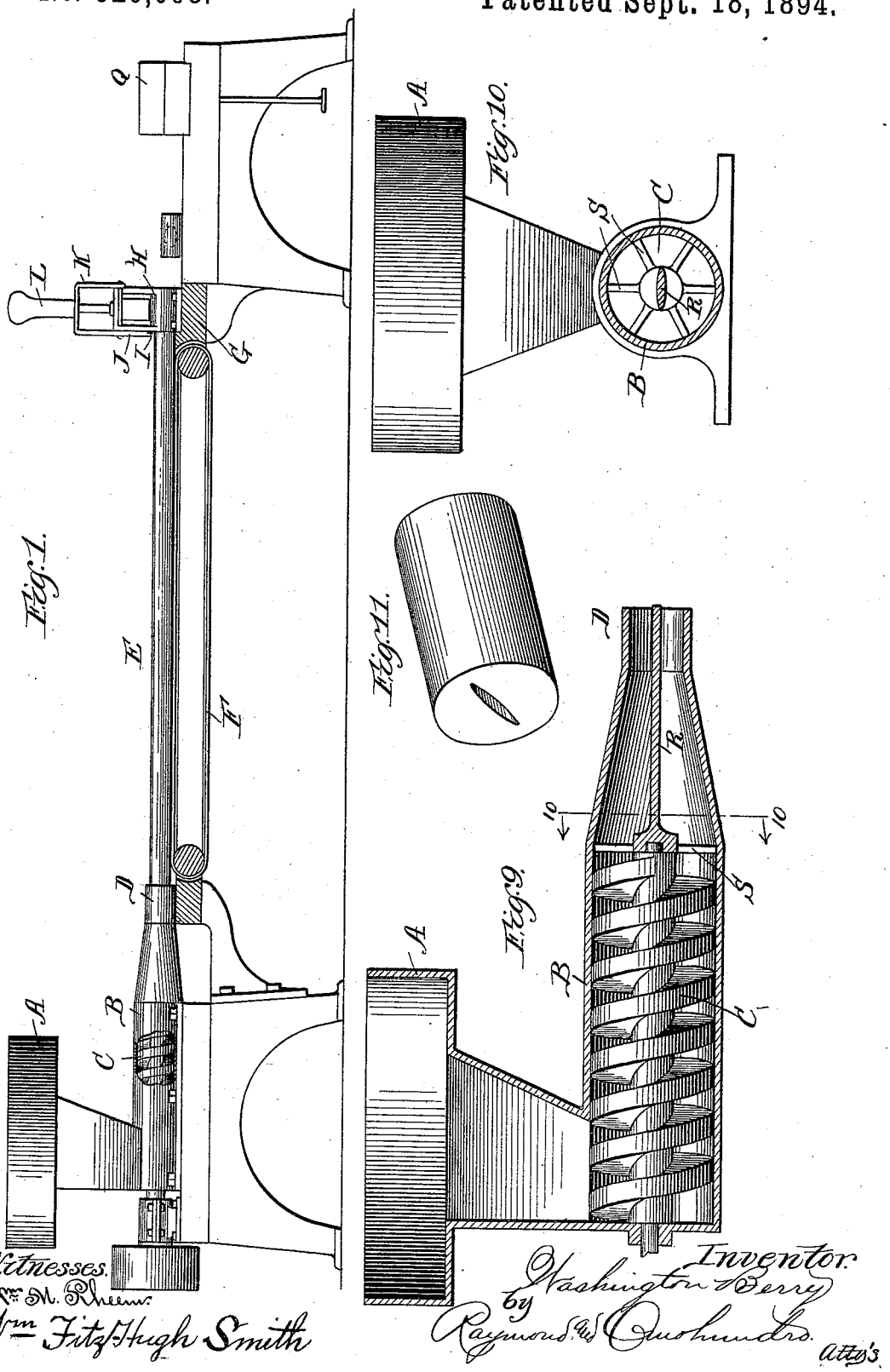
(No Model.) 2 Sheets—Sheet 1.

W. BERRY.

PROCESS OF INSERTING FLOATS IN CAKES OF SOAP.

No. 526,068. Patented Sept. 18, 1894.



Witnesses.
Wm. M. Rheem.
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Inventor.
Washington Berry
by
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Atty's.

(No Model.) 2 Sheets—Sheet 2.

