J. SEIBERT.

Machines for Cutting Soap.

No. 152,178. Patented June 16, 1874.

Fig: 1.

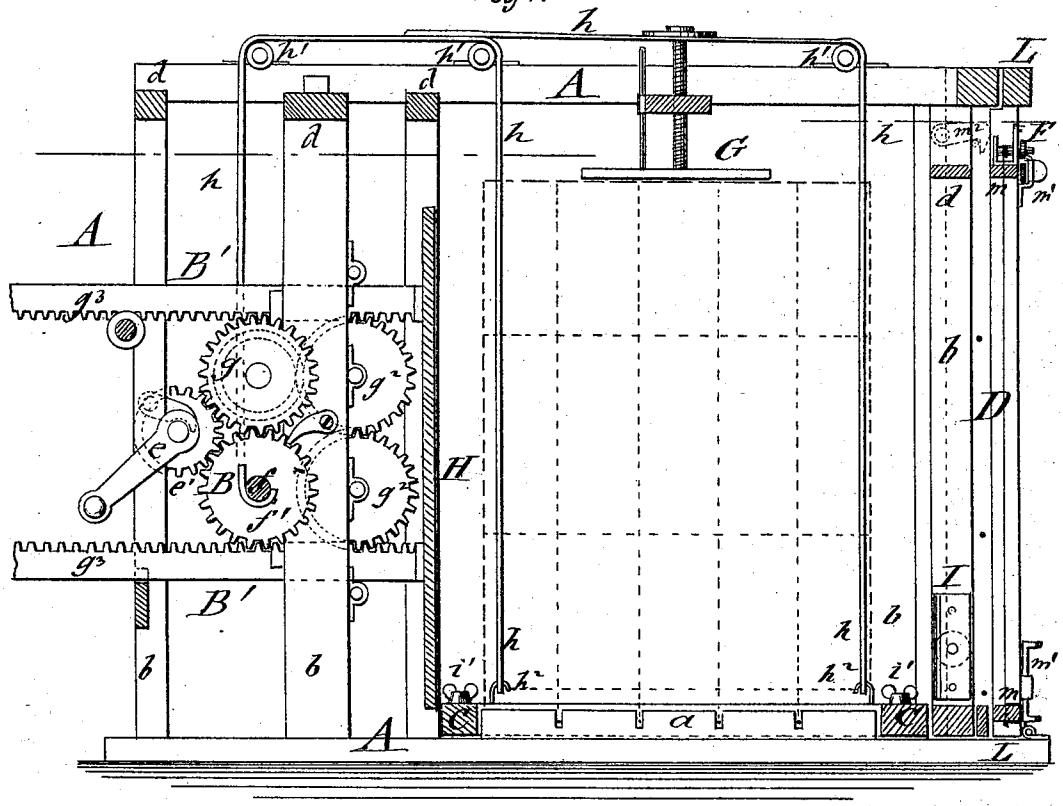


Fig: 2.

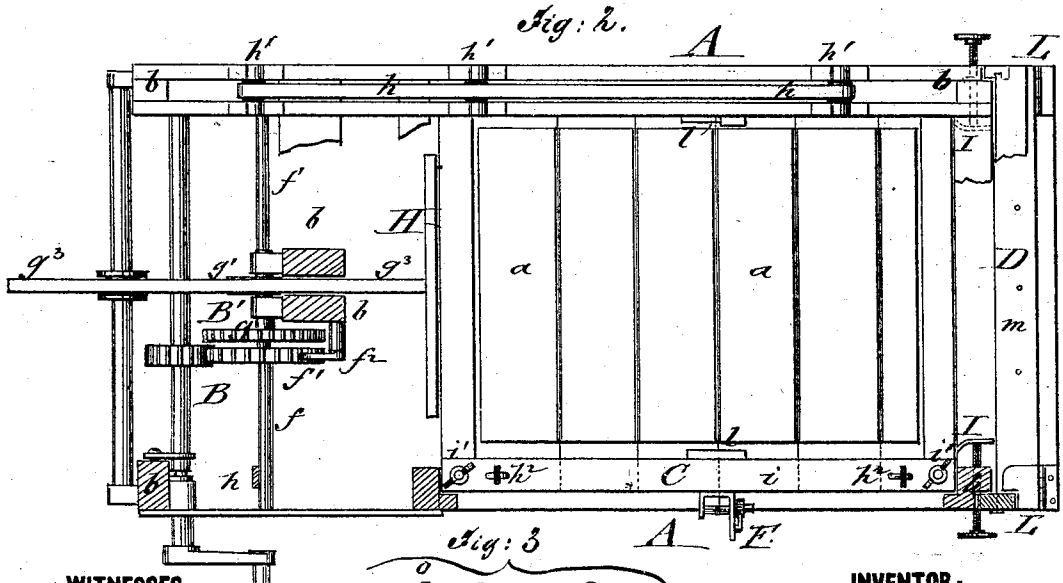
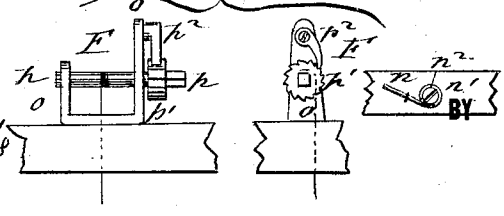


Fig: 3



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JOSEPH SEIBERT, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR CUTTING SOAP.

Specification forming part of Letters Patent No. **152,178**, dated June 16, 1874; application filed May 1, 1874.

