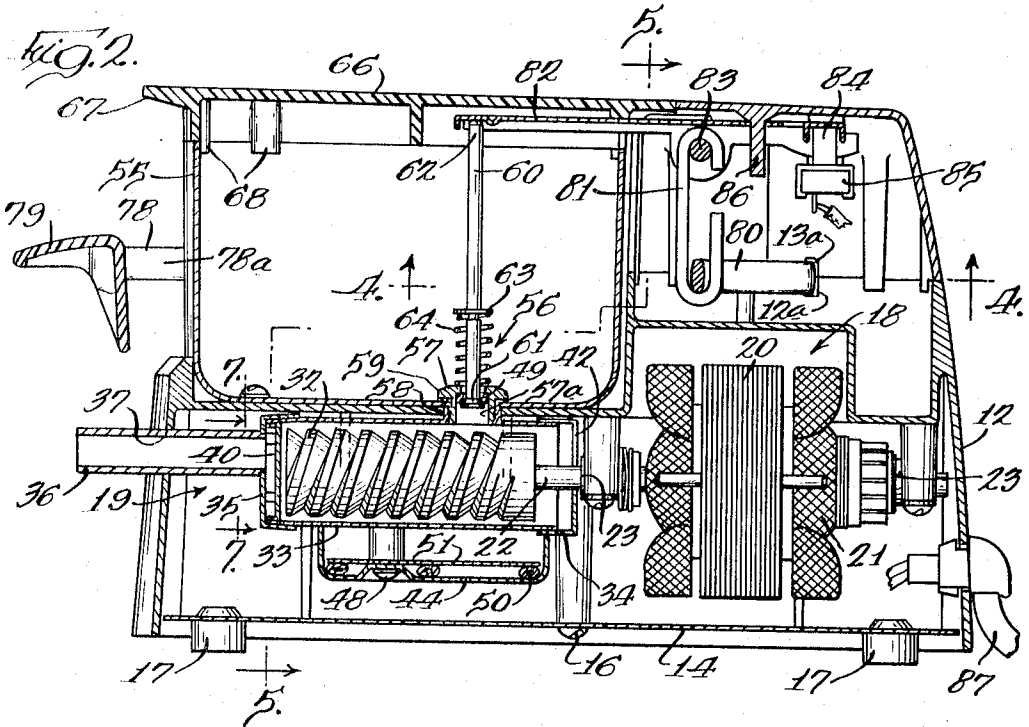
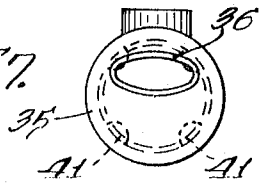


Fig. 7.



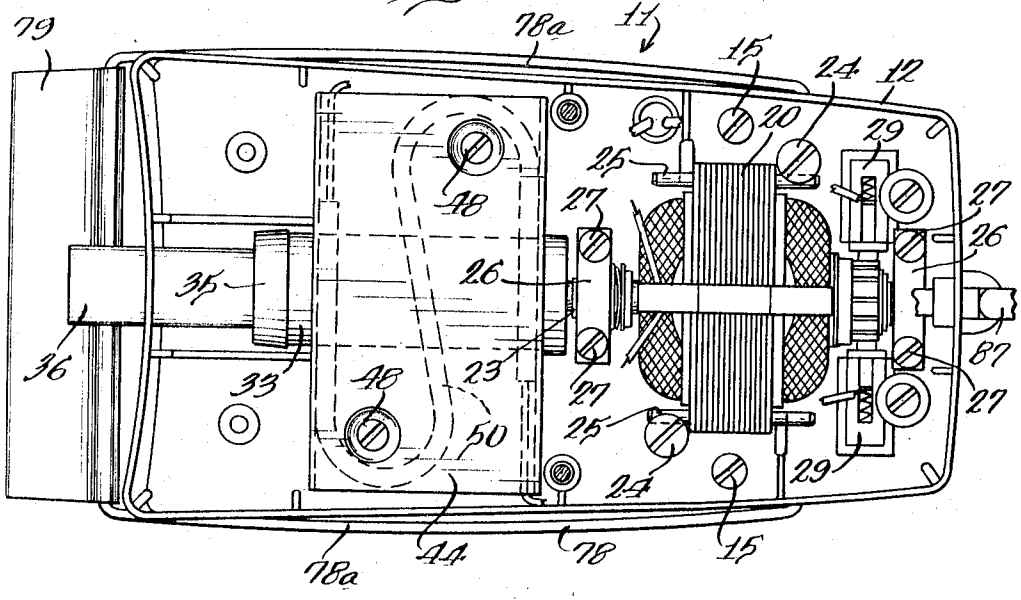
Inventor:
Conrad T. Menzel
By
Neil M. Rose
Atty

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LATHER GENERATOR

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Fig. 3.



