

R. Johnson.
Cutting Sawn.

N^o 44,806.

Patented Oct. 25, 1864.

Fig. 1.

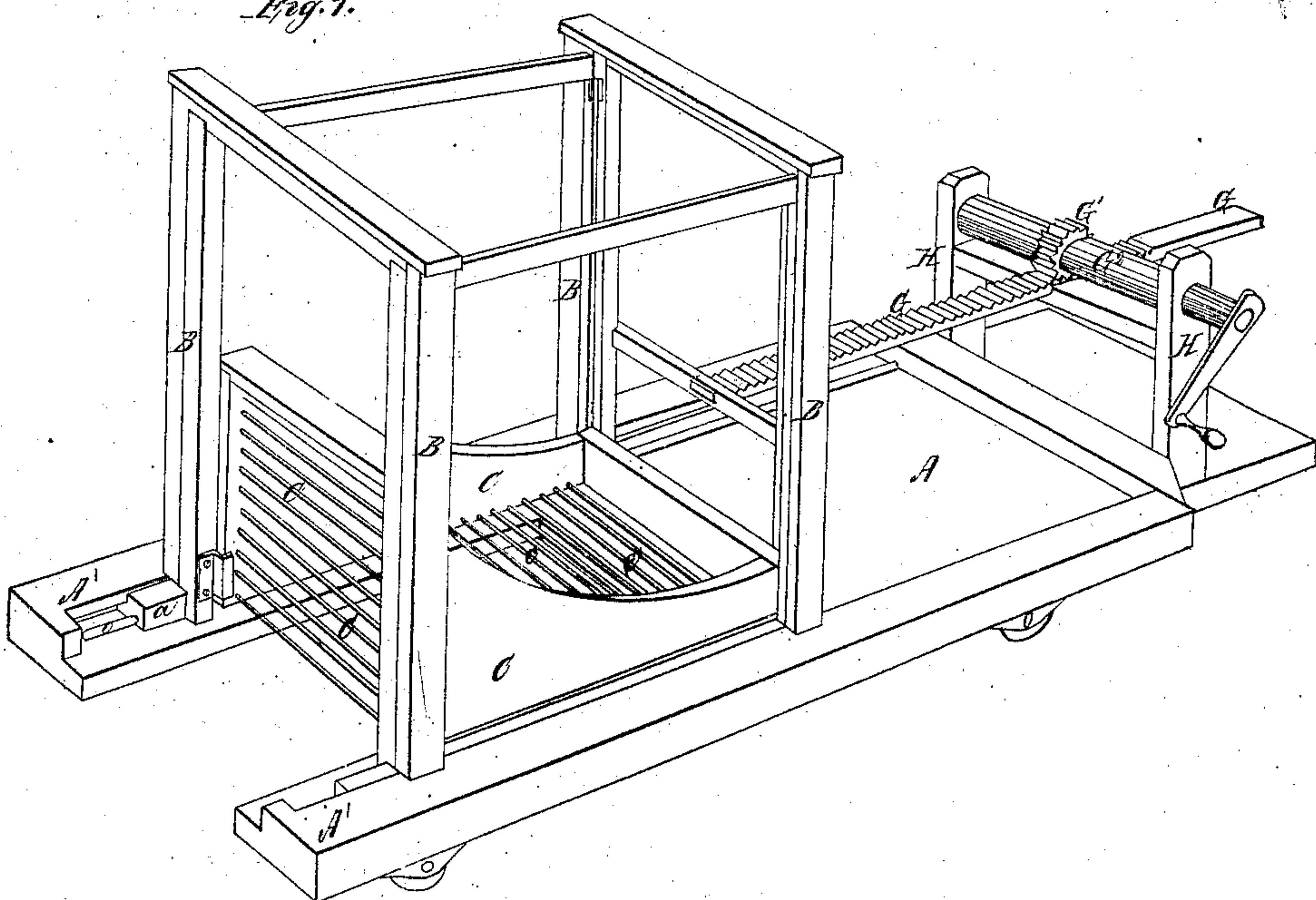
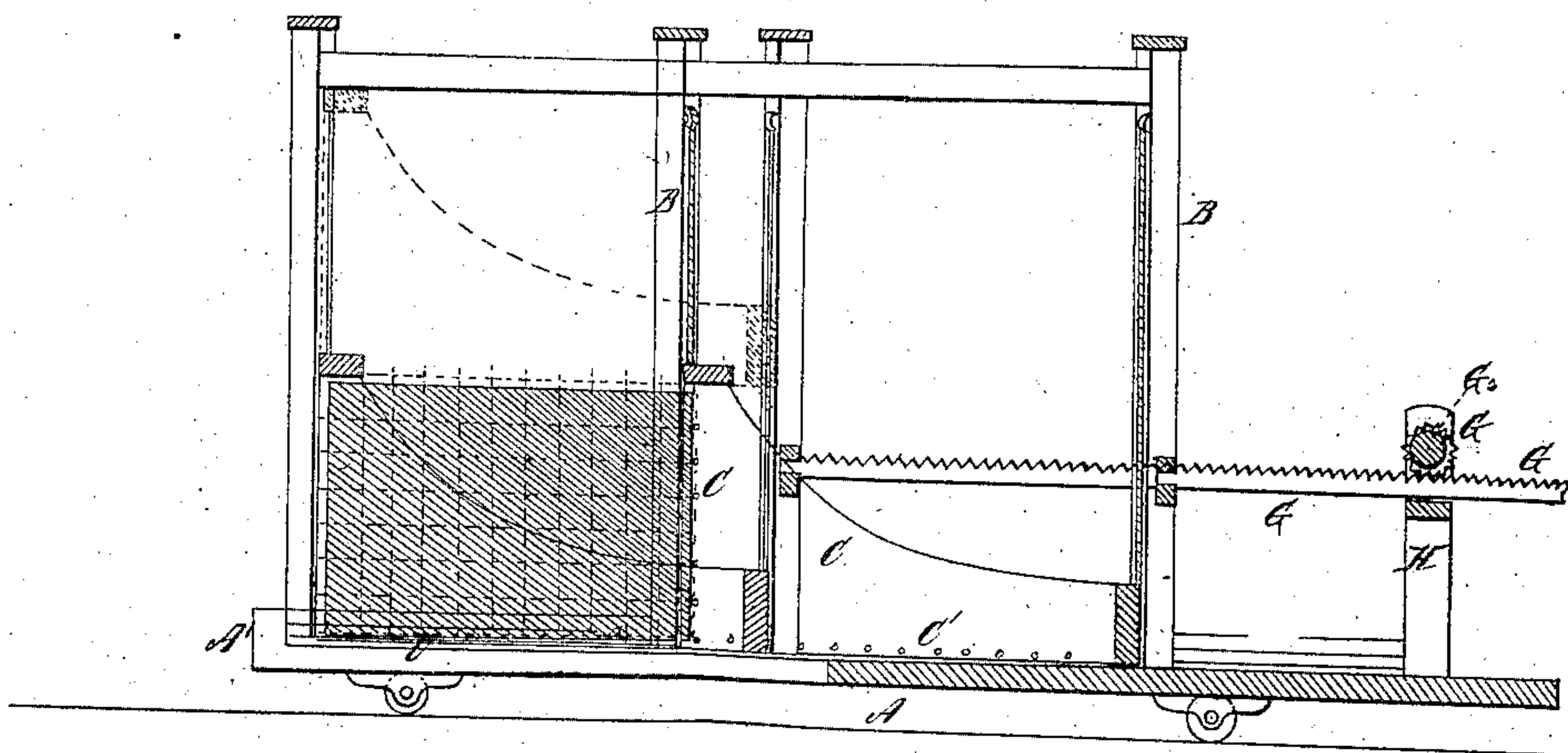


