Sept. 15, 1925. 1,554,148

R. H. WAGER

LATHER FORMING DEVICE

Original Filed Jan. 18, 1923 2 Sheets-Sheet 1

FIG. 1.

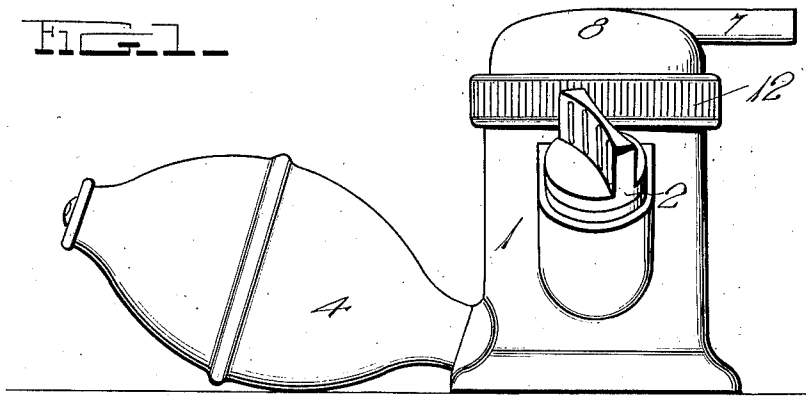


FIG. 2.

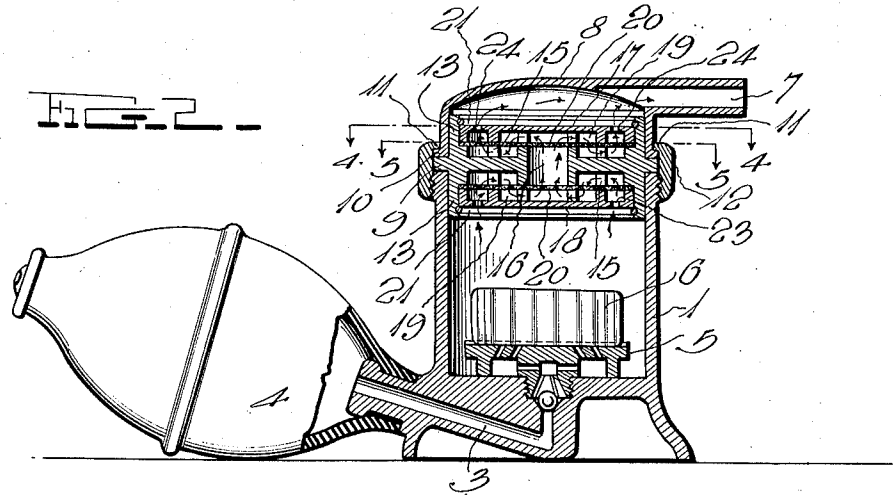
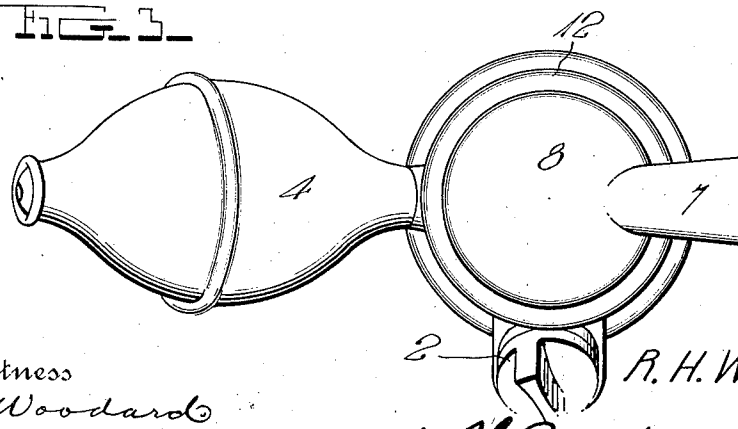


FIG. 3.



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FIG. 4.

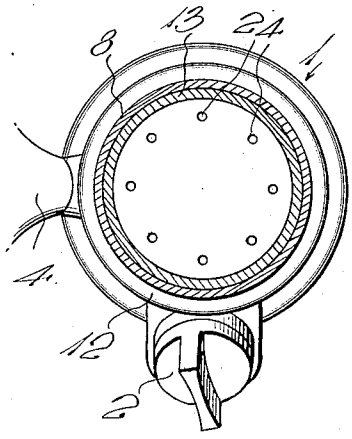


FIG. 6.