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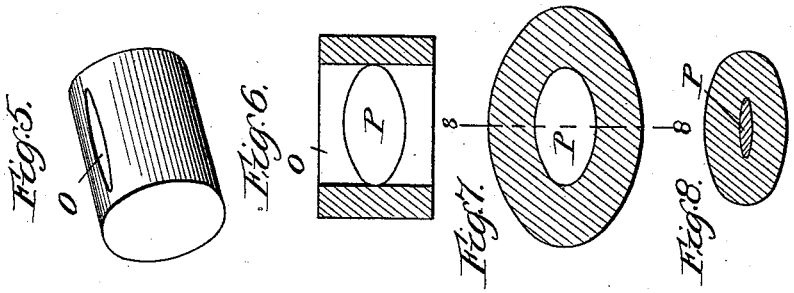

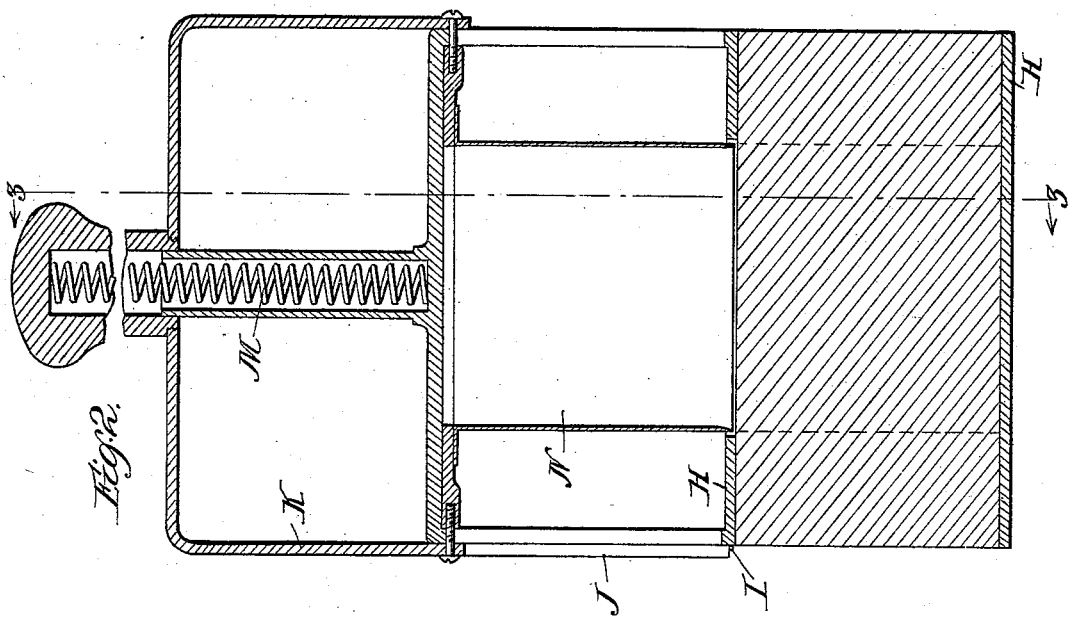

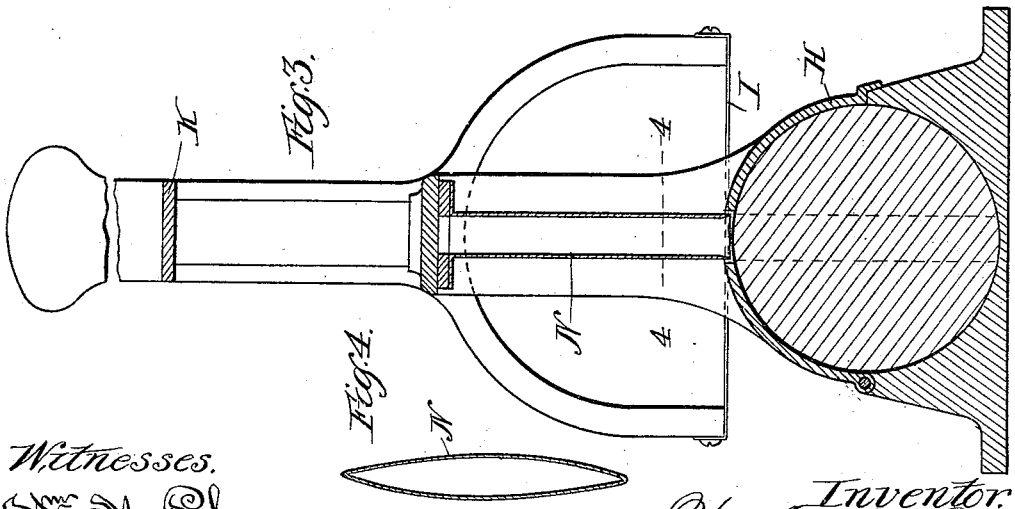

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UNITED STATES PATENT OFFICE.

