June 17, 1930. S. D. EMBREE 1,764,009

SECTIONAL SOAP CAKE AND METHOD OF MAKING SAME

Filed April 17, 1926 2 Sheets-Sheet 1

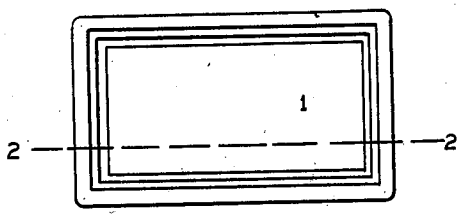


FIG 1

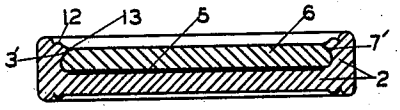


FIG 2

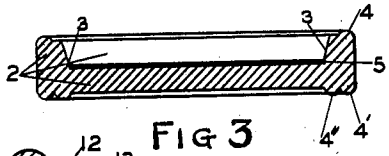


FIG 3



FIG 4

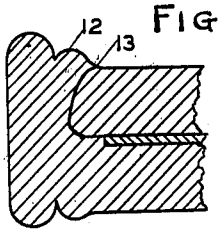


FIG 5

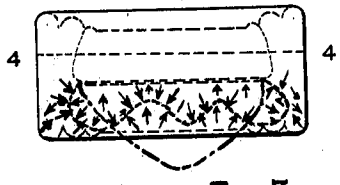


FIG 7

FIG 6

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SECTIONAL SOAP CAKE AND METHOD OF MAKING SAME

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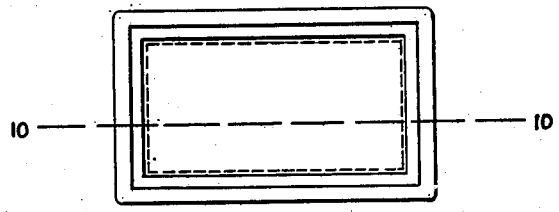


FIG 8

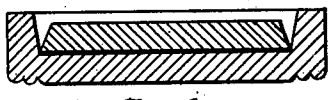


FIG 9



FIG 12



FIG 10

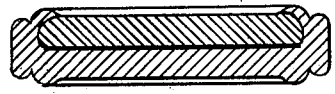


FIG 13

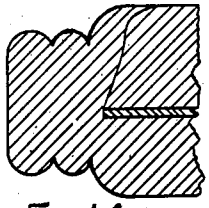


FIG 14

FIG 11

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UNITED STATES PATENT OFFICE

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SECTIONAL SOAP CAKE AND METHOD OF MAKING SAME

Application filed April 17, 1926. Serial No. 102,666.

This invention relates to the production of soap in cake form and more particularly to sectional cakes of soap which are adapted to contain advertising legends and other indicia and articles.

The principal objects of the invention are the provision of the effective and economical advertising medium in lieu of cards, hand bills, signs and the like now commonly employed, and/or the effective reinforcement of the cake of soap to prevent the premature fracture thereof prior to its substantially complete consumption besides other advantages hereinafter set forth.

I am aware that it has been proposed heretofore to cast soap in various shapes, as for example, in the form of letters or designs of various sorts and then to cast around the same a soap of a different color. Again it has been proposed to construct a built-up cake composed of superposed layers in which are severally exhibited a series of designs or characters. None of these products, however, possesses the properties and advantages to be found in my improved cake as hereinafter described. My invention is fully described in the following detail description and drawings forming a part thereof in which

Figure 1 is a plan view of a cake of soap constituting an embodiment of my invention;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is a transverse section of a cake showing the same immediately after the recess is formed therein under the press and also having an insert card fitted in the bottom of said recess;

Fig. 4 is a section similar to Fig. 3 but showing a plug positioned on the top of said insert ready for the final pressing operation;

Fig. 5 is an enlarged detail fragmentary section of a portion of the finished cake shown in Fig. 2;