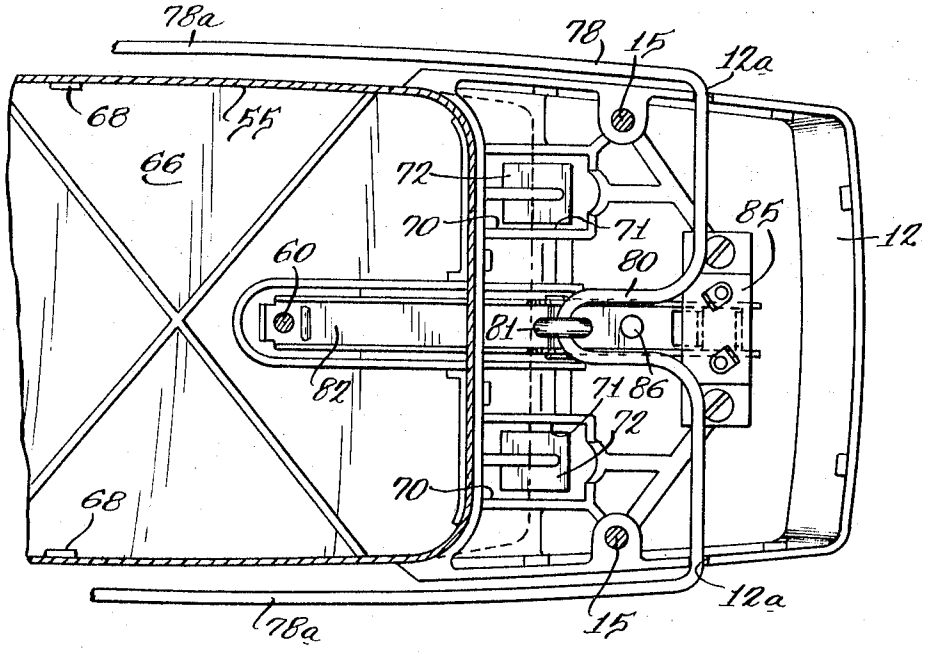


Fig. 4.

Inventor:
Conrad T. Menzel
By
Neil M. Rose
Atty

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LATHER GENERATOR

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Fig. 5.

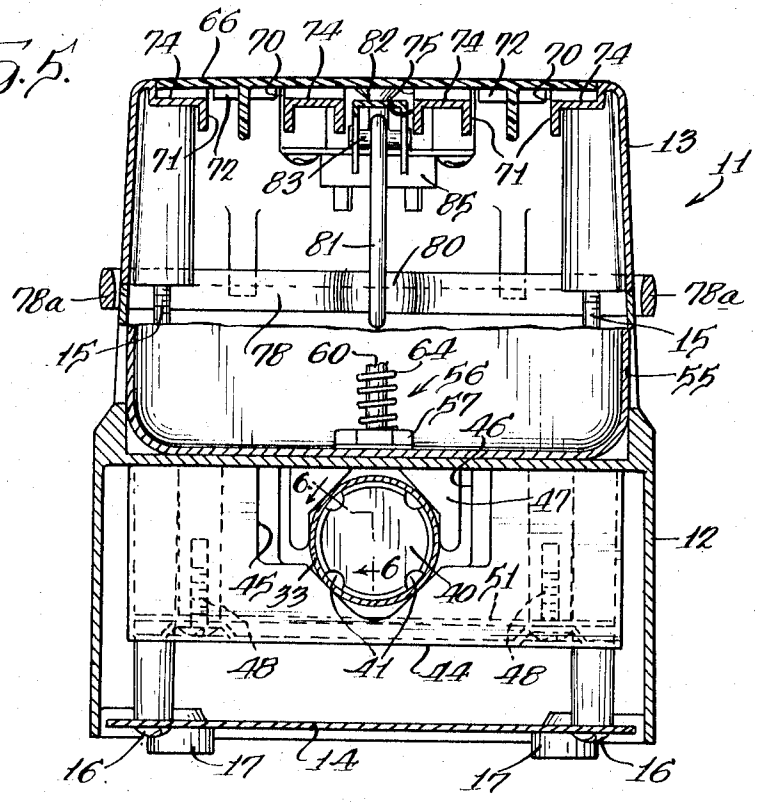


Fig. 6.

