

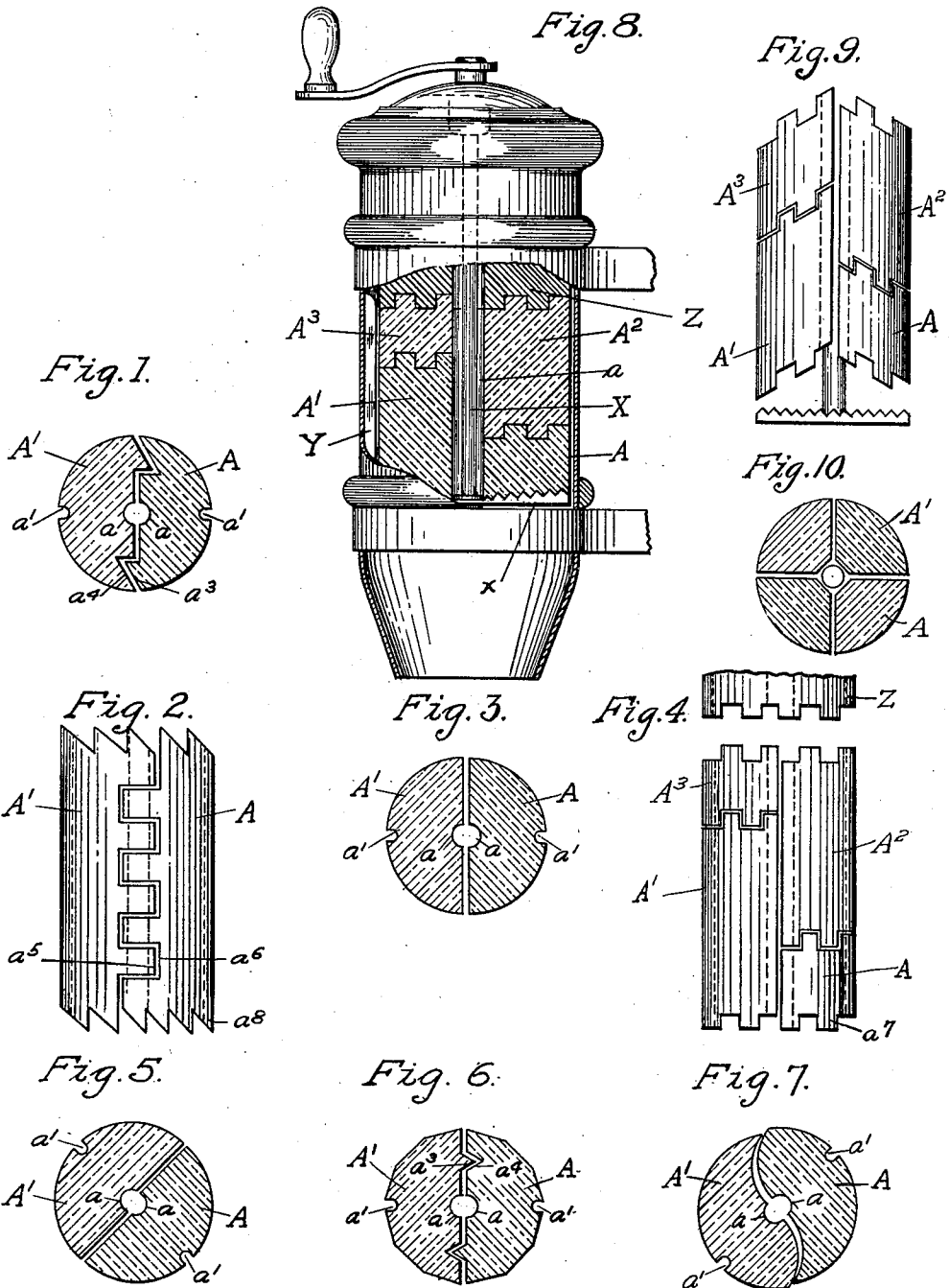
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CAKE OF SOAP.

APPLICATION FILED MAY 13, 1908.

999,211.

Patented Aug. 1, 1911.



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# UNITED STATES PATENT OFFICE.

