

No. 676,866.

Patented June 25, 1901.

W. BERRY.

APPARATUS FOR INSERTING FLOATS IN CAKES OF SOAP.

(Application filed Oct. 18, 1899. Renewed Dec. 3, 1900.)

(No Model.)

Fig-1.

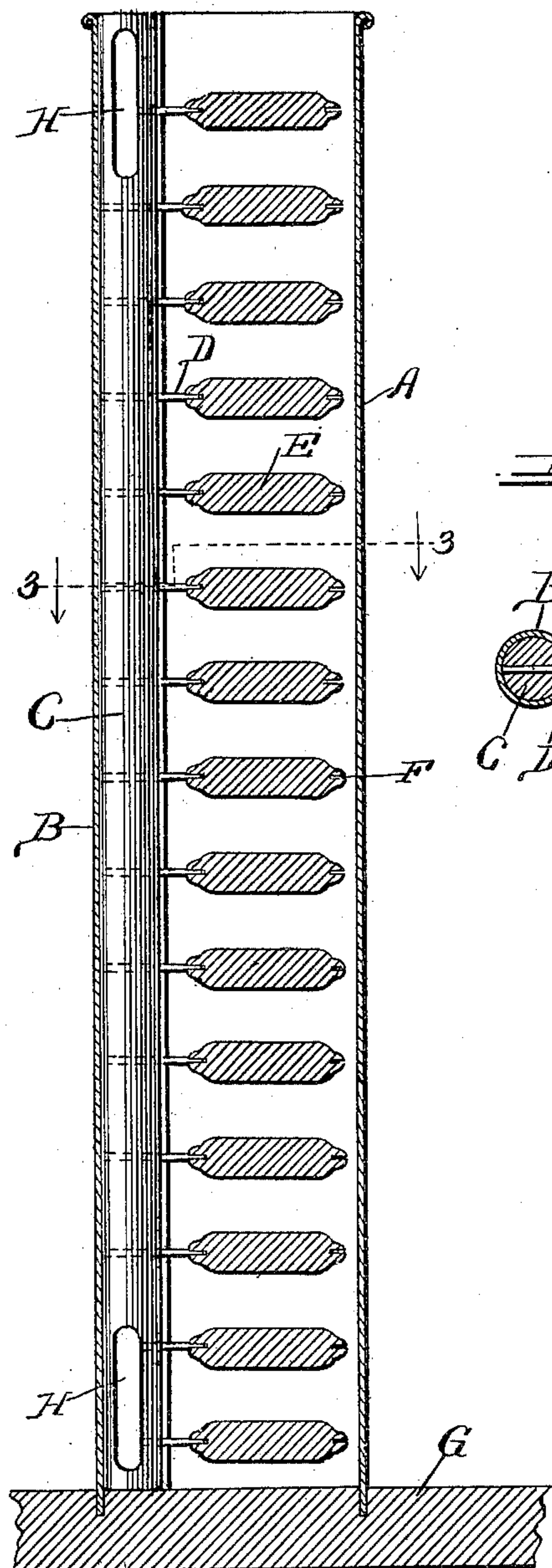


Fig-2.