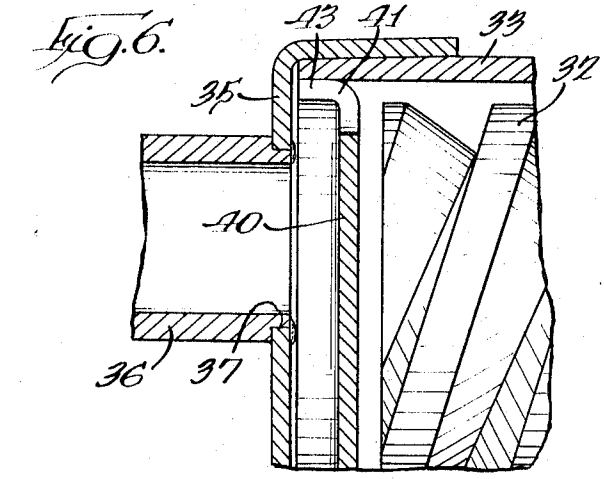
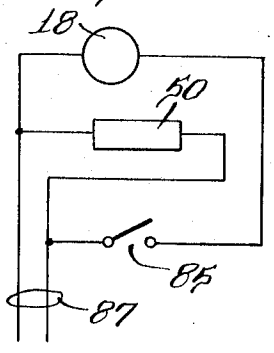


Fig. 8



Inventor:
Conrad T. Menzel
By
Neil M. Rose
Atty

United States Patent Office 3,355,151
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3,355,151

LATHER GENERATOR

Conrad T. Menzel, Milwaukee, Wis., assignor, by mesne assignments, to John Oster Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin

Filed Oct. 10, 1966, Ser. No. 585,598
11 Claims. (Cl. 259—10)

ABSTRACT OF THE DISCLOSURE

A lather generator having a screw type agitator received in a generating chamber, one end of which is provided with an outlet of reduced cross section and having a back pressure creating plate with peripheral notches between the screw and the outlet. Control means for the lather generator providing sequential operation of the motor for driving the agitator and the valve for delivering soap solution thereto.

This invention relates generally to lather-making machines of the type used by barbers, and more specifically it comprises an improvement over the lather-making machine disclosed and claimed in Brown Patent No. 2,510,955.

Lather-making machines are used in barber shops to produce quickly and simply a warm light soap lather to be used by the barber in shaving the face as well as the neck and along the hairline. The lather-making machine should produce the soap lather of proper and uniform consistency quickly with a minimum of effort on the part of the barber. Since the barber is normally occupied with holding the straight razor in one hand, it is desirable for the machine to be operable with one hand and to have the soap lather discharged into the hand which operates the machine. With respect to the consistency of the soap lather, it is important that it be light and dry but at the same time have enough body so that it may wet and soften the hairs about to be shaved.

It is conventional in this art to utilize a soap solution which is premixed and placed in the reservoir of the machine. When soap lather is desired by the barber, a valve is opened permitting the soap solution to flow into a generating or mixing chamber within which a moving impeller is mounted to beat the solution into the desired lather. A spout is provided to permit discharge of the lather from the mixing chamber. In order to restrict flow of the lather from the mixing chamber until such time as it has been agitated sufficiently to produce a lather having adequate body, it is necessary to create a back pressure in the generating chamber by restricting the discharge from the spout. The patent to Brown No. 2,510,955 discusses this problem in detail and discloses one type of baffle plate which is used in the lather discharge passageway to create the necessary back pressure which in turn results in the desired consistency of the foam.

The present invention relates to a lather-making machine having an improved baffle in the mixing or generating chamber so that a more uniform and more consistent lather is obtained. In prior art devices it had been noted that when the barber started up the lather-making machine for the first time each morning, there would be condensed lather in the form of a liquid lying in the bottom of the mixing chamber. When the lather-making machine was first energized, the member or agitator in the mixing chamber would throw the liquid out of the discharge opening causing the barber much annoyance since the liquid would be thrown violently from the discharge spout rather than being discharged slowly as in the case of lather of the proper consistency. Thus, the prior art baffle plates were reasonably effective to build up a back

pressure with respect to lather which had been properly generated by the member or agitator. In the case of left over or leaked liquid soap solution which was present in the mixing chamber at the start of a day's use, the baffle plate was ineffective in preventing such liquid from being discharged violently from the spout.

In lather-making machines of the type using a liquid soap solution and a motor driven agitator for obtaining the lather, it is desirable to energize the motor causing the agitator to rotate rapidly before introducing the soap solution into the mixing chamber. It is considered desirable, therefore, to operate the lather machine in a sequence in which the motor is energized initially and the liquid soap control valve is opened a short time thereafter. In order to accomplish this sequencing of operations, many of the prior art lather-making machines have associated the motor control switch and the mixing valve together so that they could be operated with one hand while the other hand would be required to receive the lather being discharged from the mixing chamber through the discharge spout. Because of the fact that the barber is normally occupied with one hand holding the razor, it is very desirable to have the controls on the lather-making machine arranged so that they may be operated by the same hand that will receive the generated lather simultaneously.

