Jan. 16, 1951 B. A. WOOD 2,538,720

APPARATUS FOR TREATING A SOAP BAR

Filed Dec. 26, 1945

Fig. 1

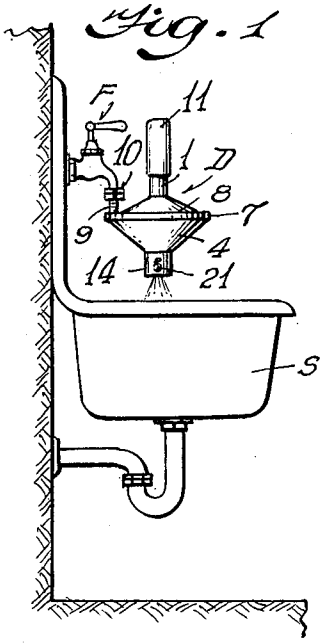


Fig. 2

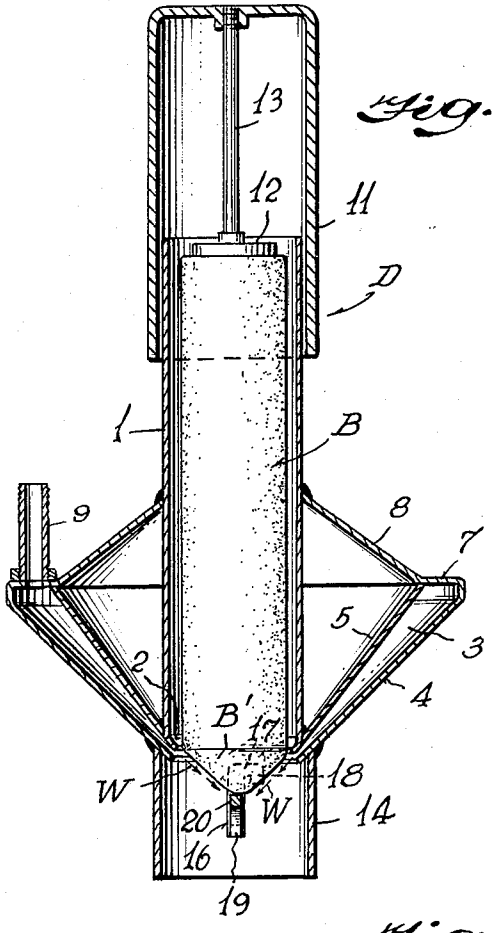


Fig. 3

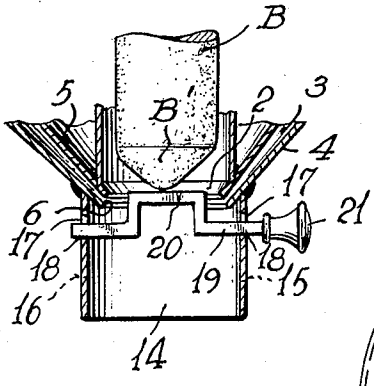
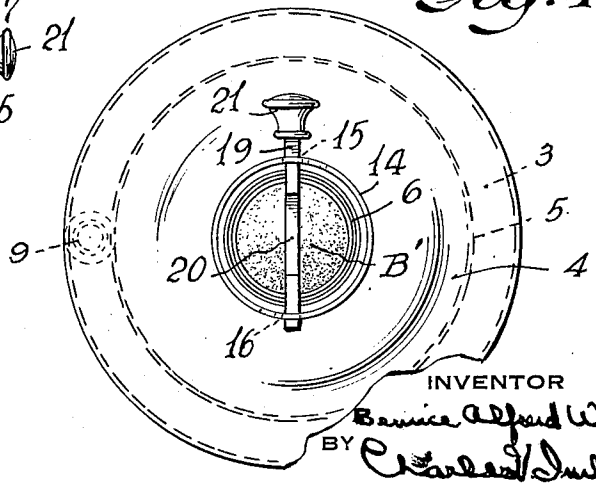


Fig. 4



INVENTOR
Bernice Alfred Wood
BY Charles F. Duby
ATTORNEY

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APPARATUS FOR TREATING A SOAP BAR

Bennie Alford Wood, Memphis, Tenn., assignor, by mesne assignments, to Soapsudzer, Incorporated, Memphis, Tenn., a corporation of Tennessee

Application December 26, 1945, Serial No. 637,265

1 Claim. (Cl. 299—84)

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My invention consists in a new and useful improvement in process of and apparatus for impregnating a liquid with a substance miscible therewith, and is intended more particularly for producing a mixture of soap and water solution for lavation by impinging a jet of water against a mass of soap, thereby eroding the mass by dissolving the soap from the surface of the mass, the resulting mixture flowing off for use. The particularly novel and useful feature of the invention is the character of the jet and the mass and their peculiar relation. The mass has a suitable contour, as for example cylindric, and the jet is annular and co-axial relative to the mass. In the practice of my improved method, the mass is moved axially, preferably by gravity, into the area of jet operation so that the erosion of the mass by the jet occurs progressively axially of the mass. I have demonstrated by actual operation of a device embodying my invention, under ordinary working conditions of a restaurant utensil-cleaning sink, that the desired mixture is produced efficiently and economically, the especially desirable feature being the economic, controlled consumption of the soap. A particularly desirable feature of my invention is the control provided, whereby the movement of the mass of soap relative to the water jet can be interrupted, thereby discontinuing the erosion of the mass, so that the water passes through the device untreated by the soap.

