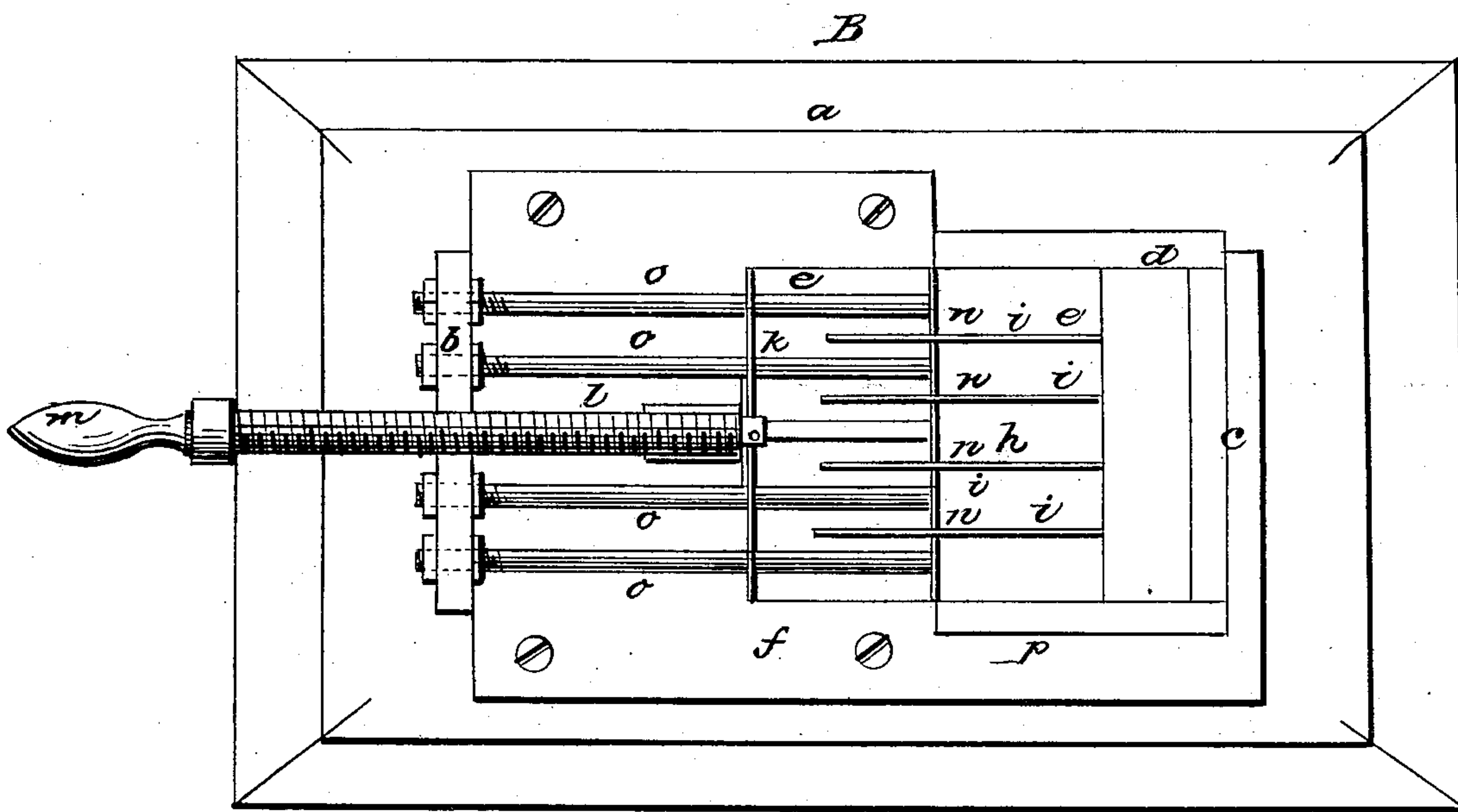
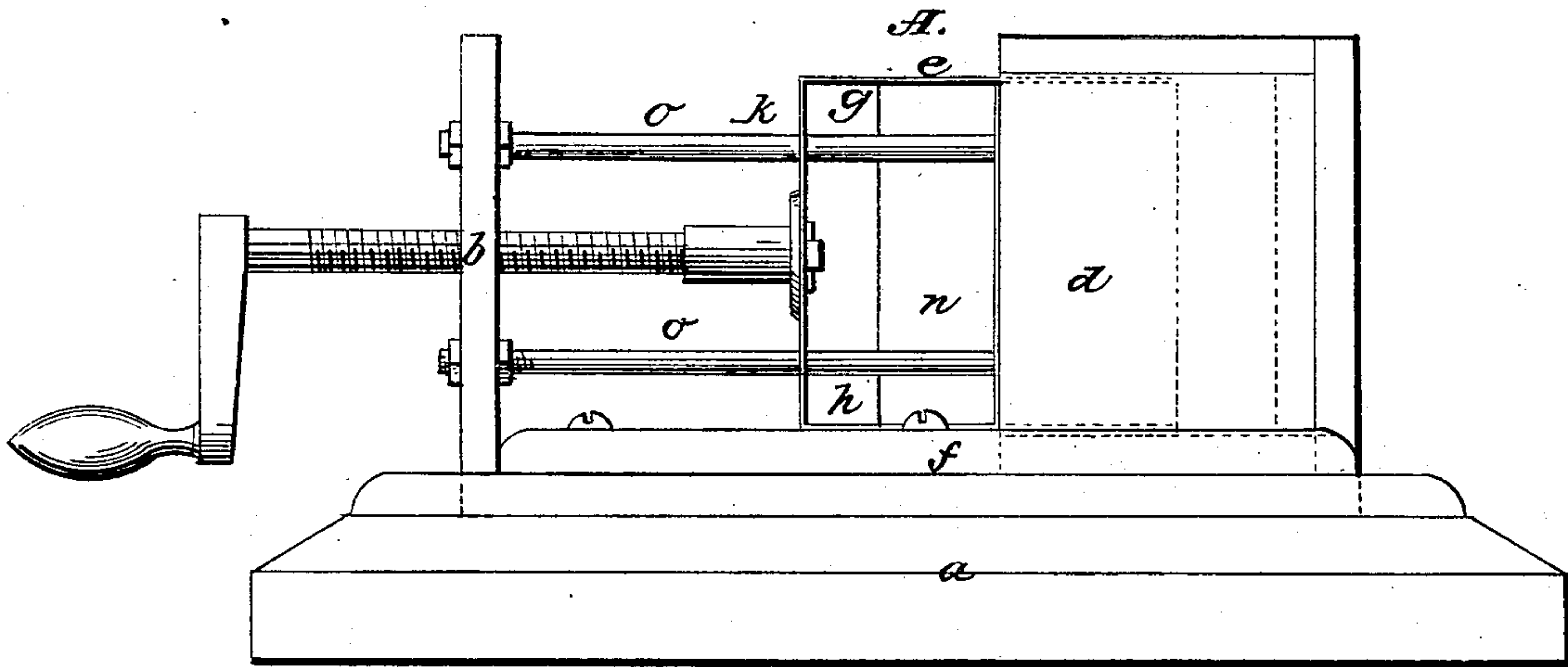