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## CAKE OF SOAP.

999,211.

Specification of Letters Patent.

Patented Aug. 1, 1911.

Application filed May 13, 1908. Serial No. 432,655.

*To all whom it may concern:*

Be it known that we, CHARLES H. J. DILG, and JONATHAN O. FOWLER, citizens of the United States of America, and residents of New York, in the county and State of New York, have invented a certain new and useful Cake of Soap, of which the following is a specification, the same being 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.

This invention relates to molded or sequacious articles, as cakes of soap, adapted to be used in that class of appliances ordinarily designated as soap suppliers or dispensing machines, and particularly in apparatuses by means of which solid blocks of material may be disintegrated and furnished for use in the form of fine shavings or in a comminuted condition, and it has for its object the provision of a cake that may be used in the desired manner, and which is preferably so formed that a portion thereof will engage a cooperating portion of the machine and another part thereof will abut a corresponding face of another adjacent cake.

With this object in view, the invention consists in certain novel features of construction and arrangement of parts, all of which will be hereinafter described and pointed out in the drawings which accompany and form a part of the specification, and in which—

Figures 1, 3, 5, 6, 7 and 10 represent sectional views of cakes of soap constructed according to our invention, Figs. 2, 4 and 9 are side views of the same, and Fig. 8 is an elevation, partly broken away, showing cakes or sections of soap, in which our invention is embodied, positioned for use in one form of a soap dispensing device. The views in cross section of cakes of soap shown in Figs. 2, 4, 8, and 9 may correspond to any of the Figs. 1, 3, 5, 6, 7 and 10.

Like letters of reference indicate like parts in all views.

Referring particularly by reference symbols or characters to the drawings, A denotes a bar or cake or section of soap or other pliant or molded material constructed in accordance with one embodiment of the invention, which, as shown, is preferably substantially or practically semi-cylindrical in

shape, and if desired, of greater length than diameter, and which, when assembled with the section A', forms one member of a dual cake of soap A, A'. Each of these sections is preferably so formed as to have an inner face or side adapted to register with the inner longitudinal face or side of an adjacent cake, and to engage the same in a detachable or interchangeable relation, and each section also has an outer, and preferably curved, face or side extending outwardly, or bowed out, from each edge of its inner face, and being preferably respectively angular thereto, in order to ordinarily conform in contour substantially with the shell of the machine. Each section is also ordinarily so shaped as to have an axially disposed recess or groove *a*, or a portion of its boundary surface lying away from the machine axis, providing for the use of a spindle X operating a cutter *x*, and one, or each of two or more adjacent sections, is preferably formed with a portion adapted to conform in contour with, and to engage, a retaining part of the shell of the machine, as, in the present embodiment, the longitudinal slot or keyway *a'* located at one side thereof, and constructed and arranged to engage a retaining member or cooperating portion of the machine, as the rib or spline Y of the machine shown in Fig. 8, in order to hold the cake in position during the process of cutting.

By means of the construction as set forth above, each section or member of a dual or pluripartite cake of soap is adapted, without deformation, to engage with a similarly formed section, or sections, located contiguous thereto, in order to retain the same in operative position, (in case the last named cake, or cakes, is not provided with means to engage the machine case, as the recess or groove *a*), during the process of cutting, or in the course of the operation of the machine.

The inner faces of the sections of the cakes are ordinarily made so as to be corresponding in contour, and the same may be flat, as shown in Figs. 3 and 5, either with or without being in alinement, or curved, as illustrated in Fig. 7, or of an uneven conformation, as shown in Figs. 1 and 6, but in all of these various embodiments of the invention, the inner faces are formed by means of surfaces projecting outwardly toward the circumference from the axial recess or groove *a*

on a longitudinal face thereof, whereby are formed a plurality of abutting walls, one or more being located on each side of the groove or recess, which plurality of independent abutments are constructed and arranged to engage with corresponding abutments of an adjacent cake.

