

L. BEACH & L. L. BEACH, Jr.

Cutting Soap.

No. 102,907.

Patented May 10, 1870.

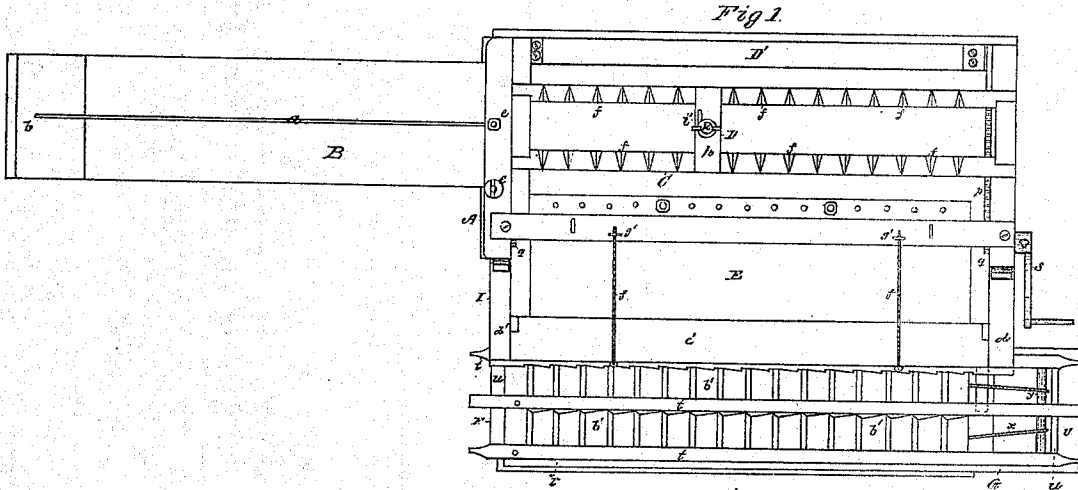


Fig. 1.

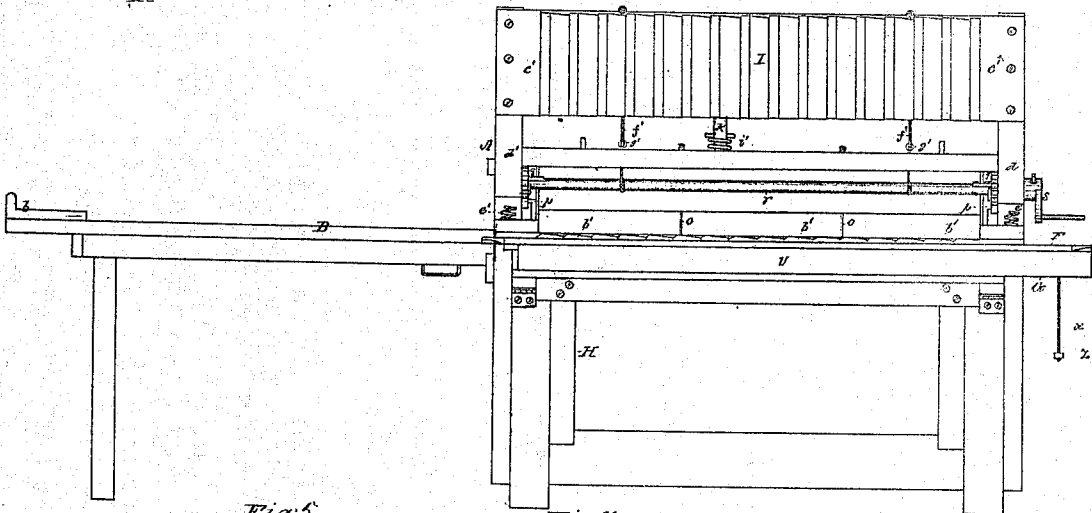


Fig. 2.

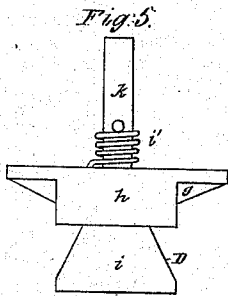


Fig. 5.

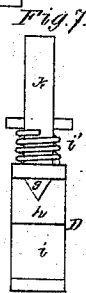


Fig. 7.