H. SARGENT.

Soap Cutter.

No. 79,402.

Patented June 30, 1868.



WITNESSES:

*S. Morris Pool*  
*Jno. D. Patten*

INVENTOR.

*Horace Sargent*  
*Crosby, Halsted & Gould*  
*his attorneys*

# United States Patent Office.

HORACE SARGENT, OF CHELSEA, MASSACHUSETTS.

*Letters Patent No. 79,402, dated June 30, 1868.*

## IMPROVED MACHINE FOR CUTTING SOAP.

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

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, HORACE SARGENT, of Chelsea, in the county of Suffolk, and State of Massachusetts, have invented an Improvement in Cutting Soap into Bars; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practise it.

My invention has reference to the forming of soap into bars, after it has been run or moulded into boxes.

Soap is generally divided into bars by first allowing it to solidify in the "frames," then removing it, and marking it off with a "scribe," and then wiring it, the cubical block of soap being set upon a table, and a wire, with a handle at each end, being drawn through it, (guided by the marks,) first cutting it into slabs, and then, by wiring in the opposite direction, subdividing the slabs into bars.

There has also been used for cutting soap into bars a frame, containing a horizontal series of cutting-wires and a vertical series of cutting-wires the frame being arranged to move vertically and then horizontally, or *vice versa*, these movements forcing the wires through the block of soap, properly disposed for that purpose, and thus dividing and subdividing the same into bars.