By the use of the above described plurality of abutting walls formed on a longitudinal face of a soap section, and adapted to engage corresponding walls on a longitudinal face of a second cake, or, in other words, by the employment of irregularities on the inner face of one cake to interfit with preferably similarly formed or corresponding irregularities on the inner face of a second cake, one section, if held in position by the slot or keyway  $a'$  and the rib or spline Y, will prevent the rotary, lateral or sidewise movement of a second sectional cake of soap during the operation of the revolving cutter  $x$ .

The inner faces of one of the sections may be made with a depression in the surface, as  $a^4$ , to be engaged by a projection  $a^3$  formed on the other cake of soap, and extending ordinarily longitudinally along the face thereof, if desired, and the outer face of the same may be angular in conformation, as shown in Fig. 6. Or one of the cake sections may have a laterally disposed projection  $a^5$  to engage a corresponding recess or depression  $a^6$  formed in the adjacent face of a contiguous cake, with or without the use of the longitudinal projection.

We prefer to place the cake sections in the machines, in such a manner that the joints will be broken, or so that the division between the cakes will not extend in one plane through the column formed by the same. Thus when cakes of soap are placed in this manner in the machine and pressed in a downward direction, as by the weight Z, upon the cutter being rotated, the soap cakes A and A' will first be operated upon by the same, then, as the cakes become ground away, the sections A' and A<sup>2</sup> will be attacked by the cutter or disintegrator, and afterward the cakes A<sup>2</sup> and A<sup>3</sup> will be operated upon by the said cutter. By arranging cakes of soap in this manner, the breakage of the thin, almost cut away, portions of the soap cakes is prevented, the same being supported by the cakes above and to one side of the same, and consequently wastage of the soap is prevented and a finely divided product of granulated, or thin shavings of, soap of uniform and similar quality is secured.

In some cases the slot or keyway  $a'$  to engage the rib or spline Y may be dispensed with, as, for example, in the style of soap dispensing machines in common use, where the cake of soap is rotated against a stationary cutter, there will be no

occasion to form the cakes of soap with the said slot or keyway. In machines of this character, if one sectional cake of soap be rotated, its inner face will abut and carry around the opposite section, and so hold the same in proper position for cutting. In such instances also, the axial groove or recess  $a$  may be dispensed with, if desired, and the cakes may preferably be formed with interlocking end portions as  $a^7$ ,  $a^8$  of similar size and contour in order that either end of a cake may be interchangeably and reversibly interlocked with a second cake.

Manifestly the sections of our pluripartite cylindrical column of cakes or sections may be more than two in number as in Fig. 10, in which case each section will, in cross section, be approximately of a sector shape. In instances like these, instead of employing a groove on one face of each section, the ends or apices of the bodies of the sectional cakes may be cut away so as to form a face lying away, or at a distance from, the axis of the machine in order to provide room for the spindle of the disintegrating device.

In some cases, as in Fig. 9, we prefer to construct the cakes so that the end faces of the same shall form an angle, other than a right angle, with the longitudinal axis of the cake and of the machine. In these instances the face of the cutter may lie at a right angle to the longitudinal axis of the machine. In the other examples shown, the face of the cutter is preferably made so as to form an angle, other than a right angle, with the longitudinal axis of the machine, as in Fig. 3.

We wish it to be understood that we do not desire to be limited to the exact details of construction shown and described, for, obviously, modifications will occur to a person skilled in the art.

What we claim as our invention is:—

1. A cake section adapted for use in a dispensing machine, having an outer peripheral face or side and a longitudinal inner face or side having projections and adapted to detachably and interchangeably register with an inner longitudinal face or side of an adjacent section.

2. A cake section, adapted for use in a dispensing machine, having an outer peripheral face or side and a longitudinal inner face or side having projections and adapted to detachably and interchangeably register with an inner longitudinal face or side of an adjacent cake section, the ends of the cake section being provided with interlocking means.

3. A cake of practically cylindrical shape comprising a plurality of sections adapted for use in a dispensing machine having a cutter, each section having an outer face or side to lie adjacent to the shell of the machine, and an inner longitudinal face or side

adapted to register with an inner longitudinal face or side of an adjacent cake section, one cake section being greater in height from the cutter than one at the side of the same, one at least of said sections having means to engage a part of the machine to prevent rotation of the said section.