WASHINGTON BERRY, OF CHICAGO, ILLINOIS.

PROCESS OF INSERTING FLOATS IN CAKES OF SOAP.

SPECIFICATION forming part of Letters Patent No. 526,068, dated September 18, 1894.

Application filed October 28, 1893. Serial No. 489,376. (No specimens.)

To all whom it may concern:

Be it known that I, WASHINGTON BERRY, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Processes of Inserting Floats into Cakes of Soap, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to an improved method of inserting floats into cakes of soap so that the same will float upon water and relates more particularly to what is known as milled soap, which possesses such essential characteristics that it will not float without the aid of artificial means, although, as will be seen farther on, my invention is also applicable to other than milled soaps, that is, non-floating soaps in which the cake blank is cut from a mass.

The milled soaps are generally toilet soaps which are perfumed and formed into cakes while the soap is in a cold, plastic condition and is therefore of such character that it cannot be molded about a float, as may be that class of soaps which are molded while in a hot state, but must be stamped or pressed into shape; and the same is true of that class of non-floating soaps in which the cake blank is cut from a mass and the blank afterward formed into cakes by stamping or pressing.

The object of this invention is a novel and simple method by which the floats may be inserted in cakes of milled and other non-floating soap at small extra expense and without detriment to the appearance of the cake.

This object is accomplished by the devices illustrated in the accompanying drawings, in which—

Figure 1 is a diagrammatic illustration of one form of apparatus for carrying out my process. Fig. 2 is a central longitudinal section through a hand-cutter for severing the blanks and forming the recesses or pockets therein for the floats. Fig. 3 is a transverse vertical section on the line 3—3 of Fig. 2, looking in the direction indicated by the arrows. Fig. 4 is a horizontal section through the cutter-knife taken on the line 4—4 of Fig. 3. Fig. 5 is a perspective view of a cake blank with a pocket or recess formed therein. Fig. 6 is a horizontal section through the cake blank showing the float inserted therein. Fig. 7 is a view similar to Fig. 6 but showing the shape of the cake with the blank inserted; Fig. 8, a transverse vertical section on the line 8—8 of Fig. 7; Fig. 9, a detail vertical longitudinal section through a soap plodder showing my improved devices applied thereto for forming a recessed cake blank; Fig. 10, a transverse vertical section on the line 10—10 of Fig. 9 looking in the direction indicated by the arrows; and Fig. 11 a perspective view of the cake blank formed by the plodder shown in Figs. 9 and 10.

Similar letters of reference indicate the same parts in the several figures of the drawings.

Prior to the steps and order of steps forming the subject of my invention, several preliminary steps are necessary in the manufacture of the soap to prepare it for my apparatus and which form no part of my invention. First, the soap mass or pulp is made in any desired manner and permitted to congeal or cool, after which it is ground or milled, the perfume added and the mass then placed in a plodder from which it is discharged in the form of a long bar or rope from which the cake blanks are cut. Of course in the case of non-floating soaps other than the milled soaps, such as transparent and laundry soaps, which do not require to be milled, the soap is simply made in any desired manner and permitted to cool or congeal in blocks from which the bars or cake blanks are sawed or cut in any desired manner.

At this point my method begins and consists essentially in forming recesses in the blank, afterward inserting the floats of any desired character and finally stamping or pressing the blank into the desired form of cake.

My method may obviously be carried out in many ways and by many different kinds of apparatus, two different forms being shown in the drawings simply for the purpose of illustration.

The first method which I will describe is a

hand method, the cakes of soap being generally formed by hand after the discharge of the bar or rope from the plodder.

Referring now more particularly to Figs. 1 to 8 inclusive, A indicates the hopper of a soap-plodder of any desired character having a cylindrical portion B in which works a conveyer C of ordinary construction and shown more clearly in Fig. 9, by which the soap mass fed into the hopper A is mixed, compressed and forced out of the discharge spout D in the form of a continuous bar E, which preferably is deposited upon a movable apron F by which it is conveyed to a suitable work-table G. On this table is mounted a hand-operated cutter of any suitable character, the one shown being provided with a casing H corresponding in dimensions and contour in cross section with the shape of the rope or bar E, which is generally cylindrical.