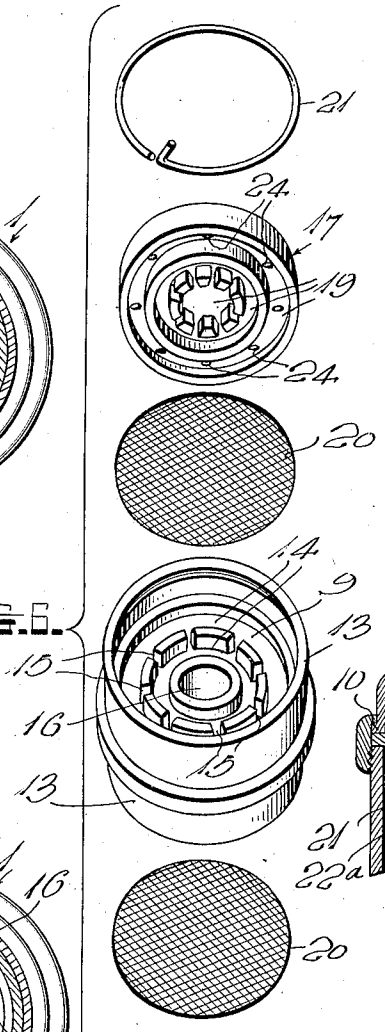


FIG. 8.

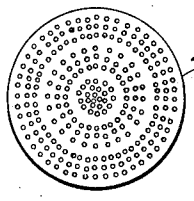


FIG. 7.

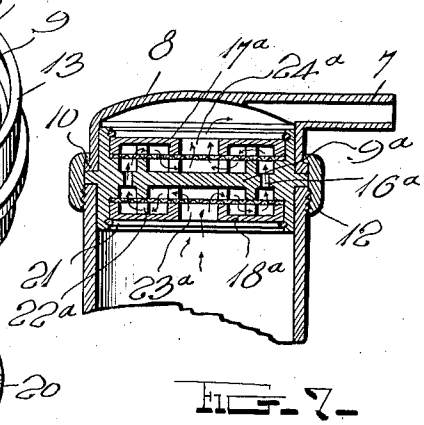
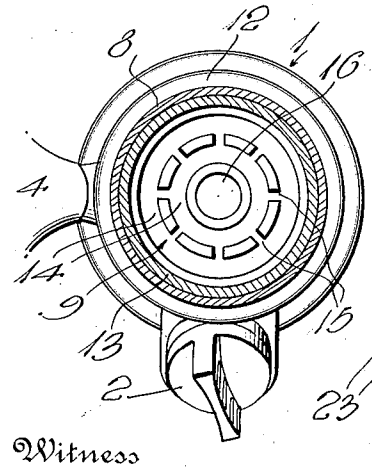
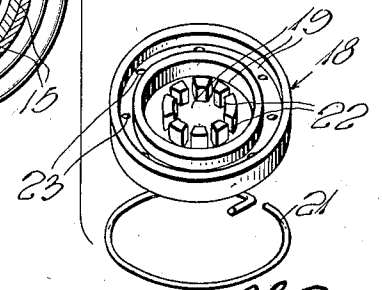


FIG. 5.





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UNITED STATES PATENT OFFICE.

ROBERT HUDSON WAGER, OF JERSEY CITY, NEW JERSEY.

LATHER-FORMING DEVICE.

Application filed January 18, 1923, Serial No. 613,414. Renewed February 14, 1925.

To all whom it may concern:

Be it known that I, ROBERT H. WAGER, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Lather-Forming Devices; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in lather forming devices of the general character shown by my pending U. S. applications, Serial No. 544,059, filed March 15, 1922, and Serial No. 578,401, filed July 29, 1922. The method or process of forming shaving lather described herein is claimed in my application Serial No. 699,133 filed March 13, 1924, which is a division of application Serial No. 554,059.

The principal object of the present invention is to provide a greatly simplified screening means through which the soap bubbles are forced by air pressure to condense them into a thick creamy lather.

With the foregoing in view, the invention resides in the novel subject matter hereinafter described and claimed, the description being supplemented by the accompanying drawings.

Figure 1 is a side elevation of a lather forming device constructed in accordance with the invention.

Figure 2 is a vertical sectional view.

Figure 3 is a top view.

Figures 4 and 5 are horizontal sections as indicated by lines 4—4 and 5—5 of Fig. 2.

Figure 6 is a disassembled perspective view of the bubble condensing means.

Figure 7 is a duplicate of a portion of Fig. 2 with the exception that it illustrates a modified form of construction.

Figure 8 is a plan view of a different form of screen which may be used if desired.

In the drawings above briefly described, the numeral 1 designates a suitable container having a removable plug 2 by means of which it may be filled to the desired extent with water. The lower end of this container is provided with a valved air inlet 3 connected with an appropriate bulb 4 whereby air may be discharged into the water to form bubbles of soap, a suitable soap supporting platform 5 being carried by the bottom of the container 1 to hold a cake of soap 6. The platform may be constructed in any desired form to cause the incoming air to whirl the water about the cake of soap to produce soap bubbles. These bubbles are forced through a bubble condensing means described below and are finally discharged through an outlet spout 7 carried by a removable cap 8, in the form of a thick creamy lather.