It is an object of the present invention to provide a new and improved lather-making machine having a mixing or generating chamber and baffle plate arranged to eliminate the discharge of liquid soap therefrom.

It is a further object of the present invention to provide an improved lather-making machine having a single control lever for sequentially operating the motor switch and the liquid soap control valve.

It is another object of the present invention to provide an improved lather-making machine in which the operating lever for the machine is arranged so that the operator sequentially energizes the motor and the liquid soap control valve and simultaneously positions his hand to receive the lather generated by the machine.

It is still a further object of the present invention to provide a lather-making machine having improved control means which are simple and almost friction free in its operation of the motor control switch and the soap liquid dispensing valve.

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.

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 lather-making machine embodying the present invention;

FIG. 2 is a vertical, sectional view taken on line 2—2 of FIG. 1;

FIG. 3 is a bottom plan view of the lather-making machine of FIG. 1 with the bottom cover plate removed to expose the interior of the housing;

FIG. 4 is an enlarged, fragmentary, horizontal view taken on line 4—4 of FIG. 2 assuming FIG. 2 shows the complete machine;

FIG. 5 is an enlarged, vertical, sectional view taken on line 5—5 of FIG. 2;

FIG. 6 is a greatly enlarged, sectional view taken on line 6—6 of FIG. 5;

FIG. 7 is a sectional view taken on line 7—7 of FIG. 2; and,

FIG. 8 is a schematic wiring diagram of the electrical circuit used in the lather-making machine of the present invention.

The invention provides a lather-making machine having a simple and effective operating means for starting the lather making operation and dispensing the lather produced into the hand of the operator which is controlling the operating means. An elongated operating lever is provided which through a link member applies a downward force to a switch and valve actuator which is supported at one end by the valve stem which controls the delivery of soap to the generator and at the other end by the switch which controls the energization of the motor for producing lather from the liquid soap. The actuator is supported so that upon operation of the operating lever the motor switch is closed and immediately thereafter the valve is opened permitting the liquid soap to be discharged onto the already rotating impeller or agitator. The actuator is supported at either end by the switch and the valve stem and is only guided with respect to a supporting frame so that the mechanism is simple and has relatively low frictional losses.

The motor driven agitator or impeller is positioned within a tubular generating chamber having a discharge spout at one end thereof. Between the agitator and the discharge spout there is provided a baffle or priming plate which causes a back pressure in the lather produced in the generating chamber. There are small notches around the periphery of the baffle which permit the lather to pass from the generating chamber into the discharge spout. These notches are arranged out of alignment with the discharge spout so that any liquid or wet foam within the chamber at the time the agitator begins rotation may not be thrown out through the discharge spout onto the operator.

Referring now in detail to the drawings, there is shown a lather-making machine designated generally by reference numeral **11**. As is best illustrated in FIGS. 1 and 2, the machine **11** includes a base housing **12** and an upper housing **13** which, along with a base plate **14**, fit together to form a two compartment housing within which most of the operating mechanism of the machine is housed. The base housing **12** and the upper housing **13** are secured together by means of upwardly extending screws **15** which are best shown in FIGS. 3 and 4. The base housing **12** is somewhat rectangular in its plan view and is of inverted cup-shaped configuration having the base plate **14** secured thereto by means of screws **16** to close the downwardly facing opening therein.

For the purpose of supporting the lather-making machine **11**, there are provided four rubber buttons or feet **17** which are supported in the corners of the base plate **14**. Within the lower compartment formed by the base housing **12** and the base plate **14**, there is mounted a motor, designated generally by reference numeral **18**, and a lather generator **19**. While the motor **18** may be of any suitable type of fractional horsepower electric motor, the embodiment disclosed herein includes a series wound motor having a field **20** and an armature **21** which includes a shaft **22** supported on spaced bearings **23**.

The base housing **12** is a die-cast member having suitable seats and recesses formed thereon to support the field **20**, the armature bearings **23**, and the other elements of the motor. The field **20** is retained in seated engagement with a suitable recess in the base housing **12** by means of retaining screws **24** which clamp pins **25** securely against the die-casting **12**. The pins **25** are pressfitted into the laminations of the field **20**. For the purpose of retaining the armature bearings **23** in their recesses in the base housing **12**, suitable retaining straps **26** and screws **27** are employed.