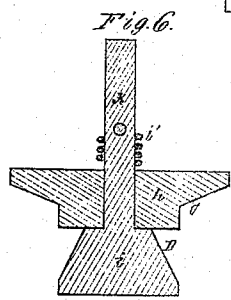


Fig. 6.

Witnesses.
S. N. Piper
J. Brown

L. Beach and L. Beach, Jr.
 by their attorney
N. H. Hedy

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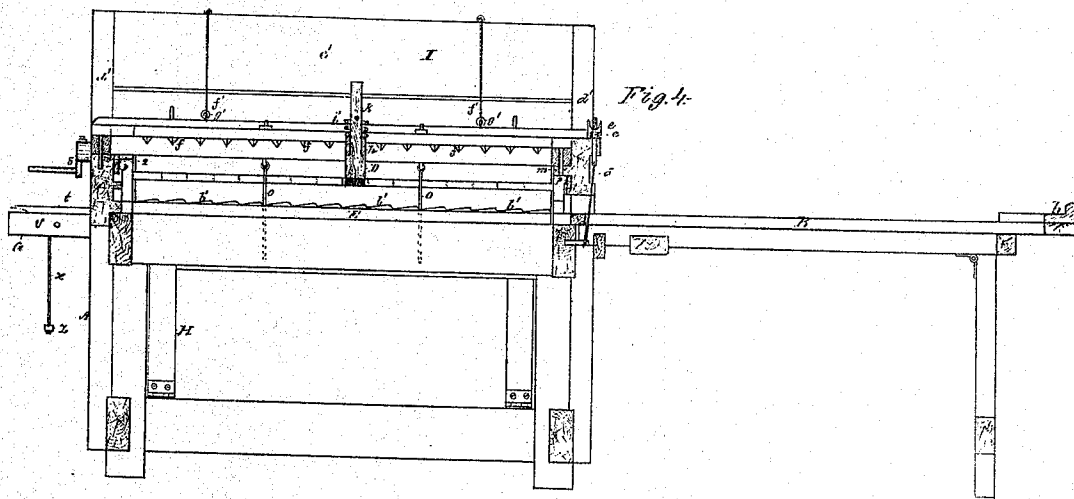


Fig. 4.

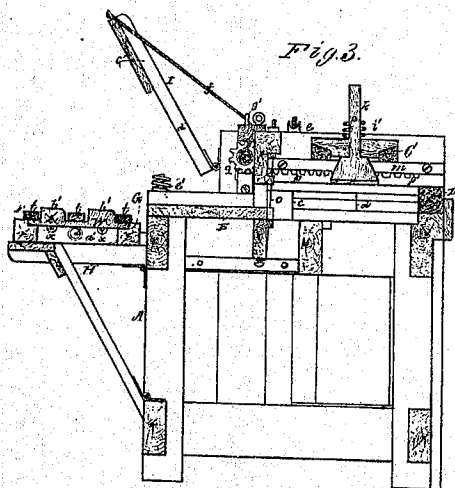


Fig. 3.

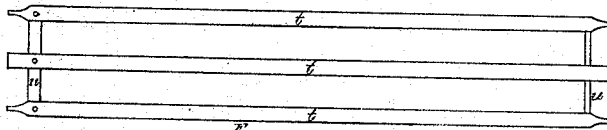


Fig. 8.



Fig. 9.

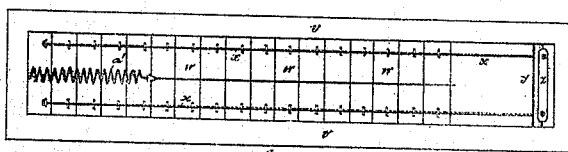


Fig. 12.

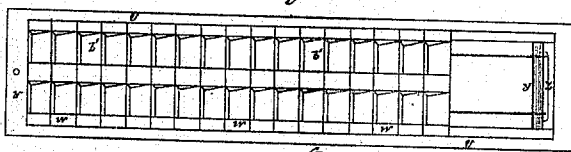


Fig. 10.

