

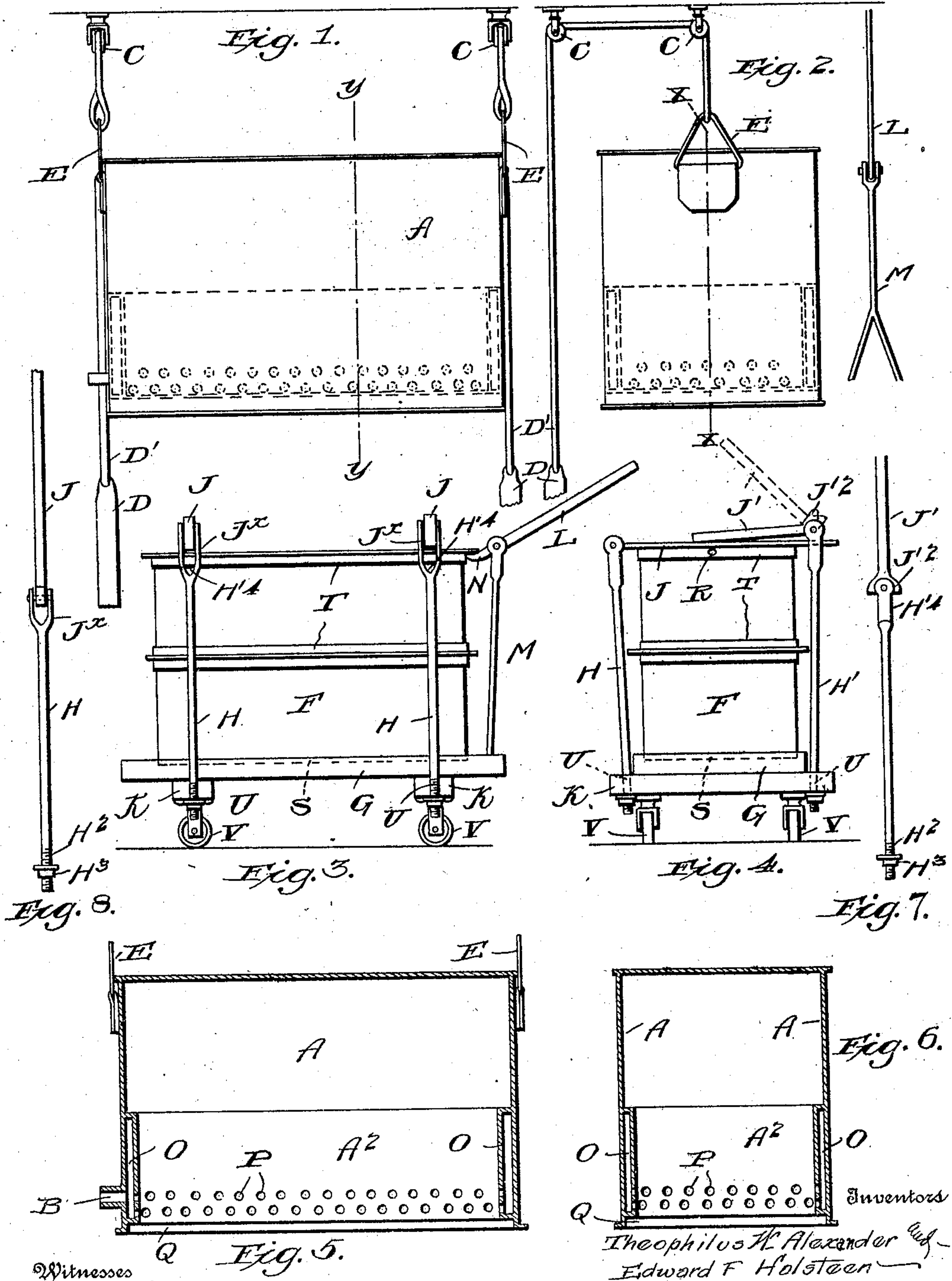
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APPARATUS FOR MAKING SOAP.

APPLICATION FILED NOV. 15, 1905.



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# UNITED STATES PATENT OFFICE.

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## APPARATUS FOR MAKING SOAP.

No. 824,167.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed November 15, 1905. Serial No. 287,405.