This arrangement is objectionable, in that the wires cannot be easily kept taut in the frame, and for other reasons not necessary herein to mention.

In my invention, I employ a series of parallel plates, fixed in a carriage, which is mounted on a bed or frame, said bed being arranged to support the soap-containing box in front of the cutter-carriage, which is arranged in such manner that, by feeding it forward by a feed-screw or other proper mechanism, the blades or cutter-plates are driven through the block of soap, suitable stationary strippers being combined with the bed or frame to retain the soap as the blades are withdrawn.

It is in such an organization that my invention primarily consists.

The drawings represent a machine embodying the invention.

A shows the machine in side elevation.

B is a horizontal section in the plane of the feed-screw.

*a* denotes a bed, supporting two strongly-braced uprights, *b c*, against one of which the soap-containing box, *d*, is supported as seen in the drawings. *e* denotes a sliding carriage, moving over a bed-plate, *f*, and having a top plate, *g*, and bottom plate, *h*, between and to which is fixed the series of vertical parallel cutters or blades *i*, arranged at a distance apart equal to the width of bars into which the soap is to be cut.

The width of the plates *g h*, and their distance apart, are the same, and correspond to the inner dimensions of the box *d*, which is made square in section. The top and bottom plates *g h* are united by a rear plate, *k*, and through this plate the end of a horizontal screw-shaft, *l*, passes, the plate being secured to the shaft. The thread of this screw-shaft works in a nut-thread in the rear upright *b*, said shaft having on its outer end a crank, *m*, by rotation of which the screw is fed forward or back, carrying with it the frame of cutter-blades.

In the plane of the end of the cutter-carriage, (when slid back,) between each two blades *i*, and on the outer side of each outer blade, is a stationary stripper, *n*, filling the space between adjacent blades, or between the outer blade and the plane of the side of the outer carriage, each stripper *n* being fixed upon the ends of horizontal rods or bars *o*, which extend from the upright, *b*, through the plate *k*, to the stripper, the plate *k* sliding freely upon the several rods *o*.

The bed-plate *f* is recessed or mortised at one end, the recess being of a width corresponding to the depth of the box *d*, and having a stop, *p*, on one side, against which the box brings up when slid into the recess. When the box, with the soap moulded therein, is placed in front of the cutter-carriage, the two plates *g h*, and the outer edges of the outer strippers *n*, are respectively in line with the four inner side surfaces of the box. The box having been thus disposed, the cutter-carriage is fed forward, causing the two plates *g h* to cut between the soap and the sides of the box in the path of these two plates, while the blades *i* cut the soap vertically, dividing it into a series of slabs.



This operation leaves the soap attached to the box at the two vertical sides or walls thereof. The carriage is now fed back, and the box is turned quarter round. The carriage is then again fed forward, and this movement causes the plates *g h* to cut the soap from the side walls, to which it was left adhering by the previous operation, and the blades *i* subdivide the slabs into bars or square prisms, of a thickness equal to the width between the blades, and of a length equal to the depth of the box. The carriage is now drawn back. In each back movement of the carriage from the box, the strippers *n* prevent the soap from being drawn out with the blades, while the friction of the blades upon the slabs and bars, in this outward movement, tends to start and free the inner end of the bars from adhesion to the bottom of the box.

I am aware that soap and tallow in block-form have been cut by a gang of knives or wires attached to a movable carriage, but I am not aware that soap has ever been divided into bars after being run into boxes, and without removal therefrom.

I claim the combination, with a box-supporting frame, of a cutter-carriage, provided with a series of parallel cutting-blades, to operate substantially as described.

I also claim combining with the blades *i* the plates *g h*, for supporting the blades and cutting the soap at the side surfaces of the box, substantially as described.

I also claim, in combination with the blades *i*, the stationary strippers *n*, substantially as set forth.

I also claim cutting soap in boxes by sliding a cutter-carriage successively into the box, the box being changed in position relatively to the carriage after the first operation of the cutters, the operation first cutting the soap into slabs and from two sides of the box, and then subdividing the slabs and cutting the soap from the adjacent sides of the box, substantially as described.

HORACE SARGENT.

Witnesses:

E. L. PRATT,  
FRANCIS GOULD.