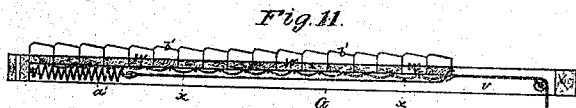


Fig. 11.

Witnesses
S. N. Ripen
J. Brown

L. Beach and L. Beach, Jr.
 by their attorney,
N. Hardy

United States Patent Office.

LURANDUS BEACH AND LURANDUS L. BEACH, JR., OF LAWRENCE, MASSACHUSETTS.

Letters Patent No. 102,907, dated May 10, 1870.

IMPROVEMENT IN MACHINES FOR CUTTING, STAMPING, AND PACKING SOAP.

The Schedule referred to in these Letters Patent and making part of the same.

To all persons to whom these presents may come :

Be it known that we, LURANDUS BEACH and LURANDUS L. BEACH, Jr., both of Lawrence, of the county of Essex and State of Massachusetts, have made a new and useful invention having reference to the Cutting, Stamping, and Packing of Soap; and we do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view;

Figure 2, a front elevation;

Figure 3, a transverse section, and

Figure 4, a longitudinal section of a machine embodying such invention.

In the drawings—

A denotes the frame for supporting the main operative parts of the machine, the first of which consists of a movable table or carriage, B, which is sustained by ways, so as to enable it to be moved longitudinally, rectilinearly, and horizontally, relatively to the frame.

This carriage has a long kerf or slot, *a*, extending lengthwise into it from near to its outer and to its inner end; it also has a shoulder or abutment, *b*, raised on it, in manner as represented.

At that extremity of the frame of the machine into which the carriage is to pass, there are two vertical wires, *c d*, one of which extends down through the slot of the carriage, the other being arranged against the inner edge of such carriage.

These wires are provided with straining-screws and nuts, as shown at *e e*, and have their lower ends looped upon pins, or may be otherwise properly fixed to the frame.

The purpose of one of these wires is to separate the block of soap lengthwise into two blocks, the other or inner one being to trim the inner edge of the block during the advance of the carriage.

The soap to be treated by this machine is first to be supposed, by means of a mold, to be cast into the shape of a rectangular block. After having been so formed, and become sufficiently set or indurated, the block should be so laid upon the platform or carriage B that one edge of the block may be close against the outer edge of the carriage, with one end of the block against the shoulder *b* thereof. In this condition of the block, it is next to be forced into the machine by causing the carriage to advance, which should next be effected, and be produced by power suitably applied to the carriage.

A stamp-gauge, C, composed of a rectangular frame having two rows of angular notches, *f f*, arranged in its opposite longitudinal bars in manner as represented, is employed for the purpose of determining the positions of the stamp D, used in stamping each of the

two blocks of soap, preparatory to its being separated into a series of smaller sections or "cakes."

The stamp is shown in side elevation in Figure 5, in longitudinal section in Figure 6, and in end view in Figure 7, its body part *h* being provided with triangular prismatical projections *g g* to fit into the notches of the gauge-frame.

This stamp consists of a block, *h*, and a stamper, *i*, whose shank, *k*, goes up through a hole in the block *h*, and is supported by a spring, *l*, which serves to elevate the stamper after each depression of it.

Preparatory to stamping each block with the name, trade-mark, or other device of the soap-maker, the gauge-frame is to be arranged over the block, and in a correct position, on supporting-ways *m m*. For this purpose there may be studs projecting from the bottom of the gauge-frame to enter holes made in the ways.

The gauge-frame having been properly adjusted, a workman should place the stamp successively in the pairs of notches of the gauge-frame, and, after each insertion of it in such a pair, and while therein, he, with a mallet or other proper implement, should drive the stamper down upon the soap, so as to imprint or stamp it.

This having been accomplished, the two blocks of soap thus imprinted are next to be moved laterally against a series of vertical wires, *o o o*, arranged within the frame A, in manner as represented.

This lateral movement of the blocks is effected by means of an impeller or bar, D', arranged within the frame A, and having two toothed racks, *p p*, projected from its opposite ends.

These racks engage with two pinions, *q q*, fixed on a long horizontal shaft, *r*, which is provided with a crank, *s*, arranged at one end of it. By turning the shaft in one direction, by manual power applied to the crank, the impeller will be advanced, and by revolving the shaft in the opposite way the impeller will be moved backward.