The bubble condensing means includes a central plate 9 whose peripheral portion is clamped upon the upper end of the container 1 by the cap 8. The lower edge of this cap is preferably provided with an outstanding rib 10 engaged by an internal shoulder 11 on a retaining ring 12 which is threaded around the upper end of the container. Since this ring rotates independently of the cap 8, it will be seen that the latter may be turned to properly position the spout 7, before said ring is tightened, thus enabling said spout to be always positioned at the most desirable point.

In the form of construction shown in Figs. 1 to 6, the plate 9 is provided on each of its upper and lower sides with a continuous annular flange 13 and said upper and lower sides of the plate are each formed with a pair of channels 14 which are preferably concentric with the flanges 13, the channels at each side of the plate being in communication at spaced points by means of appropriate ports 15. At its center, the plate 9 is formed with a passage 16 for a purpose to appear.

Removably held within the flanges 13 and positioned above and below the plate 9 respectively, are two additional plates 17 and 18 having channels 19 which are opposed to the channels 14 above described. Screens 20 which may be formed of wire mesh as shown in most views, or of a perforated plate as shown in Fig. 8, are clamped between the central plate 9 and the additional plates 17 and 18 so that these screens extend across the several sets of channels. Spring rings 21 are preferably employed to hold the plates 17 and 18 in place so that they in turn clamp the screens 20. This arrangement however permits easy disassembling for cleaning purposes.

The several plates 9, 17 and 18 are formed with an appropriate number of radial ports 22 which place certain of their grooves in communication with each other to force a

zigzag travel of the soap bubbles through first one screen and then the other, the lower plate 18 being formed with inlets 23 while the upper plate 17 is formed with outlets 24.

The course of the bubbles is well shown by the arrows in Fig. 2 and it will be seen that they enter through the perforations 23 into the outermost channel of the plate 18. From this channel, they pass upwardly through the lower screen 20, then inwardly through certain of the ports 22, then pass downwardly through the screen, travel again inwardly through certain ports 22 and for the second time pass upwardly through the screen, being then received in the passage 16. From this passage, the suds are forced to pass upwardly through the upper screen 20, then downwardly through this screen, and again upwardly therethrough, before they are discharged through the outlet perforations 22. By this time, the soap suds have been condensed to a thick lather for discharge through the spout 7 and can be conveniently used for shaving.

In the form of construction shown in Fig. 7, the bottom plate 18^a is formed with a central inlet 23^a, the central plate 9^a is formed with a plurality of passages 16^a, the upper plate 17^a is formed with a single outlet passage 24^a, and a slightly different arrangement of ports 22^a is employed to cause the proper travel of the suds. This form of construction in some instances may prove more advantageous than the construction above described, as there is little danger of the water in the container 1 reaching the inlet opening 23^a if the container should be tilted excessively.

Attention is directed to the fact that the suds condensing means has been greatly simplified over the constructions previously used, yet its efficiency has been in no manner impaired. It may further be pointed out that this condensing means may be bodily removed from the container when the cap 8 is detached, after which the several parts may be readily disassembled for cleaning, which is essential from time to time, in order to prevent clogging of the screens. When reassembling the device for use, the spout 7 may be properly positioned with ease, before tightening the retaining ring 12.

Excellent results have been obtained from the details disclosed and they may therefore be followed if desired. I wish it understood however that within the scope of the invention as claimed numerous minor changes may be made.

I claim:

1. A lather forming device comprising bubble generating means, and condensing means for the generated bubbles comprising a screen, and means at opposite sides thereof for directing the bubbles alternately in opposite directions through different portions of said screen.

2. Bubble condensing means for a lather forming device comprising a screen, and channeled plates at opposite sides thereof for directing the bubbles alternately in opposite directions through different portions of said screen.

3. Bubble condensing means for a lather forming device comprising a pair of plates formed with opposed channels, screening means between the channels of one plate and those of the other, one of said plates having a bubble inlet, the other plate having a remote outlet, and ports establishing communication between adjacent channels of each plate, the ports of either plate being opposite a solid portion of the other plate.

4. Bubble condensing means for a lather forming device comprising a plate having a continuous flange extending from one side and formed in said side with a plurality of channels, a second plate removably held within said flange and having channels opposed to the aforesaid channels, and a screen clamped between said plates and extending across said channels, one of said plates having an inlet while the other is formed with an outlet; each plate having ports placing adjacent channels in communication, the ports of either plate being opposite a solid portion of the other plate.

5. Bubble condensing means for a lather forming device comprising a central plate having a continuous flange on each side and formed with a plurality of channels in each of said sides, two additional plates held removably within said flanges respectively and formed with channels opposed to the aforesaid channels, and screens clamped between said additional plates and said central plate and extending across the channels thereof; said plates being formed with an inlet and an outlet and with ports controlling the passage of the bubbles.

6. Bubble condensing means for a lather forming device comprising a central plate having a continuous flange on each side, a pair of additional plates held removably within said flanges respectively, the three plates having openings through which the bubbles pass and screens between the central plate and the other plates.

In testimony whereof I have hereunto affixed my signature.

ROBERT HUDSON WAGER.