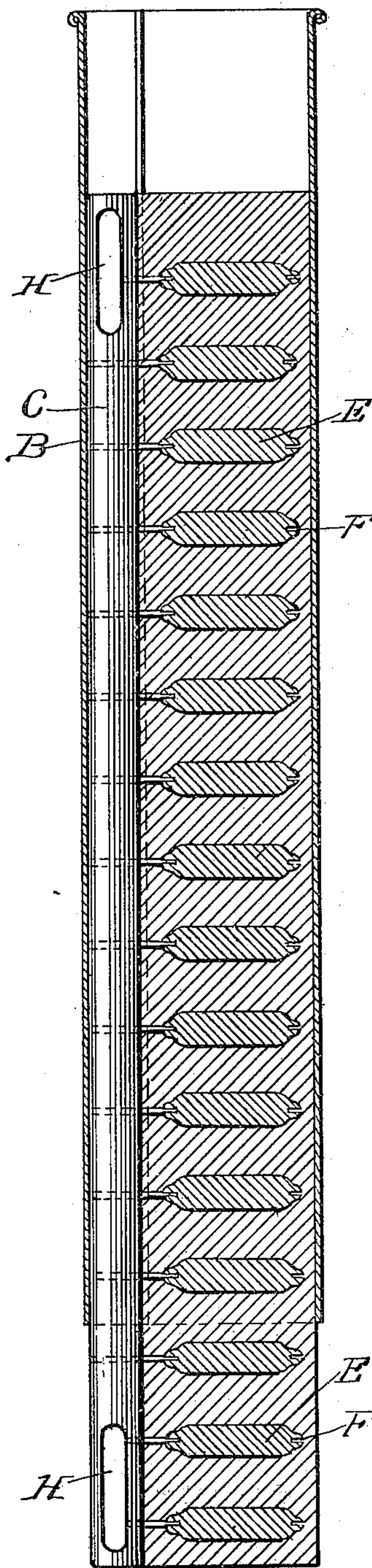
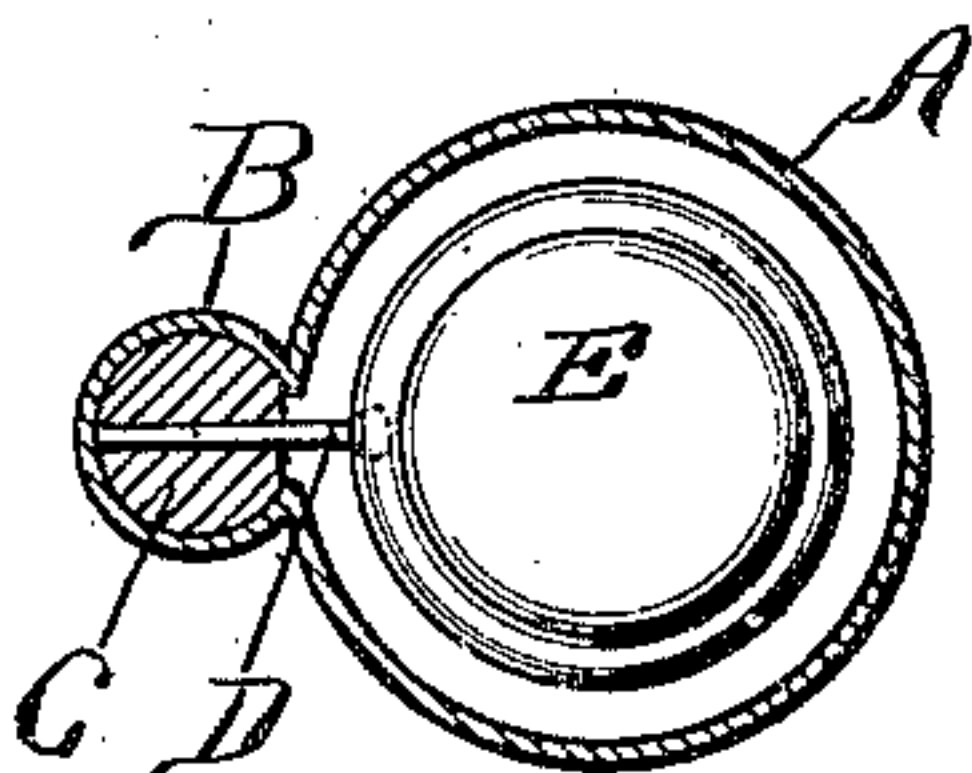


Fig-3.



WITNESSES—  
J. B. Keir  
Ira D. Perrod.

by Washington Berry  
Raymond C. Cushman Attys.



# UNITED STATES PATENT OFFICE.

WASHINGTON BERRY, OF CHICAGO, ILLINOIS.

## APPARATUS FOR INSERTING FLOATS IN CAKES OF SOAP.

SPECIFICATION forming part of Letters Patent No. 676,866, dated June 25, 1901.

Application filed October 18, 1899. Renewed December 3, 1900. Serial No. 38,559. (No model.)

*To all whom it may concern:*

Be it known that I, WASHINGTON BERRY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Apparatus for Locating Floats in Cakes of Soap, of which the following is a specification.

This invention relates to improvements in apparatus for locating floats in cakes of soap, but relates more particularly to the location of floats in that class of soaps that are first molded into bars and subsequently cut and pressed into cakes, such as transparent soap, and which have such specific gravity as to cause them to sink in water unless artificially floated.

The primary object of my invention is to so mold the soap as to have within each cake thereof a suitable float, causing a displacement greatly exceeding its weight and upon which may be imprinted or otherwise placed any desired design or form of advertisement or to which may be attached a card or other device carrying any desired design, advertisement, or device intended to beautify the appearance of the cake of soap when the same is ready for market, as well as to permanently display the design, advertisement, or other device during the use of the soap.

Another object is to have the floats so supported in the mold that a bar from which a number of cakes of soap are to be cut may be cast so as to envelop the floats and the supports for the floats be afterward withdrawn from the bar, so that when the cakes are formed each cake will have a float located at the center thereof and without any evidence of the means by which it was supported during the molding operation.

A further object is to have in such an apparatus a detachable support for the floats, which may be withdrawn therefrom after the bar is cast or molded, so as to leave the floats within the bar.

A still further object is to have the floats and their supports of such character that the floats may be easily and accurately centered in the mold, properly distanced apart, and maintained in parallel planes during the floating operation without the exercise of more

than ordinary care or skill and yet in such manner that the supports may be withdrawn from the floats after the bar is cast or molded, without disturbing the positions of the floats or marring the finish or appearance of the completed cakes.