The armature **21** is provided with a commutator **28** which is adapted to co-operate with brush assemblies **29**. The brush assemblies **29** are also received in suitable recesses in the base housing **12** and are retained in place by suitable assembly screws. The end of the armature shaft **22** remote from the commutator **28** extends beyond its bearing **23** and supports thereon an agitator or impeller **32**. The impeller **32** is in the form of a screw having the peaks of the threads spaced closely adjacent to the interior wall of a tubular member **33**. The member **33** is cylindrical in shape having an inner closure member **34** extending across the end adjacent the motor **18** and an outer closure member **35** positioned across the other end of the member **33**.

For the purpose of discharging lather from the lather generator **19**, the outer closure member **35** is provided with a discharge spout **36** which extends outwardly from an opening in the closure member **35**. In addition, the base housing **12** is provided with an opening **37** so that the discharge spout may extend well outside of the base housing where lather discharged therefrom may be received in the hand of the operator as is shown in FIG. 1.

Positioned within the tubular member **33** between the agitator **32** and the spout **36** is a baffle plate or priming disc **40** which is best shown in FIGS. 5 and 6. The baffle plate **40** is of substantially the same diameter as the interior of the tubular member **33** so that it may be pressfitted into position as shown in FIG. 6. In order for foam to move from the agitator **32** to the discharge spout **36** there are provided four equally spaced notches **41** which are semicircular in shape as shown in FIG. 5. It should be noted that the notches **41** are positioned out of alignment with the opening in the discharge spout **36**. To permit lather to pass behind the priming disc **40** to the discharge **36**, the disc is mounted in axially spaced relation to the outer closure member **35** by means of a peripheral flange **43**. It should be noted that the notches **41** extend completely through the flange **43** so that lather may pass freely inwardly from the peripheral notches **41**. By being so positioned, the plate **40** prevents any liquid soap or wet lather from being thrown outwardly from the impeller **32** directly through the discharge spout **36**. Similarly, the discharge spout **36** is positioned above the axis of the impeller **32** to avoid leakage and provide assurance that only dry lather will issue from the spout **36**.

The baffle plate tends to create a back pressure in the lather within the generator **19** thereby assuring against premature discharge of lather before it has reached its proper consistency due to the action of the agitator **32**. It should be appreciated that the motor **18** is energized to rotate the impeller **32** in a counterclockwise direction as it would be seen in FIG. 5 so that the lather is always urged toward the discharge spout **36** during generation. Because of the action of the agitator in moving the lather to the left as viewed in FIG. 2, the inner closure member **34** at the motor end of the generator **19** may be formed with a slot **42** to facilitate assembly of the lather generator **19** to the end of the armature shaft **22** so that it encloses the agitator **32**. Because of the direction of rotation of the screw causing the lather to move away from the closure member **34**, there is no tendency toward leakage through the radial slot **42**.

The lather generator **19** is retained in position against the upper wall of the base housing **12** by means of a channel-shaped clamping member **44**. As may be seen in FIG. 5, the outer walls of the channel-shaped member **44** are cut out at **45** and **46** providing clearance openings which terminate in V-shaped openings which are adapted to engage the underside of the tubular member **33**. As may also be seen in FIG. 5, co-operating wall portions **47** on the base housing **12** extend downwardly and straddle the tubular member **33**. To retain the clamping member **44** in position retaining the tubular member **33** seated against the base housing **12**, there are provided assembly screws **48** as shown in FIG. 3.

Since it is desirable to supply warm lather for shaving purposes, it is conventional to provide lather-making machines with heating devices. Mounted on the inner surface of the channel-shaped clamping member **44** is a flexible resistance heating element **50**. The heating ele-

ment 50 is covered with an insulating material as is conventional in the art and is positioned in a tortuous arrangement as is shown in FIG. 3. A retaining plate 51 is positioned between the lather generator 19 and the channel-shaped member 44 to retain the heating element 50 in position thereon. The element 50 is a low wattage heater which is kept on continuously to maintain the lather generator 19 warm so that warm lather is produced by the machine 12.

To produce lather within the generator 19, it is necessary to have a supply of liquid soap. For this purpose, the machine 11 is provided with a cup-shaped reservoir 55 which is assembled to the base housing 12 on the upper wall thereof immediately above the lather generator 19. The reservoir 55 is a drawn cup-shaped sheet metal member made of a corrosion resistant metal such as stainless steel. Toward the center of the reservoir there is provided a valve 56 which permits liquid to flow from the reservoir 55 into the lather generator 19. The valve 56 includes a valve seat retainer 57 which is threadedly received in a threaded extrusion 58 extending upwardly from tubular member 33 of the lather generator 19. The valve seat retainer 57 is formed with a flange 59 which engages a gasket at the bottom of the reservoir 55 adjacent the opening therein to seal the valve 56 with respect to the reservoir. The retainer 57 is formed with an upwardly extending recess 57*a* within which a valve seat 49 is positioned. It should be understood that the heater 50 serves to heat not only the generator 19 but also the reservoir 55 so that the lather produced will always be warm.