To all whom it may concern:

Be it known that I, JOSEPH SEIBERT, of the city, county, and State of New York, have invented a new and Improved Soap-Cutting Machine, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical longitudinal section of my improved soap-cutting machine; Fig. 2, a top view of the same, partly in section, on the line *c c*, Fig. 1; and Fig. 3 shows detail front and side views of the wire stretching and fastening device.

Similar letters of reference indicate corresponding parts.

The object of my invention is to furnish to soap-factories an improved machine for cutting large soap blocks into smaller pieces of any required marketable size by the successive operations of the machine, accomplishing the same in a neat, cheap, and rapid manner, without passing any part of the block a second time through the machine.

The invention will first be fully described, and then pointed out in the claims.

In the drawing, A represents the main frame of my soap-block-cutting machine, which supports on its lower part the laterally-slotted base-piece *a*, on which the soap blocks are placed for cutting. Strong uprights *b* and top connecting-pieces *d* sustain the hoisting and feeding mechanism B B′, and the horizontal and vertical cutting-frames C and D. The hoisting mechanism B consists of a crank-shaft, *e*, with pinion *e′*, which may be thrown into gear with a cog-wheel, f^1, of the hoisting-shaft *f*, and also with the intermeshing cog-wheels g g^1 g^2 of the feeding mechanism B′, as required, shaft *f* having fastened to it the hoisting-belts *h*, which pass up to top rollers h^1 of frame A, and over the same in downward direction to hooks h^2 at the corners of the horizontal cutting-frame C. The cutting-wires of frame C are firmly stretched at the required distance by the stretching devices F, to be hereinafter described, and extend across the base-piece *a*, in the lateral slots thereof, below the surface. The soap block is placed thereon and firmly secured in position by the clamping-plate G, adjusted by hand-wheel and screw at the top of frame A. The horizontal cutting-frame is then slowly raised by the hoisting mechanism, dividing the soap block into lateral parallelopipedons until arrived below the clamping-plate, which is screwed up to give space for the suspension of the horizontal frame below the top of the main frame A. A check-pawl, f^2, drops into wheel f^1 of the hoisting-shaft, and secures the position of the frame C until detached therefrom for lowering the frame for cutting the next block. The cutting-wires of frame C are drawn through holes of detachable side pieces, which are securely clamped to lateral pieces and weighted by heavy top and bottom plates *i* with strong clamp-screws *i′*, and stiffened centrally by wedge strips and clasps *l*. The crank-shaft is then thrown into gear with the cog-wheels g g^1 g^2 of the feeding mechanism, to intermesh with toothed bars or racks g^3, which are guided on suitable friction-rollers in longitudinal direction, and firmly applied with their fore ends to socket-plates of a follower-block, H, imparting to the same motion in either direction, according as the crank is turned. The follower H carries the vertically-divided soap block between side guide-plates I, toward the vertical frames D. The guide-plates I are placed at the bottom of the front uprights *a* of frame A, and adjusted to the size of the soap block by suitable set-screws being slightly inclined or curved toward the inside to take up easily the approaching block between them. The vertical cutting-frames D are made up with varying width of wires, to be readily interchanged, according to the size of the pieces to be cut. The first frame D has horizontal wires, and is firmly bound between the main frame A and a hinged casing, L, to which the second frame D with vertical cutting-wires is attached. The second frame D consists of lateral top and bottom pieces *m*, which are inserted into recesses of the hinged casing L and secured by sliding bolts m^1, the hinged supporting-casing L being firmly connected with the main frame by side hooks and eyes m^2. By forcing the soap block through the vertical cutting-frames the same is cut into the pieces required, which are carried onto a table or platform to be taken off for further storage or use. For the purpose of carrying the soap-block completely through the distance between

the first and second frame, intermediate blocks with horizontal slits are interposed between follower and soap block. The slits of these blocks correspond with the width of the cutting-wires, so that the latter enter thereon and allow the intermediate blocks to force the soap fully through the wires of the second frame. The cutting-wires are applied in the different frames by being attached at one end to pins n with eyes n^1, through which binding-screws n^2 pass into the frames, securing thereby the fastening-pins, and preventing the dropping or detaching of the pins or wires during the cutting operation. The wire is then passed across the frame and tightened at the opposite side by the stretching device F, Fig. 3, which consists of a U-shaped supporting-piece, o, in which turns a small shaft, p, with ratchet-wheel p^1 and pawl p^2, attached thereto at the outer side of base-piece o. The square end of shaft p is turned by a key or small crank, so that the wire which passes through a perforation of the base of supporting-piece o is wound up thereon, stretched to any desired degree, and secured by the ratchet and pawl. The wires may thereby be quickly adjusted and replaced as they wear out. The soap blocks are cut by one rapid and continuous process, without requiring the pieces to pass several times through the machine, cutting thereby with ease any quantity and size of blocks in short time.

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

1. The described combination, with a horizontal cutting-frame, of two vertical cutting-frames, having, respectively, lateral and vertical cutting-wires, to enable the soap block to be cut up at one operation.

2. The horizontal cutting-frame C, suspended and elevated by belts h, in combination with the adjustable top clamping-plate G, for securing the soap block and cutting the same into vertical sections, substantially as set forth.

3. The combination of laterally-adjustable guide-plates I with the main frame, substantially as and for the purpose specified.

4. The main frame A and vertical cutting-frames D, in combination with hinged supporting-casing L, for firmly securing the interchangeable frames, as specified.

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