These and such other objects as may hereinafter appear are attained by the devices illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical longitudinal section through an apparatus embodying my invention, showing the same prepared for the molding of a bar. Fig. 2 is a view similar to Fig. 1, but showing the bar of soap molded and partly withdrawn from the apparatus; and Fig. 3 is a horizontal section on the line 3 3 of Fig. 1 looking in the direction indicated by the arrows.

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

Referring by letter to the accompanying drawings, A indicates a cylinder, which is preferably open at both ends for greater convenience in removing the molded bar of soap therefrom, as will be explained farther on, but which may, if desired, be closed at its lower end by any suitable cap. At one side this cylinder is provided with a tubular longitudinal extension B, between which and the cylinder there is open communication at the line of conjunction between the cylinder and tube, as clearly appears in Fig. 3. This tubular extension may be of any desired configuration in cross-section, it being by preference and as illustrated in the drawings substantially circular. Fittings snugly within the tube B is a rod C, which has the same configuration in cross-section as the tube and for which the tube constitutes a guide, the tube and cylinder together constituting a continuous closed mold from end to end. At intervals along the side of the rod C, which rod may be either solid or hollow, is arranged a series of pins D, each constituting the immediate support of a float E, which is preferably composed of some light wood, upon the opposite faces of which may be imprinted or otherwise applied any ornamental design, advertisement, or other device intended either to



beautify the cakes of soap when ready for the market or to permanently expose the advertisement or other material thereon.

So far as relates to the broad idea of my invention it is immaterial how the floats are temporarily attached to the supports while the soap is being molded about them—as, for instance, the pins D may be plain pins and the floats may have holes bored therein at one or more points around their peripheries complementary to the pins; but in practice I find it most desirable to provide each float with a circumferential or peripheral groove F and to flatten the ends of the pins D to the width and depth of these grooves, so that when the ends of the pins are inserted in the grooves the floats can be easily centered in the mold-cylinder A and will be prevented from tilting or canting therein by the flattened ends of the pins. By the use of these pins with flattened ends and the grooves in the floats the work is much more expeditiously and accurately performed and does not involve the employment of skilled labor, for the most ordinary skill and experience will produce perfectly satisfactory results, as I have learned by practical use of my invention.

In the practical use of my apparatus I prefer to first insert the lower open end of the cylinder A in a bed G of hard soap or other like material, into which the cylinder will sink sufficiently to make a tight joint, and then the lower end of the rod C is inserted in the upper end of the guide-tube B and the first float is placed upon the lowermost supporting-pin. This operation is repeated with each succeeding pin, the rod being gradually lowered in the tube until a float has been applied to all of the supports. In this way the grooves in the floats being of a uniform depth and the flattened ends of the pins preventing tilting of the floats out of a horizontal plane the operator has only to center the floats in the cylinder, which is easily done without measurement because of the comparatively small distance between the edges of the floats and the walls of the cylinder.

When all of the floats are in place within the cylinder, the fluid soap is then run in until the mold is filled, and as the mold is solid from end to end none of the liquid soap can escape therefrom. This forms in the mold a bar of soap of substantially the shape and dimensions of the cylinder A, because the communicating guide-tube B is practically filled with the rod C, and when this bar has sufficiently cooled and set it requires but slight pressure upon either end of the rod C to force it and the soap bar out of the mold. I have provided the rod C, near either end thereof,

with the longitudinal slots H, which furnish convenient handholds in manipulating the bar and especially in withdrawing the supports D from the floats in the bar after the bar and rod are removed from the mold. This leaves the floats in proper position and at regular intervals in the bar, which is afterward cut up and pressed into cakes in the usual manner, the floats being designed to be located at the center of each cake.

Obviously changes in the construction and form of the various parts of my apparatus may be made without departing from the spirit of my invention, and all such variations or changes are intended to be comprehended by the following claims.

This apparatus is especially adapted for locating in cakes of soap the float described and claimed in my application, Serial No. 734,001, filed October 18, 1891.

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

1. In a soap-mold, the combination with a vertical cylinder, of a rod supported and sliding therein at one side thereof, and a series of pins projecting from said rod, substantially as described.

2. In a soap-mold, the combination with the cylinder provided with the tubular extension at one side thereof and in open communication therewith, of a rod fitting in said tubular extension, and a series of pins projecting from said rod into the cylinder, substantially as described.

3. In a soap-mold, the combination with a cylinder, of a rod supported and sliding therein at one side thereof, and a series of pins projecting from said rod having flattened ends, substantially as described.

4. In a soap-mold, the combination with a cylinder, of a rod supported and sliding therein at one side thereof, a series of pins projecting from said rod having flattened ends, and a series of floats each having a peripheral groove to receive the flattened ends of said pins, substantially as described.

5. In a soap-mold, the combination with a cylinder, and a tubular extension arranged at one side thereof in open communication therewith, of a rod sliding in said extension, a series of pins projecting from said rod having flattened ends, and a series of floats having peripheral grooves into which said flattened ends fit, substantially as described.

WASHINGTON BERRY.

Witnesses:

M. E. SHIELDS,  
C. L. WOOD.