Arranged in an axially extending position within the valve seat retainer 57 is a valve member 60. The valve member 60 is an elongated member having an enlarged valve closure portion 61 at its lower end and an upwardly extending actuating portion 62. Intermediate the ends of the member 60, there is a shoulder portion against which a washer 63 is restrained against upward movement. A valve biasing spring 64 is positioned between the valve seat retainer 57 and the washer 63 to bias the valve member 60 upwardly causing the closure portion 61 to seat against the valve seat 49 thereby preventing fluid flow from the reservoir 55 into the lather generator 19. Downward force on the valve member 60 causes the closure portion to be displaced downwardly thereby permitting fluid flow through the valve 56.

In order to close the reservoir 55 to reduce evaporation and prevent foreign material from being deposited therein, there is provided a one-piece plastic cover 66. The cover 66 is formed at its forward edge with an overhanging ledge 67 which permits the cover to be easily raised to provide access to the interior of the reservoir 55. Integrally formed with the cover 66 are a plurality of aligning projections 68, as best shown in FIG. 2, which engage the interior of the reservoir 55 and assure that the cover 66 will be properly positioned with respect to the reservoir.

For the purpose of pivotally supporting the cover 66 with respect to the reservoir 55, the upper housing 13 is formed with a pair of openings 70 and guiding recess 71 as are best shown in FIG. 4. Extending through the openings 70 and into the recess 71 are hinge tabs 72 which are formed integrally with the cover 66 and extend horizontally in a plane displaced slightly downwardly from the upper surface of the cover 66. Thus, as may be seen in FIG. 1, the hinge tabs 72 extend beneath the upper wall of the upper housing 13 and are completely obscured from view so that the cover 66 and the upper housing 13 present a smooth and attractive visual appearance with no hinge mechanism being visible.

The upper wall of the upper housing 13 is formed with a depressed ledge 74 (FIG. 5) adjacent the cover 66 to support the edge of the cover 66 for its hinged movement with respect to the housing 13. As may best be seen in FIG. 5, the ledge 74 appears as a series of spaced upwardly facing shoulders interrupted by the openings 70 and opening 75, the purpose of which will be explained in greater detail below. Thus, the tabs 72 on the cover 66 extend through the openings 70 into guiding recesses 71. When the cover 66 is pivoted upwardly by lifting the ledge 67, the cover 66 pivots about its edge which engages the ledge 74 with the hinge tabs serving to guide the cover in its pivotal movement. Thus the cover 66 may be readily pivoted to the open position for filling purposes. When it is necessary to empty the reservoir 55 or clean the reservoir, the cover 66 may be readily removed from its position on the reservoir 55 by simply lifting upwardly and disengaging the hinge tabs 72 from the openings 70 and recesses 71.

In order to operate the valve 56 and energize the motor 18, there is provided an operating lever 78 which is somewhat rectangular in configuration having a plastic operating bar 79 positioned along one wall adjacent to the discharge spout 36. The lever 78 includes a pair of parallel arms 78*a* which are connected to the ends of the bar 79. The arms 78*a* and the end of the operating lever remote from the operating bar 79 are pivoted to the machine 11 by means of two pairs of slots 12*a* and 13*a* formed in the base housing and upper housing respectively. Each slot 12*a* is aligned with a corresponding slot 13*a* to form two elongated slots on either side of the machine 11 to provide spaced pivots for the operating lever 78. One of the slots formed by the slots 12*a* and 13*a* is illustrated in FIG. 2.

Within the upper housing 13, the operating lever 78 is formed with a U-shaped loop 80 which is best shown in FIG. 4. The U-shaped loop 80 provides a secondary lever, the end of which is displaced from the fulcrum about which the operating lever 78 pivots. This secondary lever formed by the loop 80 is joined by a connecting link 81 to an actuator 82. The connecting link 81 is a rigid C-shaped member which is hooked under the U-shaped loop 80 at the lower end and over a pin 83 which is carried by the actuator 82.

The actuator 82 is an elongated channel-shaped member which has one end positioned on the upper end of the valve member 60 and the other end received on the actuating button 84 of a small electrical switch 85. For the purpose of guiding the movement of the actuator 82, the upper housing 13 is formed with a downwardly projecting lug 86 which extends through an opening in the actuator 82. When a downward pressure is applied to the operating bar 79, the lever 78 is rotated in a counterclockwise direction as seen in FIG. 2 thereby causing the connecting link 81 to draw the actuator 82 downwardly. As a consequence of the relative spring pressure in the switch 85 and the valve 56 as well as the location of the pin 83 with respect to the valve member 60 and the actuating button 84, the right hand end of the actuator 82 as viewed in FIG. 2 moves downwardly initially causing the switch 85 to be closed. Immediately thereafter, the actuator 82 pivots about the actuating button 84 causing the left end of the actuator 82 to move downwardly depressing the valve member 60 and moving the valve 56 to its liquid flow position.

