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M. C. PARNELL
SOAP SUDS PRODUCER
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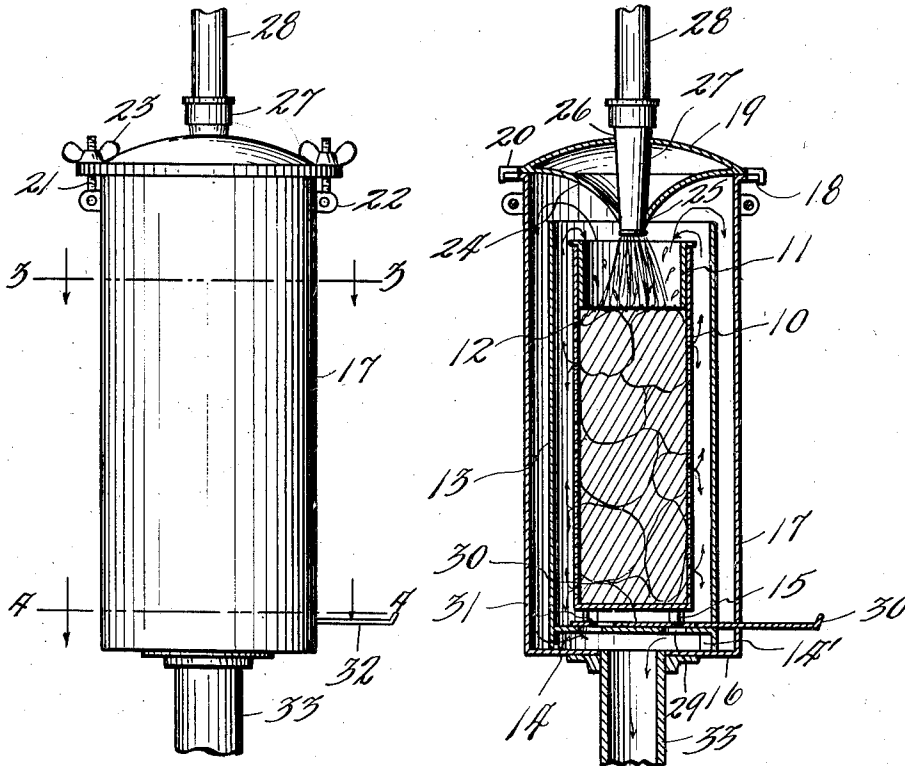


Fig. 1.

Fig. 2.

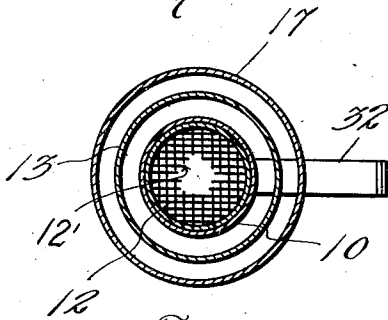


Fig. 3.

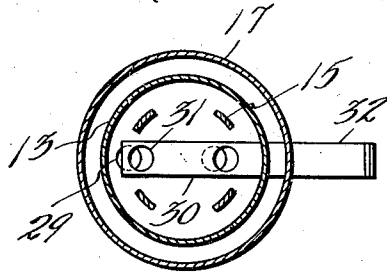


Fig. 4.

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SOAPSUDS PRODUCER.

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This invention relates to new and useful improvements in soap suds producers.

The object of the invention is to provide a device into which the nozzle of a hose may be inserted for supplying water, whereby soap contained in the device may be dissolved and soap suds produced in an efficient, economical and simple manner as well as in sufficient quantities for the purpose desired.

Another object of the invention is to provide means for containing a supply of soap and arranged for the passage of water there-through, together with a re-circulating jacket surrounding said means, whereby a surplus of water escaping from said means may be re-circulated through the soap and waste of water and dilution avoided.

A further object is to provide a valve for permitting a portion of the surplus water to escape from the jacket in case an over-supply is attained or in case it is desired to dilute the suds or permit a portion of the water to pass through the producer.

A construction designed to carry out the invention will be hereinafter described together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings, in which an example of the invention is shown, and wherein:

Fig. 1 is an elevation of a producer constructed in accordance with my invention,

Fig. 2 is a vertical sectional view of the same,

Fig. 3 is a cross-sectional view on the line 3—3 of Fig. 1, and

Fig. 4 is a cross-sectional view on the line 4—4 of Fig. 1.

In the drawings the numeral 10 designates a cylindrical basket or container having a countersunk cap 11 fitting in its upper end and provided with a screen bottom 12. The basket below the cap has its sides perforated or it may be formed of any foraminous material; its bottom however, preferably being imperforate. The basket is disposed concentrically in a cylindrical jacket 13, larger in diameter so as to provide an annular vertical space therebetween. The jacket has a bottom 14 and the bottom of the basket is supported above the bottom 14 on short legs 15 fastened to said bottom 14.

The jacket 13 has legs 14' and rests concentrically on the bottom 16 of a cylindrical

casing or shell 17 which extends well above the jacket and has an outwardly directed annular flange 18 on its upper edge. A dome cover 19 has a marginal flange 20 overhanging and surrounding the flange 18. Thumb bolts 21 are pivoted between ears 22 on diametrically opposite sides of the casing so as to be swung upwardly through slots in the flanges. Wing nuts 23 on the bolts are screwed down on the flange 20 to fasten the cover on the casing.