Fig. 6 is a central vertical section of a die box and plunger showing the partially formed cake and plug in position therein;

Fig. 7 is an end view of a relatively thick cake of soap illustrating the flow of the soap in the zone beneath the recess during the initial pressing operation employed to form such recess;

Fig. 8 is a plan view of a modified form of cake;

Fig. 9 is a vertical section of a cake having a recess freshly pressed thereinto and showing the insert card and plug in position therein prior to the final pressing operation;

Fig. 10 is a section on the line 10—10 of Fig. 8;

Fig. 11 is a vertical central section of a die box and plunger with a partially finished cake of the same type illustrated in Fig. 10 shown in position therein;

Fig. 12 is a vertical section of a further modification showing a freshly recessed cake having an insert and plug positioned therein prior to the final pressing operation;

Fig. 13 is a similar section of the same cake after the final pressing operation; and

Fig. 14 is an enlarged detail fragmentary section of the finished cake illustrated in Fig. 13.

Referring to the construction shown in Figs. 1 to 5 inclusive, reference numeral 1 designates a cake of soap preferably transparent or translucent, provided with a central recess 2, the same having outwardly flaring side walls 3 and peripherally extending beads 4, 4′, 4″. An insert card or sheet 5 of cardboard, paper or other suitable reinforcing material having selected characters, designs or illustrations displayed thereon, is fitted in the bottom of said recess or cavity and is retained therein by means of a plug member 6 also composed of soap and the same preferably, as originally formed, having vertical side walls 7, the height of said walls being substantially equal to the vertical distance from the top of the insert 5 to the top of the cavity 3. As shown, the bottom of said plug is substantially equal in cross-sectional area to the cross sectional area of the bottom of the cavity 3 and preferably corresponds in configuration thereto.

The finished cake illustrated in Figs. 1 and 2 has its side walls 3′ of the cavity and the adjacent side walls 7′ of the plug deformed in such a manner that the side walls

3 virtually envelop and encase the arched side walls 7' of the plug and effectively prevent its escape. Such a cake is formed by first forming a recessed cake, such as illustarted in Fig. 3, in any suitable die and then positioning in such cavity in the manner shown in Fig. 4, an insert card 5 and then superimposing a plug 6. The cake with its insert is then inserted into a die box 8 as shown in Fig. 5, having a die plunger member of the configuration illustrated in Fig. 5 wherein the same is subjected to the pressure of such plunger, as the same moves downwardly, until the surface of the peripheral groove 10 is in intimate engagement with the rib 4 on the top of said cake. When the plunger is in this latter position, the pressure exerted by the protruding face 11 of said plunger will have caused the deformation of the walls 3 of said cake and walls 7 of said recess so that the same will have assumed the configuration shown in Fig. 2, and as a consequence, the said cake will be securely locked or anchored in the cake 2, so that its accidental displacement will be prevented. Furthermore, during such pressing operation, a supplemental bead or rib 12 substantially coincident with joint 13, will have been formed by the deformation of the upper portions of the side walls of the cake by the groove 14.

As illustrated in Fig. 7, the depth of the recess 2 in the cake should be such that when the same is formed by means of a plunger caused to engage a solid slab of soap, of about the thickness of the distance between the bottom of the cake and the dotted line 4—4, not only will the sides of the cake be forced upwardly, but the bottom half of the cake particularly in the zone below the plunger which was employed to form the recess, will be caused to move or flow, hence instead of forming a volcanic-like cone such as illustrated in the dot and dash lines, the tip of such cone will be flattened and form hillocks such as illustrated in the dotted lines shown immediately below the recess. As a consequence, the tendency for the surface layer of the soap on the outside of the cake immediately below the recess to erode or wear during the washing operation with the resultant fracture of the entire cake and the escape of the plug from the central portion of said cake, is reduced to a minimum and consequently, a cake wherein the recess is of sufficient depth to insure the deformation or flattening substantially in the manner shown of the cone which would normally otherwise form if a layer of soap immediately beneath the recess were of sufficient thickness to permit thereof, is capable of being substantially entirely consumed by repeated washing operations without any tendency of the central layer of soap beneath the recess or the plug to escape from the cake. Preferably the depth of the recess should be not less than one-half the depth of the entire cake from the extreme top at the margin thereof to the bottom in order to effectively produce the aforesaid flattening or deforming of the soap in the zone beneath the recess.