Referring to the circuit diagram of FIG. 8, there is shown schematically the circuit connections between the motor 18, the heater 50, and the switch 85. It should be understood that the lather-making machine 11 is energized by a conventional power cord 87 which may be plugged into a power outlet. The motor 18 and the switch 85 are connected in series across the two conductors of the power cord 87 as shown in FIG. 8. The heater 50 is connected in parallel with the motor 18 and switch 85. It should be evident, therefore, that as soon as the line cord 87 is connected to a power supply, the heater 50 is energized thereby heating the lather generator 19 and reservoir 55. When the switch 85 is closed by the action of the actuator 82, the motor 18 is connected in circuit and begins to rotate the agitator 32.

This sequence of operations is extremely desirable since it causes the motor **18** to be energized upon closure of the switch **85**. This in turn causes the agitator or impeller **32** to begin rotating. Immediately thereafter, the valve **56** opens permitting the liquid soap solution to flow downwardly onto the rotating agitator **32**. The fact that the agitator is rotating prior to the introduction of the soap solution results in immediate and complete conversion of the soap solution into lather. The lather is caused to move toward the discharge spout **36** by virtue of the deep threads formed on the screw-type agitator **32**. The priming disc **40**, positioned between the agitator **32** and the discharge spout **36**, causes a back pressure to be built up as it inhibits discharge of the lather because of the restricted area of the notches **41**. This back pressure prevents the lather from being discharged until it is of a firm and adequately heavy consistency to properly wet and soften the hair which is to be shaved. The arrangement of the notches around the periphery of the priming disc **40** so that they are out of alignment with the discharge spout **36** provides assurance that no soap solution or wet lather which might have been present within the lather generator **19** will be thrown directly through the discharge spout **36**. By employing a number of very restricted openings **41**, the agitator **32** must generate a foam which builds up to a proper pressure and corresponding consistency before it may pass out of the discharge spout **36**.

In considering the relative cross sectional areas of the tubular member **33**, the notches **41** in the priming disc **40**, and the discharge spout **36** as shown in FIG. 7, it will be noted that the total area of the notches **41** is considerably less than the cross sectional area of the discharge spout **36**. In addition, the area of the discharge nozzle **36** is considerably less than the cross sectional area of the tubular member **33**. As a consequence of this arrangement, the priming disc **40** builds up the back pressure in the lather generator within the member **33**. When the lather of the proper consistency is discharged through the notches **41** into the space between the priming disc **40** and the closure member **35**, the lather may pass in a free, unobstructed manner through the discharge spout **36** since it is of substantially greater cross sectional area than the notches **41**. Accordingly, the consistency of the lather remains unchanged as it is directed from the area beyond the priming disc **40** through the discharge spout **36** into the hand of the operator.

Considering again the operating mechanism for the switch **85** and the valve **56**, it should be understood that the present approach has many advantages both from the standpoint of simplicity, convenience, and ease of operation. The actuator **82** is mounted in a more or less floating relationship to the switch **85** and the valve **56** since it is merely guided on the lug **86** and is urged downwardly by means of a connecting link which is pivoted with respect to the actuator **82**. Thus, there is provided a linkage system which is substantially friction free and which actuates the motor and the valve for the foam generator in a desired sequence. In addition, the actuator is positioned adjacent the discharge spout where the operator may control the operation of the machine and receive the lather in the same hand. The simplicity of the linkage and the low friction associated therewith is particularly important in view of the fact that the operator is applying force to the operating bar **79** by means of his thumb alone and, therefore, may not exert as much force as might otherwise be available if the machine were to be operated with one hand and the lather delivered to the other hand.

Although there has been illustrated and described a preferred embodiment of the present invention, it will be understood that various changes and modifications may occur to those skilled in the art. It is intended in the appended claims to cover all those changes and modifications which fall in 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 lather generating apparatus comprising a tubular lather generating conduit, an elongated screw of uniform diameter received within said conduit in closely spaced relation to the inner walls of said conduit, liquid soap supply means to deliver liquid soap on the top of said screw, an outlet spout connected to one end of said conduit, the cross sectional area of said spout being substantially less than the cross sectional area of said conduit, a motor driving said screw in a direction to move lather produced by said screw toward said outlet spout, a baffle plate positioned within said conduit between one end of said screw and the end of said conduit to which said spout is connected, said plate comprising a disc the outer edges of which engage the inner wall of said conduit, spaced notches around the periphery of said plate through which said lather passes moving from said screw to said spout.