*To all whom it may concern:*

Be it known that we, THEOPHILUS W. ALEXANDER and EDWARD F. HOLSTEEN, citizens of the United States, residing at Burlington, in the county of Des Moines and State of Iowa, have invented certain new and useful Improvements in Apparatus for Making Soap, of which the following is a specification, reference being had to the accompanying drawings.

Our invention relates to apparatus adapted and designed for use in the manufacture of soap, and particularly to apparatus for use in the manufacture of what is called in the art of the soap-maker "cold-made" soap; and one object of our invention is to provide an apparatus of the class just described which shall be simple in operation and which shall result in the saving of time and labor in the process of making soap.

Another object of our invention is to provide a box-like frame which shall be cheap in manufacture, yet strong, durable, and light in use.

A third object of our invention is to provide a steaming-jacket susceptible of ready and efficient operation and use and of light and durable construction.

A further object of our invention resides in the provision of simple and readily-operated devices for holding the frame upon its truck and for loosening the same therefrom at the completion of the molding and steaming operations.

Other features of our invention will be pointed out in the description which follows.

In the drawings illustrating the principle of our invention and the best mode now known to us of applying that principle, Figure 1 is a side elevation, and Fig. 2 an end elevation, of the steaming-jacket and means for raising and lowering the same. Fig. 3 is a side elevation, and Fig. 4 an end elevation, of the frame which forms the side walls of the mold, said frame being shown mounted upon its truck. Fig. 5 is a sectional view on line *xx*, Fig. 2. Fig. 6 is a sectional view on line *yy* of Fig. 1; and Figs. 7, 8, and 9 are details, hereinafter referred to.

The box-like mold-frame F is made of sheet metal preferably—*e. g.*, galvanized

iron—and is strengthened by angle-irons T. It is open at top and bottom, and its lower edges rest in grooves S, formed in the top of platform G of the platform-truck, made up of the platform G, cross-beams K, and casters V, as shown in Figs. 3 and 4. The frame F is held down upon the platform G during the mixing and molding operations by the following mechanisms: The cross-beams K are slotted at both ends, as shown at U in Figs. 3 and 4, and in these slots are fitted on one side the rods H and on the other side the rods H', the rods H and H' being formed with threads H<sup>2</sup>, upon which are screwed the flanged nuts H<sup>3</sup>, which bear against the lower face of the cross-beam K when the rods are in place. Pivotally mounted in a fork J<sup>x</sup> in the top of the rod H is a bar J, which is thrown across the top of the frame F, resting upon the stiffening angle-iron T there. Pivotally mounted in the top of the rods H' are the cam-levers J', fulcrumed in the forks H'<sup>4</sup> and provided at their pivoted ends with the cam-lugs or knuckles J'<sup>2</sup>, adapted and designed to bear down upon the free ends of the cross-bars J and to force said cross-bars down upon the top of the frame F and to lock them and the frame F securely in position. This arrangement of parts constitutes an efficient and yet simple means for locking the frame securely in the grooves S upon its platform G. By means of the nuts H<sup>3</sup> the degree of pressure exerted upon the frame F may be varied.

To each end of the steaming-jacket A is secured a bail E, which is suspended from a loop or thimble in one end of the cord D', to the other end of which is attached a weight D, said cord passing over the pulleys C, secured to the ceiling, and the weights D serving to counterbalance the weight of the steaming-jacket, and thereby serving to make the raising and lowering thereof much easier.

Just above its lower edge Q the steaming-jacket A is formed with an inner wall A<sup>2</sup>, between which and the outer wall is a narrow chamber O, extending around the jacket and closed at its top and bottom and called by us a "steam-chamber." The wall A<sup>2</sup> is formed near its lower edge with the perforations P, through which the steam is allowed to issue



against the walls of the frame F when the jacket is lowered into position over the frame F. Steam is led from any suitable source into the chamber O through the nipple B.

5 In Fig. 9 is shown a pry by means of which the frame F is loosened and raised from the platform G. This pry consists, essentially, of a forked support M, in the upper end of which is pivoted a lever L, one end of which  
10 is pointed and curved, as shown at N in Fig. 3, and is adapted and designed to engage in a socket R, formed in the top of the frame F, Fig. 4.