During an advance of the impeller it will force the blocks successively against the second series of wires, by which each block will be reduced to cakes, or a series of smaller blocks, and will be forced beyond the wires, and upon a platform or table, E, disposed within the frame A, in manner as represented.

In advance of the platform E are the drying-frame F and the mechanism for separating the cakes asunder, or moving them apart from each other, so as to prevent their adhering together during the process of desiccation.

Each pair of blocks reduced to cakes will be moved upon the separating mechanism by the next pair of blocks during its advance by the impeller; that is to

say, will be crowded off the table B and upon the separator, and be forced over the bars *t t t* of the drying-frame F, the latter consisting of three parallel bars, *t*, and two or any other suitable number of cross connecting-bars, *u u*. (See Figure 8, which is a top view of the said frame, and also Figure 9, which is an end view of it.)

Figure 10 is a top view;

Figure 11, a longitudinal section; and

Figure 12, an under-side view of the separator G, which consists of a rectangular frame, *v*, and a series of blocks, *w*, arranged in such frame, side by side, such blocks being supported in the frame so as to be capable of being moved therein lengthwise of it.

These blocks are connected by cords *x x*, in such manner that, by pulling on such cords, the several blocks may be separated from each other a short distance; that is, each block may be moved a little away from one next to it.

The cords are passed over a roller, *y*, and united to a stirrup or bar, *z*, on which a workman is to press his foot, when it may be desirable to effect such movements of the several blocks.

A spring, *a'*, applied to the frame *v*, at one end bar thereof, and also to the block which is farthest from such end, serves to close the blocks together after their movements, as described.

Each block, where a cake of soap is to rest on it, is provided with a sloping face or jaw, as shown at *b'*, which extends up through the drying-frame F, when the latter is laid on the frame of the separator, which, when in use is supported by a bracket or projecting part, H, of the main frame A.

With the separator G, a presser, I, is employed for the purpose of separating the cakes asunder when upon the jawed blocks of the separator, preparatory to their being moved apart by them.

This presser consists of a board, *c'*, and two arms, *d' d'*, to which it is affixed at its ends.

These arms are hinged at their rear ends to the frame A, and, when down, rest on springs *e' e'*.

In order to effect the raising of the presser to a proper altitude above the separator, for the convenience of removing the drying-frame therefrom, or applying it thereto, as occasion may require, lines or

cords *f' f'* are fastened to the presser, and extended back through stationary guides *g' g'*, and thence are continued and fastened to the shaft *r*. While the impeller is in the act of being advanced, the cords should be unwound from the shaft, so as to allow the presser to fall down to, or nearly to, a horizontal position, or until it may be deposited on the springs *e' e'*. A reverse movement of the presser will take place during the retreat of the impeller.

After the two series of cakes of soap may have been deposited on the jawed blocks of the separator, the stirrup or bar *z* should be pressed downward, in which case the several jawed blocks of the separator will be moved apart, and will separate the cakes asunder to the proper distances over the drying-frame, for them to be dried thereon; after which the said frame, with the cakes upon it, should be removed from the separator, and another such frame should be substituted thereon in place of that so removed.

We make no claim to combination of the movable platform B and the impeller with the two series of wires *c d o o*.

What we claim as our invention in the above-specified machine may be stated as follows:

We claim the stamper D, constructed with the gauge projections *g g*, and combination with the gauge-frame C, constructed with notches *f* arranged in its bars, as set forth.

Also, the separator G, as composed of the frame *v* and the series of jaw-blocks *w*, arranged and connected by cords, or equivalents, as set forth.

Also, the combination of the separator G with the impeller D and the series of wires *o*, for reducing a block, as set forth.

Also, the combination of the presser I and the separator G with the impeller D and the series of wires *o*, for reducing a block to cakes, as explained.

Also, the combination and arrangement of the drying-frame F with the separator G, or with such and the impeller and wires, as described, for separating a block into cakes, as explained.

LURANDUS BEACH.

Witnesses: LURANDUS L. BEACH, JR.

N. G. WHITE,

JESSE G. GOULD.