Fig. 2.



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ROSS JOHNSON, OF URBANA, MARYLAND.

IMPROVED MACHINE FOR CUTTING SOAP.

Specification forming part of Letters Patent No. 44,806, dated October 25, 1864.

To all whom it may concern:

Be it known that I, ROSS JOHNSON, of Urbana, county of Frederick, State of Maryland, have invented a new and Improved Machine for Cutting Soap into Bars; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my improved machine complete. Fig. 2 is a vertical longitudinal section through the machine, showing the method of operating it to cut a mass of soap into bars.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a machine for cutting a large mass of soap into bars, after the molding-frames have been removed from it.

The object of my invention is to arrange the wires which are used to cut the soap in planes at right angles to each other within a movable frame that is mounted upon a carriage in such manner that when the machine is moved up to a mass of soap the latter can be cut through, both vertically and horizontally, by two movements of said frame, as will be hereinafter described.

Another object of my invention is to so construct a machine for cutting soap into bars that the entire operation can be conveniently performed without handling or moving the mass to be cut, as will be hereinafter described.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

In the accompanying drawings, A represents a horizontal platform having two parallel arms, A' A', projecting from its forward end, which leave a space between them of sufficient width to admit a mass of soap that is to be cut into bars. This platform is mounted upon wheels which allow it to be moved up to and from the mass of soap, and thus obviate the necessity of moving the latter up to the machine. This carriage supports an upright frame, which is composed of four vertical posts, B B, suitably braced together, and secured at their lower ends into longitudinal sills a a, which latter should be mounted upon longitudinal rails b. These rails extend from the forward end of the carriage to its rear end, and serve as guides for the frame B, to keep

it in place in its back and forward movements on said carriage. Within this frame B, I arrange a rectangular sash, C, in such manner that it is allowed to rise and fall vertically, and to work in grooves or other suitable guides in the vertical posts of the frame B. This sash C is provided with two rows of wires, c c', which are arranged in planes at right angles to each other. The wires c, which are arranged in a vertical plane, one over the other, are intended for cutting the mass of soap into horizontal slabs, and for this purpose the frame B is moved upon the carriage A. The wires c', which are arranged in a horizontal plane at the base of the sash C, are intended for re-cutting the soap, or cutting up the slabs into bars, and for this purpose the sash alone is moved either upward or downward.

Handles may be applied to the sides of the sash C by means of which this sash can be moved by hand, and, if desirable, the sash C may be suspended by weights and cords. This latter arrangement contemplates the movement of the sash by hand, but it is obvious that this sash can be moved by mechanical power, if it is found necessary.

The ends of the wire cutters are represented in the drawings as being secured directly to the vertical sides of the sash C, but in practice the ends of these wires may be secured to springs in such manner that the wires will take the form of a bow during the act of cutting the soap.

The frame B, together with the sash which this frame supports, is reciprocated by means of a horizontal rack, G, and a spurred pinion, G', which latter is keyed to a horizontal transverse crank-shaft, G². The rack G is secured at its forward end to the center of a transverse brace of frame B and extending back. This rack is supported and guided by a transverse beam of the frame H, which supports the crank-shaft G², as shown in Fig. 1.

In Fig. 2, I have represented, by the aid of red and blue lines, the operation of cutting a mass of soap into bars. The blue lines indicate the position of the sash C when the mass of soap, which is indicated in red, has been cut into horizontal slabs. The dotted blue lines indicate the position of said sash when the soap has been cut into bars. It will be seen that the machine is moved up to the soap so

as to bring the latter within the two bars A' A' of the platform. The frames B C are then forced forward, after which the frame or sash C is forced upward. If desirable, the sash C may be brought over the mass of soap previously to cutting it, so as to cut the soap at first in vertical slabs, and then cut it horizontally. The result in both operations will be the same.

The advantage of arranging the wire cutters in planes at right angles to each other is that I am enabled to secure these wires in a single frame or sash, and bring one set of wires in a proper position for performing the second cut by the movement of said sash in performing the first cut.

In arrangements hitherto constructed for cutting soap the wires are arranged in independent movable or fixed frames, which require separate appliances for moving them, and also appliances for moving the soap. By my invention it is not necessary to remove the mass of soap or adjust it upon the machine, as the machine itself is adapted for receiving the soap within it in the proper position to be cut, and after the soap is cut the machine is bodily moved off, leaving the former standing in its original position.

What I claim as new, and desire to secure by Letters Patent, is—

1. Arranging the wire cutters in a single frame, C, and in planes at right angles to each other, so that during the act of making one cut the wires for making the succeeding cut will be brought in their proper position for this purpose, substantially as described.

2. The vertically-movable wire frame C, in combination with the horizontally-reciprocating frame B, substantially as described.

3. Mounting the cutter-carrying frame upon a carriage which is adapted to inclose, or partly inclose, the mass of soap to be cut, while the latter remains upon the floor or blocks, substantially as described.

4. A vertically-movable frame, C, horizontally-reciprocating frame B, and a movable carriage, A A' A', all combined and operating substantially as described.

5. Cutting frames of soap into bars by means of machinery without the necessity of removing the frame or soap from the blocks upon which they are left standing after being molded, substantially as described.

Witness my hand in matter of my application for a patent for machine for cutting masses of soap into bars.

ROSS JOHNSON.

Witnesses:

R. T. CAMPBELL,
E. SCHAFER.