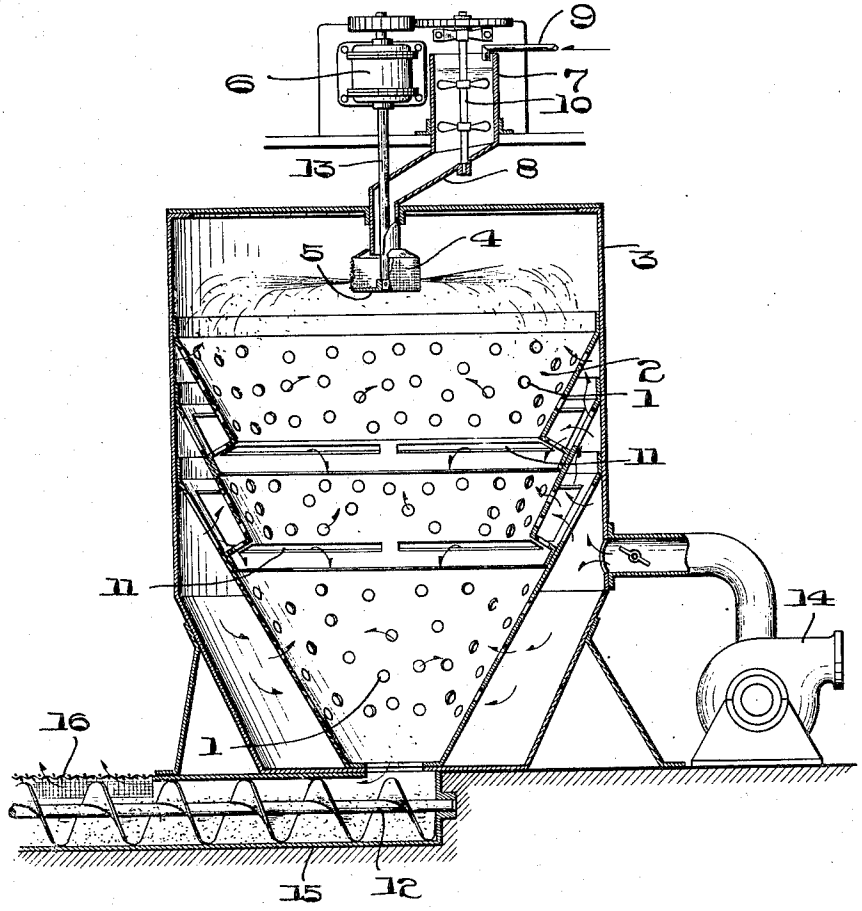
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APPARATUS FOR MANUFACTURING A FIBROUS SOAP

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APPARATUS FOR MANUFACTURING A FIBROUS SOAP

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2 Claims. (Cl. 159—4)

This invention relates to means for manufacturing a fibrous soap, which consists in pouring a stream of melted ground soap into a meshed or perforated vessel rotating rapidly in a closed chamber, subjecting it to centrifugal force by introducing air into the lower peripheral portion of the chamber; suspending in a heated atmosphere the melted liquor of the soap scattered from the meshed or perforated vessel and thereby solidifying it in a fibrous shape. The object thereof is to obtain a soap of beautiful appearance easy to dissolve and free from any danger of crumbling and scattering as loose particles.

The annexed drawing shows diagrammatically an example of the apparatus embodying the present invention in practice.

The powdered, granular and flaky soaps have hitherto been known as the class of soaps having comparatively good solubility. However, the powdered soap does not dissolve so quickly in spite of the area of its contact surface being comparatively great, because the particles stick together due to the adhesiveness of their surfaces. Moreover, there is the ever present tendency of the powder to float on the surface of the water in an agglomerated form. As to the granular and flaky soaps, they have so small an exposed surface area that it takes them a pretty long time to dissolve completely. In the present invention, the melted ground soap manufactured by the present method is poured in a continuous stream into a perforated vessel rotating quickly in a closed chamber and is subjected to centrifugal force by passing heated air or the like into the lower peripheral portion of the chamber. Then, the melted liquor of the soap projected through the apertures of the vessel is suspended in a dehydrating heated atmosphere and solidified in a fibrous form. Thus, by removing the above-mentioned defect it is possible to produce simply in a short time by continuous operation a soap which has a beautiful appearance and such good solubility as not to crumble or be scattered as loose particles, without any fear of the particles affecting the health of an operator as in the practice of the method of manufacturing powdered soap.

The following is the explanation of an example of using this invention in actual practice with reference to the drawing:—

In a closed chamber 3 the conical inner walls 2 pierced with numerous small holes 1, are attached, put one upon another in spaced relation in the form of a staircase, so as to form an annular space 11 at the seam. Chamber 3 is provided at the ceiling with a rotatable vessel 5 which has a wire net 4 stretched around it. The vessel is connected to the shaft 13 of an electric motor 6 so as to be rotated thereby very quickly. A fixed leading pipe 8 is connected with the bottom of a tank 7, which has a stirrer 10 operated together with said shaft, opens in the rotatable vessel 5, the tank being equipped with an electric heater or other heating devices.

Melted soap is supplied to the tank 7 from an inlet pipe 9 and delivered into the quickly rotating vessel 5 through the leading pipe 8, stirring it with the stirrer 10, operated by the said motor so that said melted soap may be projected through the wire net 4 by centrifugal force. At the same time, a current of cooled or heated air is introduced into the chamber from a lower peripheral portion thereof with a fan 14 and projected in the form of jets through the holes 1 of the perforated conical wall 2, so that a spray of melted soap is suspended in the atmosphere in the conical chamber to be solidified in a fibrous form. Then, it is swept downward by the air current entering from the annular space 11 and conducted to a transportation chamber 15 of channel form provided with a screw conveyer 12. A wire net 16 or coarse cloth is stretched over the upper part of said transportation chamber to carry the soap outward by projecting air through the meshes. The same result may be obtained by the cyclone separator system.

With this invention, the shape of the product may be changed suitably by regulating the adhesive quality, water content and quantity of the melted soap introduced into the rotatable vessel, the speed of rotation and the size of the meshes of the rotatable vessel

Having now fully described our invention, we claim:—

1. In apparatus for manufacturing fibrous soap, having a chamber provided at the upper portion thereof with a rotatable means for centrifugally projecting soap in fluid form into said chamber and at the lower portion of the sides thereof a peripherally disposed air supply means, the combination of a perforate conical apron occupying the lower portion of said chamber and the major portion of the sides thereof over said air supply means and reaching upwardly toward the level of said rotatable soap projecting means in order to cause the incoming air from said air supply means to pass inwardly through the perforations in the form of a plurality of obliquely directed air jets, and a perforate member fixedly associated with a portion of said rotatable means so as to rotate

therewith and rapidly project the soap centrifugally into said chamber toward the sides and perforated conical apron in the form of a large number of simultaneously formed soap fibres.

2. Apparatus for manufacturing fibrous soap according to claim 1, wherein the perforate conical apron is provided in the form of a plurality of stepped concentric and perforated conical members, so as to cause a whirling and churning throughout the chamber of the air currents introduced through the perforations of said stepped and perforated conical members.

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