While I have illustrated in the drawing filed herewith and have hereinafter fully described one specific embodiment of my invention, it is to be distinctly understood that I do not consider my invention limited to said specific embodiment but refer for the scope of my invention both as to the process and the apparatus to the claim appended hereto.

In the drawing:

Fig. 1 is a side elevation of a sink with the improved apparatus attached to the sink faucet.

Fig. 2 is a vertical section of the apparatus, the parts being adjusted to position the soap bar in the water jet.

Fig. 3 is a fragmentary vertical section, at right angles to the plane of Fig. 2, the parts being adjusted to position the soap bar out of the water jet.

Fig. 4 is a bottom plan view of the apparatus.

As illustrated in the drawing, the device D has a centrally disposed cylindrical casing 1 to receive the soap bar B therein, its lower end being formed with an inwardly extending peripheral flange 2 at an angle of approximately 45° to the vertical axis of the bar B. Suitably mounted concentric with the casing 1 is the annular water chamber 3 formed by the downwardly converging outer wall 4 and inner wall 5, the latter merging into the flange 2, and forming the annular nozzle 6. The water chamber 3 is closed by the annular cover plate 7 extending between the upper edges of the walls 4 and 5, and connected with the casing 1 by an annular skirt 8. The chamber 3 is provided with an inlet pipe 9 tapped into the cover 7 and having the coupling 10 for attachment to the faucet F of the sink S. A cap 11 is provided for the casing 1, with a follower 12 for the soap bar B, which may be adjustable by stem 13 threaded in the cap 11. A concentric nozzle 14 depends from the water chamber 3 and is provided with two axial diametrical slots 15 and 16, each having a transverse extension 17 at the top of said slots with a shallow dependent socket 18 at the end of said extension. The extensions 17 are oppositely turned from the slots 15 and 16. A rod 19 bridging the nozzle 14 is received in slots 15 and 16 and has an upwardly extending U-shaped portion 20 which the lower end B' of the soap bar B contacts when the bar B is placed in the container 1. The rod 19 has a suitable operating handle 21 on one end outside the nozzle 14.

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From the foregoing description of the details of construction of my improved apparatus, its use and operation in the practice of my improved process will be obvious. When the apparatus D has been mounted on the faucet F of the sink S, as illustrated in Fig. 1, the coupling 10 being attached to the faucet F and thereby connecting the pipe 9 of the water chamber 3 with the faucet F, the soap bar B is placed in the casing 1 and the cap 11 is placed over the top of the casing 1, the follower 12 resting on the upper end of the bar B, and the lower end B' of the bar B resting on the U-shaped portion 20 of the rod 19. When, as shown in Fig. 2, the rod 19 is placed at the lower ends of the slots 15 and 16, the lower end B' of the bar B is positioned below the horizontal plane of the annular nozzle 6, and when water is supplied by the faucet F through pipe 9 to the water chamber 3, an annular jet is induced through nozzle 6 impinging upon the end B' of the bar B. Due to the conicity of the chamber 3 and nozzle 6, this jet of water, indicated by the arrows W, from the nozzle 6 is an inverted cone

tending to erode the end B', dissolving the soap into the flowing water, the mixture of soap and water flowing from the device D through the nozzle 14, for use. When, as shown in Fig. 3, the rod 19 is placed in sockets 18, the lower end B' of the bar B is positioned above the horizontal plane of the nozzle 6, and the flowing water passes through nozzle 6 and out of the nozzle 14 without impinging upon the end B' of the bar B, so that the water is untreated by the soap.

Having described my invention, what I claim is:

In apparatus for treating a soap bar by a water current to produce a washing fluid composed of soap and water, the combination of a vertically disposed casing having an inwardly turned peripheral flange on its lower end for receiving the bar therein for gravity feed through said end; an inverted frusto-conical casing forming a water chamber mounted on and disposed about said first casing and said second casing having its lower open end disposed about said flange to provide a circular jet opening between the flange and the end of the chamber for passage of the water current at an acute angle to the vertical axis of the first casing; a rigid inlet pipe attached to and projecting into said water chamber for attachment to a water supply pipe and for supporting the apparatus; a discharge nozzle depending from said second casing and concentric about said jet opening; and a rod vertically adjustable in and bridging said nozzle for supporting the soap bar.

BENNIE ALFORD WOOD.

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