2. The lather generating apparatus of claim **1** wherein said conduit is formed with an end wall extending substantially perpendicular to the axis of said conduit, an opening in said wall communicating with said spout, said baffle plate being flat and having a peripheral flange extending toward said spout, the cross sectional area of said opening being as large as the cross sectional area of said spout, said flange engaging said end wall and spacing the flat portion of said plate from said end wall, said spaced notches being in said flat portion and extending into said flange to permit lather to pass around said plate and through said spout.

3. The lather generating apparatus of claim **2** wherein said notches are displaced from said spout and have a total cross sectional area less than said spout to produce a back pressure within said conduit.

4. The lather generating apparatus of claim **1** wherein the total cross sectional area of said notches is less than the cross sectional area of said outlet spout.

5. A lather producing device comprising a horizontally disposed cylindrical tubular member having an impeller mounted for rotation therein to generate lather from a liquid soap solution, said impeller forcing said lather axially of said member through a discharge spout at one end thereof, said spout having a small cross sectional area as compared to said member and being positioned above the axis of said member, a baffle plate positioned within said member and extending across said member between said spout and said impeller to develop a back pressure in said lather before it is delivered to said spout, a plurality of small notches in said plate positioned around the periphery thereof to permit passage of said lather to said spout, the total areas of said notches being substantially less than the cross section area of said spout.

6. A lather producing machine comprising a cylindrical tubular member having a closure at each end, a cylindrical screw positioned coaxially within said member, power means connected to rotate said screw with the peaks of the threads formed thereon in closely spaced relation to the inside wall of said member, a discharge spout communicating with an opening in one of said closures, said opening being positioned above the axis of said member and having a small cross section as compared to said member, a baffle plate positioned within said member between said screw and said opening and having substantially the same diameter as the interior of said member, a series of spaced notches around the periphery of said plate, said notches being displaced with respect to said opening.

7. A lather generating machine comprising an upper housing and a base housing assembled together to form two compartments, a cup-shaped reservoir supported on said base housing, a lather generator within said base housing connected to said reservoir by a valve controlled conduit, a lather discharge spout extending from said generator through the wall of said base housing, a motor mounted on said base housing and connected to drive an agitator within said generator, an operating lever having a handle

adjacent to said discharge spout and being pivotally mounted with respect to said upper and base housings, actuating means within said upper housing connected to said lever to operate said valve and a switch for said motor, said actuating means comprising an elongated actuator having one end engaging said switch within said upper housing and the other end extending outside of said upper housing into engagement with an operating portion of said valve, and a cover for said reservoir, said cover comprising a one-piece plastic member having hinge tabs extending from one edge thereof, said upper housing being formed with a ledge through which openings and guide recesses extend, said edge of said cover being supported for pivotal movement on said ledge with said tabs extending into said openings and guiding recesses.

8. A lather making machine comprising a frame having a motor and a liquid soap reservoir supported thereon, a lather generating chamber positioned below said reservoir, valve means controlling the flow of liquid from said reservoir to said chamber, an agitator positioned within said chamber and driven by said motor, said agitator being positioned to receive liquid passing through said valve means from said reservoir, an operating lever pivotally supported by said frame and having a handle at its free end, a lather discharge from said chamber opening adjacent said handle whereby said handle may be depressed with the said hand that is positioned beneath the discharge to receive said lather, and means connected to said lever to sequentially operate said motor and said valve means upon rotation of said lever whereby said motor initiates rotation of said agitator prior to the discharge of

liquid from said reservoir onto said agitator through said valve means.

9. The lather making machine of claim 8 wherein said means connected to said lever comprises an actuator for operating said valve and a switch for controlling operation of said motor, said lever being connected to apply a force to said actuator between said switch and said valve causing said actuator to close said switch and to open said valve after said switch has been closed.

10. The lather making machine of claim 9 wherein said lever and said actuator are connected by a link which is pivotally related to both said lever and said actuator, said valve having an axially movable valve member to open said valve, said switch having a button operable to close the contacts of said switch, said actuator being supported directly by said valve member and said switch button.

11. The lather making machine of claim 8 wherein said means connected to said lever comprises an actuator, means interconnecting said lever and said actuator to apply a force from said lever to said actuator at a point intermediate the ends thereof, said force turning said actuator first in one direction to close a switch for operating said motor and then in another direction to operate said valve.

References Cited

UNITED STATES PATENTS

2,323,377	7/1943	Campbell	259—25
2,510,955	9/1950	Brown	259—45
3,215,642	11/1965	Levy	252—359.5

ROBERT W. JENKINS, *Primary Examiner.*