The operation is as follows: The apparatus  
15 is assembled by placing the frame F so that its lower edges engage in the grooves S formed in the platform G of the platform-truck. (Shown in Figs. 3 and 4.) The rods H are then placed in position and adjusted by  
20 turning the flanged nuts H<sup>3</sup> until the cross-bars J when thrown down into the position shown in Fig. 4 will lie flat across the top of the frame F, formed by the strengthening angle-iron T there. The rods H' are then  
25 placed in position in the slots U on the other side of the frame F and are similarly adjusted by turning the flanged nuts H<sup>3</sup> until their forked ends H'<sup>4</sup> are brought so that the cam-lugs or knuckles J'<sup>2</sup> will bear with the  
30 proper degree of pressure upon the ends of the cross-bars J, which project through the forked ends H'<sup>4</sup> when the levers J' are thrown down into the full-line position shown in Fig. 4. The frame F being thus securely held  
35 upon the platform G, the ingredients are placed in the mold, the side walls of which are formed by the frame F and the bottom of which is formed by the platform G, and are mixed therein and allowed to solid-  
40 ify. The truck is next run under the steaming-jacket A, which is then lowered over the frame F until the perforated walls A<sup>2</sup> surround the walls thereof. Steam is then introduced through the nipple B into the  
45 steam-chamber O and issues from the steam-chamber O through the perforations P against the frame F, causing the frame to become loosened from the block of soap. The steaming-jacket A is then raised from  
50 over the frame F and the lever J' is thrown up into the dotted-line position shown in Fig. 4, thereby releasing the cross-bars J. The rods H and H', together with their attached parts, are removed, and the pry, Fig.  
55 9, is placed in the position shown in Fig. 3. By depressing the outer end of the lever L (the inner end being engaged in the hole or socket R) the frame F is loosened from the truck and is slipped up over the block of soap.  
60 The truck, with the block of soap, is then removed to the cutting-room, where the block is cut up into cakes of suitable size.

It will now be evident to all skilled in this

art that by reason of the counterweights D the steaming-jacket A can be lowered and  
65 raised very quickly and with a great saving in labor. Again, it will be obvious that the provision of the steam-chamber O results in the uniform application of the steam to the mold-frame F and to the uniform heating  
70 thereof. Moreover, the advantages of our new locking means will be apparent to all such persons. The jointed construction makes the parts complete in themselves and dispenses with the use of wrenches, which is  
75 necessary in a bolt-and-nut fastening. Our new locking means are quickly applied and adjusted and are most efficient in action, the cam-lugs serving to press and hold the mold-frame securely in the grooves S. The result  
80 of our improvements is to effect a great saving of time and labor in the manufacture of cold-made soap.

We are aware of United States Patent No. 753,706, dated March 1, 1904, and disclaim  
85 all that is shown therein.

What we claim is—

1. The combination with a soap-mold of a steaming-jacket having vertical inner and  
90 outer side walls connected near the top and bottom thereof, the space between which is empty and extends around the sides of the steaming-jacket forming a steam-chamber, said inner walls being perforated and covering snugly the sides of said soap-mold when  
95 in steaming position.

2. In an apparatus for making soap, the combination of a supporting-platform formed with open slots at its sides; a frame mounted thereon; rods having cross-bars pivotally  
100 secured thereto, said rods engaging in the slots in said platform and said cross-bars lying across said frame at its top; and locking means for said cross-bars, said locking means comprising rods which engage in the  
105 slots in said platform and are provided with cam-levers pivoted thereto.

3. In an apparatus for making soap, the combination of a mold-frame and a support therefor formed with open slots in its sides,  
110 with means for locking said mold-frame upon said support, said means comprising coöperating rods hinged together, one member of each rod engaging in a slot in said support and the other members interlocking with  
115 each other across said mold-frame.

4. In an apparatus for making soap, the combination of a mold-frame and a support therefor with means for locking said mold-frame upon said support, said means com-  
120 prising a pair of coöperating jointed rods, one member of each rod engaging said support and the other members interlocking with each other, one of said other members being formed with a cam-lug.  
125

5. In an apparatus for making soap, the

combination of a mold-frame; a support  
therefor slotted to receive locking means;  
and said locking means comprising coöperat-  
ing jointed rods, one member of each rod en-  
5 gaging in the slots in said support and the  
other members interlocking with each other  
across the top of said mold-frame.

In testimony whereof we hereunto set our

hands, in the presence of two witnesses, at  
said Burlington.

THEOPHILUS W. ALEXANDER.  
EDWARD F. HOLSTEEN.

Witnesses:

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