The operation of forming the modified cake shown in Figs. 8 to 10 and 14 inclusive, as well as in Figs. 12 and 13 inclusive, is identical in so far as the pressing operation is concerned with that above described in connection with the earlier figures of the drawing, except, of course, that the configuration of the recess in the plugs and die members are modified in the manner illustrated.

The term "worked" as used in the appended claims has reference to soap which has been extruded by pressure and moved during the pressing operation and ultimately solidified. By a comparison of transparent soap in slab form, such as used for making my improved cake, with the worked soap portions of my improved cake characteristic differences are observable and especially the fact that it becomes noticeably less transparent upon being worked due to the upsetting of the original crystalline or molecular structure as well as becoming softer or more impressionable and more pliant or flexible.

While transparent display soaps embodying my invention are especially desirable because of the advertising value imparted by the attractive display inserts which may be embedded therein, as characters, prints or literature of various kinds or emblems, nevertheless, the invention when embodied in ordinary nontransparent soaps in which the insert may consist of a reinforcing card element that would materially prolong the period of use of the soap by preventing premature fracture prior to the substantially complete consumption thereof, as well as affording an excellent medium for premium or prize inserts of various kinds.

By employing an insert of cork, balsa wood or other extremely light material, it is possible also to produce a floating cake from nonfloating soap slabs or to materially lighten a cake made from floating soap slabs.

The permanent interlocking of the plug with the cake is ordinarily not only difficult when employing soap members, but is expensive and complicated if not almost impossible. The plug of my improved cake will not work loose from aging or during the washing operation and when card reinforcing inserts are used, the cake can be practically entirely consumed without, as aforestated, any fracture thereof occuring.

In Fig. 4 an additional rib 14' is shown as extending around the marginal edge of the plug on the opposite side of the joint 13 from the rib 12 and this serves to further conceal or camouflage the joint, such latter rib, of course, being formed by having a die or

plunger provided with a corresponding recess at the proper position to form the same.

Having thus described my invention, what I claim and desire to obtain by United States Letters Patent is:

1. The method of making a sectional cake of soap which consists in positioning a plug member of soap and of predetermined size and shape in a recess formed in a cake member also of soap, said recess being of a depth of not substantially less than half that of the cake member and substantially the entire area of the soap directly below the recess comprising homogeneously worked soap, then successively compressing first the plug and then compressing the plug and cake jointly while effecting rubbing engagement therebetween in order to upset and deform the respective side walls of the cake and plug and thus effectively interlock said plug and cake and prevent the accidental displacement of the plug during a washing operation.

2. The method of making a sectional soap cake, which consists in forming a recess in a slab of soap of such a depth and while employing sufficient pressure to extrude substantially the entire area of soap directly beneath said recess and to extrude upper marginal portions of said cake upwardly, positioning a plug member also of soap in said recess, said plug member being of a thickness greater than the depth of said recess, then first exerting pressure on said plug to press the same downward and snugly fit the same in said recess and then simultaneously pressing the insert and the side walls of the cake to a sufficient extent to effect rubbing engagement between the respective adjacent walls of the insert and of the cake and to upset the adjacent side walls of said plug and said cake member out of a plane and simultaneously forming rib members substantially coincident with the joint on the top of the sectional soap cake which is between the plug and said cake member.

Signed at New York, in the county and State of New York this 14th day of April, 1926.

SPENCER D. EMBREE.