4. A cake having a central orifice and comprising a plurality of sections adapted for use in a dispensing machine, each section having an outer face or side to lie adjacent to the shell of the machine, and an inner longitudinal face or side adapted to register with the inner longitudinal face or side of an adjacent section to hold the same in position during the process of cutting, the top of a section at one side of the machine being farther from the bottom of the machine than the top of a section on the other side.

5. A cake having a central orifice and comprising a plurality of sections adapted for use in a dispensing machine, each section having an outer face or side to lie adjacent to the shell of the machine, and an inner longitudinal face or side adapted to register with the inner longitudinal face or side of an adjacent section to hold the same in position during the process of cutting, the top of a section at one side of the machine being farther from the bottom of the machine than the top of a section on the other side, one at least of the said sections having means to engage a part of the machine to prevent rotation of the said section.

6. A piece of soap adapted for use in a dispensing machine having an outer peripheral face or side to lie adjacent to the shell of the machine and an inner face constructed and arranged to detachably engage, without deformation, another sidewise disposed piece of soap, the bottom faces of the two said pieces of soap lying in different planes.

7. A cake comprising a plurality of sections adapted for use in a dispensing machine, the said cake having divisions therein lengthwise and crosswise, the longitudinal division between the sections lying in one plane, and the crosswise divisions between the sections lying in different planes.

8. A cake comprising a plurality of sections adapted for use in a dispensing machine, the said cake having divisions therein lengthwise and crosswise, the longitudinal division between the sections lying in one plane, and the crosswise divisions between the sections lying in different planes, the top of a section at one side of a machine being farther from the plane of the bottom of the machine than the top of a section on the other side.

9. A cake comprising a plurality of sections adapted for use in a dispensing machine, the said cake having divisions therein lengthwise and crosswise, the longitudinal

division between the sections lying in one plane, and the crosswise divisions between the sections lying in different planes, the ends of the sections being provided with interlocking means to detachably and interchangeably engage similarly formed ends of other sections.

10. A cake comprising a plurality of sections adapted for use in a dispensing machine, the said cake having divisions therein lengthwise and crosswise, the longitudinal division between the sections lying in one plane, and the crosswise divisions between the sections lying in different planes, the inner longitudinal face or side of one section being adapted to interlock with the inner longitudinal face or side of another section.

11. A cake section adapted for use in a dispensing machine, having a recess adapted to engage a retaining member of the machine to hold the cake section in position during the process of cutting, and also having an inner longitudinal face or side adapted to register and engage with an inner longitudinal face or side of an adjacent cake section with an interlocking action.

12. A cake section adapted for use in a dispensing machine, having a cutter, and having a face providing for the use of a spindle operating the cutter, a surface of said cake section being adapted to detachably engage sidewise a side face of a second cake section with an interlocking action.

13. A cake section adapted for use in a dispensing machine, having a surface adapted to detachably engage sidewise a side face of a second cake section with an interlocking action.

14. A pluripartite, practically cylindrical, body composed of sections, each being adapted for use in a dispensing machine, and having a surface provided for the use of a spindle operating a cutter, each section of said body being adapted to engage another section, the lines of division between the sections lying opposite to each other being in different planes.

15. A pluripartite, practically cylindrical, body composed of sections, each being adapted for use in a dispensing machine, each section of said body being adapted to engage another section, the lines of division between the sections lying opposite to each other being in different planes, the ends of the sections being provided with interlocking means.

16. A cake comprising a plurality of sections adapted for use in a dispensing machine, said cake having divisions therein lengthwise and crosswise, the top of a section at one side of the machine being farther from the bottom of the machine than the top of a section on the other side, one at least of said sections having means to en-

gage retaining means to prevent the rotation thereof.

17. A plurality of pieces of soap, adapted to be held in a soap dispensing machine containing a cutter, and having transverse divisions therebetween, the division extending across the said pieces of soap at a point at one side of the machine being positioned nearer the cutter teeth than the division between the said pieces of soap at a point beyond the longitudinal axis of the machine

and adjacent to the other side of the said machine.

In testimony of the foregoing specification we do hereby sign the same in the city of New York, county and State of New York.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."