To the under side of the lid is fastened a conoidal deflector 24 curving downwardly from the edge of the casing and having a central opening 25 at its apex which is at the top of the jacket. The cover has an opening 26 directly over the opening 25 for receiving the nozzle 27 of a water-hose 28. The end of the nozzle projects through the opening and overhangs the cap 11 so as to discharge directly into the latter.

The basket is filled with lumps of soap up to the screen bottom 12 of the cap, said cap acting to hold the soap in the basket and permitting the water from the nozzle to pass down through the soap. The lumps may be of hard or soft soap and vary in size from one to three inches in diameter. These lumps being irregular in shape will leave voids or passages therebetween. The bottom 14 has a pair of spaced openings 29 and a slide valve 30 is provided with openings 31 spaced to register with the openings 29. The valve has a handle 32 passing through the jacket and the casing. By sliding the valve the openings are restricted or increased and thus the quantity of water passing therethrough is controlled. A discharge pipe 33 is inserted in the bottom 16 of the casing.

In using the soap producer water under the usual city pressure, say of from forty to sixty pounds, is ejected with considerable force from the nozzle 27 and the stream passes through the opening 12' in the center of the screen 12. This water passes between and over the lumps of soap and forms a soapy solution which is forced out through the numerous perforations of the basket 13 which basket may be of wire mesh if desired. The suds or soapy solution thus forced into the jacket 13 will rise therein and contact with the deflector 24. The deflector 24 will guide the suds or soapy solution into the annular space between the casing 17 and the jacket. The suds will pass down the casing,

under the bottom 14 of the jacket and escape through the pipe 33.

The basket being perforated permits the soapy water to pass into the jacket and should the water rise in this jacket, it will pass over the upper edge of the cap 11 and into the basket, rather than flowing into the casing because the jacket extends above the basket. This water will thus be re-circulated through the soap. Also the water which is retained in the jacket has a chance to re-circulate through the perforations of the basket. Actual observations of the producers in operation show that the soapy solution rises in the jacket 13 and the more liquid components thereof flow over the edge of the cap 11, there being no back or counter flow from the cap into the jacket. This is probably due to the force of the stream of water which bores its way through the lumps of soap and spends its force more or less radially so that the solution is driven through the perforations of the basket. The slide valve is opened sufficiently, when necessary, to permit a portion of the soapy water to escape. The conoidal deflector is useful in guiding the rising suds away from the nozzle and into the casing. The constant ejection of the soapy water through the perforations causes the water in the jacket to be agitated and thus suds are produced. When the water from the nozzle is shut off the basket immediately drains, the surplus water passing through openings 29 into the pipe 33. By this arrangement the soap is not wasted, nor is a surplus of suds produced.

Various changes in the size and shape of the different parts, as well as modifications and alterations may be made within the scope of the appended claims.

What I claim, is:

1. In a soap suds producer, the combination of a foraminous soap basket, means for supplying water directly into the upper end of the basket, a jacket surrounding the basket and spaced therefrom, the upper end of the jacket extending above the upper end of the basket for causing soapy water from the jacket to overflow into the basket and re-circulate through the soap therein, and a casing surrounding the jacket and spaced therefrom.

2. In a soap suds producer, the combination of a foraminous soap basket, means for

supplying water directly into the upper end of the basket, a jacket surrounding the basket and spaced therefrom, the upper end of the jacket extending above the upper end of the basket for causing soapy water from the jacket to overflow into the basket and re-circulate through the soap therein, a casing surrounding the jacket and spaced therefrom, and an outlet at the bottom of the casing.

3. In a soap suds producer, the combination of a foraminous soap basket, means for supplying water directly into the upper end of the basket, a jacket surrounding the basket and spaced therefrom, the upper end of the jacket extending above the upper end of the basket for causing soapy water from the jacket to overflow into the basket and re-circulate through the soap therein, a casing surrounding the jacket and spaced therefrom, an outlet at the bottom of the casing, a cover fitting on the casing and receiving the water supplying means, and a conoidal deflector under and surrounding the water supply means over the basket and jacket.

4. In a soap suds producer, the combination of a foraminous soap basket, means for supplying water directly into the upper end of the basket, a jacket surrounding the basket and spaced therefrom, the upper end of the jacket extending above the upper end of the basket for causing soapy water to overflow into the basket and re-circulate through the soap therein, the jacket having a bottom provided with openings for discharging water, a valve controlling said openings, and a casing surrounding the jacket and spaced therefrom.

5. In a soap suds producer, the combination of a foraminous soap basket, means for supplying water directly into the upper end of the basket, a jacket surrounding the basket and spaced therefrom, the upper end of the jacket extending above the upper end of the basket for causing soapy water to overflow into the basket and re-circulate through the soap therein, the jacket having a bottom provided with openings for discharging water, a valve controlling said openings, a casing surrounding the jacket and spaced therefrom, and a cover fastened on the casing and supporting the water supplying means.

In testimony whereof I affix my signature.
MAXWELL C. PARNELL.