In practice, the bar E is generally severed in lengths of three or four feet and fed to the cutter by hand being moved into the cutter a proper distance to form a cake-blank and then severed by some suitable device, such as the wire I, which is arranged transversely of the cutter-frame and stretched between the ends of the yoke J attached to or forming part of a vertically moving frame K which has a handle L attached thereto for convenience of manipulation and is normally held in an elevated position by means of a coiled spring M, or in any other desired manner, the particular features of construction being immaterial. This vertically movable frame K carries a hollow cutter N which is open at both ends, and which, moving down simultaneously with the wire I cuts out and removes from the center of the blank a portion thereof corresponding in shape with the cutter, thus forming a transverse recess, opening or slot O in the blank for reception of the float P. This float P is preferably elliptical in plan view and flat or slightly elliptical in cross-section and may be composed of any suitable material such as cork, wood, or other material that would make a cellular float, or it may be composed of glass, aluminum or any kind of metal or material, which, when made hollow, would serve the purposes of a float by preserving an air-cell of sufficient dimensions in the center of the cake. The prepared blank is then removed by hand from the cutter and the float inserted therein either by hand or machinery, after which the blank with the float therein is placed in a press of some desired construction in which the cake is stamped or pressed to the desired form, the press Q shown in Fig. 1 being simply a diagrammatic representation for the purpose of illustration and is not intended to represent a press of any particular character, as many such are well known in the art to which my invention appertains and to analogous arts and need not therefore be herein particularly illustrated or described.

It will be observed that the cutter N being open at both ends, will be automatically relieved of the soap removed thereby, as upon the next operation the soap filling the cutter will be forced out during the operation; and it is also obvious that while it is preferable that the cutter should cut entirely through the cake of soap and impinge upon the table G or the bottom of the casing H, such operation is not necessary as the cutter need only cut far enough into the cake to provide a position at the center thereof for the float which is of less outside dimensions than the cake, but in either operation that portion of the soap removed is practically substituted by the float, the excess of removal in either case not being objectionable because the completed form of cake is generally oval and the sides and ends are of less thickness than the center of the cake, so that the opening will be closed in the operation of stamping.

In Figs. 9, 10, and 11 I have shown an apparatus consisting of an attachment to the plodder, which does away with the use of the hand-cutter before referred to, forming the rope or bar E with a central longitudinal opening for reception of the floats. This attachment consists of a tongue R of the desired shape and dimensions, in cross section, of the opening to be formed in the cake-blank, which tongue is attached to the spider S which constitutes an end-bearing for the conveyer C, and projects through, and if desired, beyond the spout D of the plodder, so that as the mass is forced out through the spout by the conveyer which is power-operated in any suitable manner, the tongue will occupy a central position within the bar and form a longitudinal hole therein, thus producing a tubular bar or rope E which may be cut by hand, or otherwise, into suitable lengths and the floats be afterward inserted therein and the cake formed in the manner before described.

Whenever it is desired to insert the floats into cakes of non-floating soap which do not require to be milled, such as transparent, laundry, and other soaps, the plodder, before described, may be dispensed with, for with such soaps the common practice is to pour or mold the mass into large blocks or cakes from which, after the same has cooled or congealed, the bars and cake blanks are cut in any desired manner. My invention is of course, however, equally applicable to this class of soaps, for, so far as relates to the broad idea of my invention, it is immaterial how or in what manner the cake blanks are formed and the openings or recesses formed therein.

The importance of my invention will be better appreciated when it is understood that milled soaps are generally used for toilet purposes and are of such character that they will not float in water without artificial aid, and besides, must be manufactured in such manner that the floats must be inserted in them while the cake is in a cold, plastic condition

and cannot be molded therein as in the manufacture of soaps which are molded into cakes while in a hot condition. These floats also possess considerable commercial value in that they effect great saving in the use of the soap, preventing breaking of the soap when worn down to a thin cake, enabling the use of practically every particle of the soap, and also form a place for a permanent advertisement of suitable character.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. The herein described method of inserting floats into cakes of soap, the same consisting in first forming a hollow or recessed cake-blank, then inserting a float in the blank and finally stamping or pressing the blank into a cake, substantially as described.

2. The herein described method of inserting floats into cakes of soap the same consisting in forming a soap blank, next forming a recess in the center of the blank, afterward inserting a float in said recess and finally pressing the blank into the form of a cake, substantially as described.

WASHINGTON BERRY.

Witnesses:
JNO. L. CONDRON,
CHAS. B. BOWEN.