

(No Model.)

3 Sheets—Sheet 1.

F. S. RUTSCHMAN.
SOAP PRESS.

No. 462,064.

Patented Oct. 27, 1891.

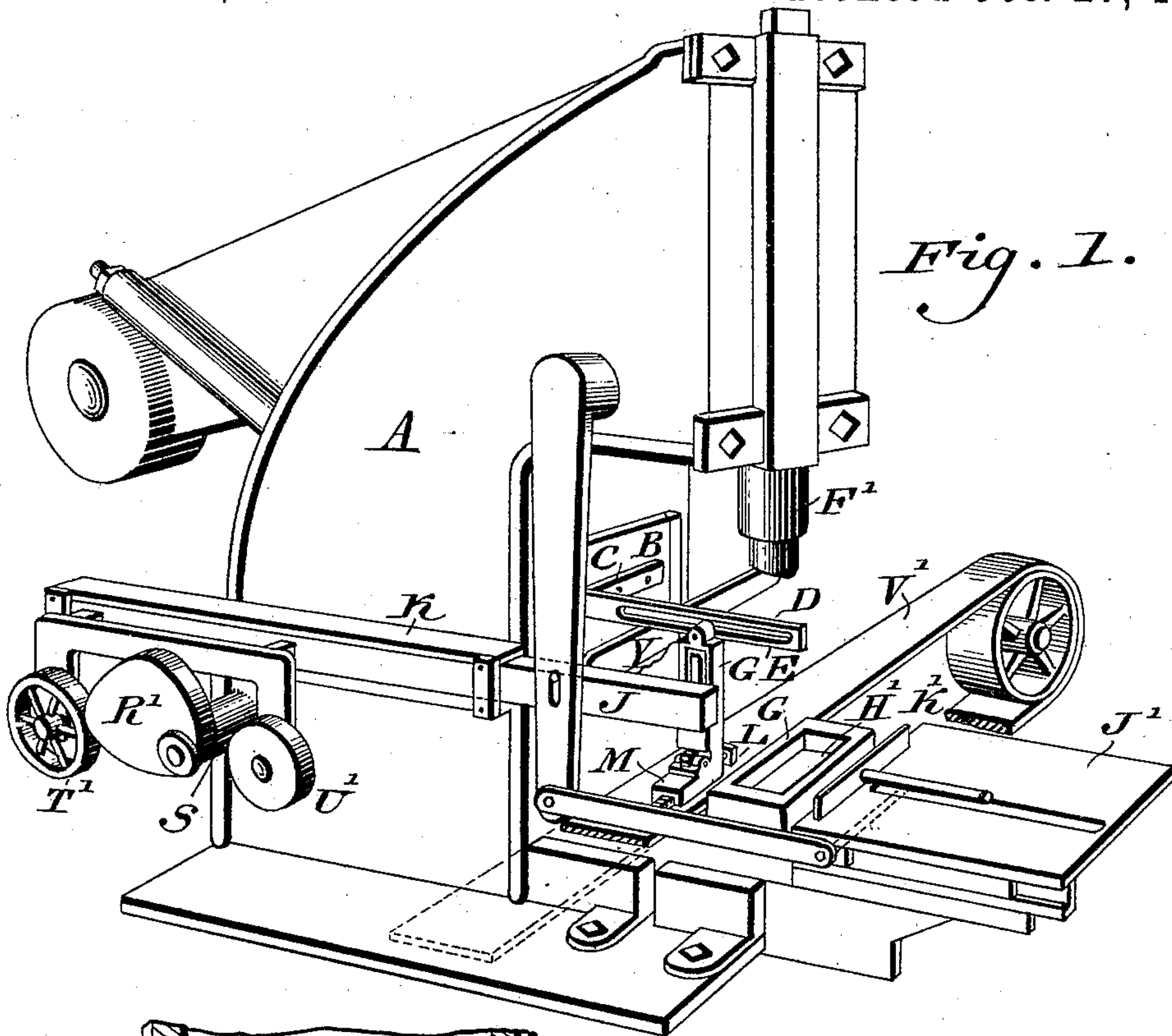


Fig. 1.

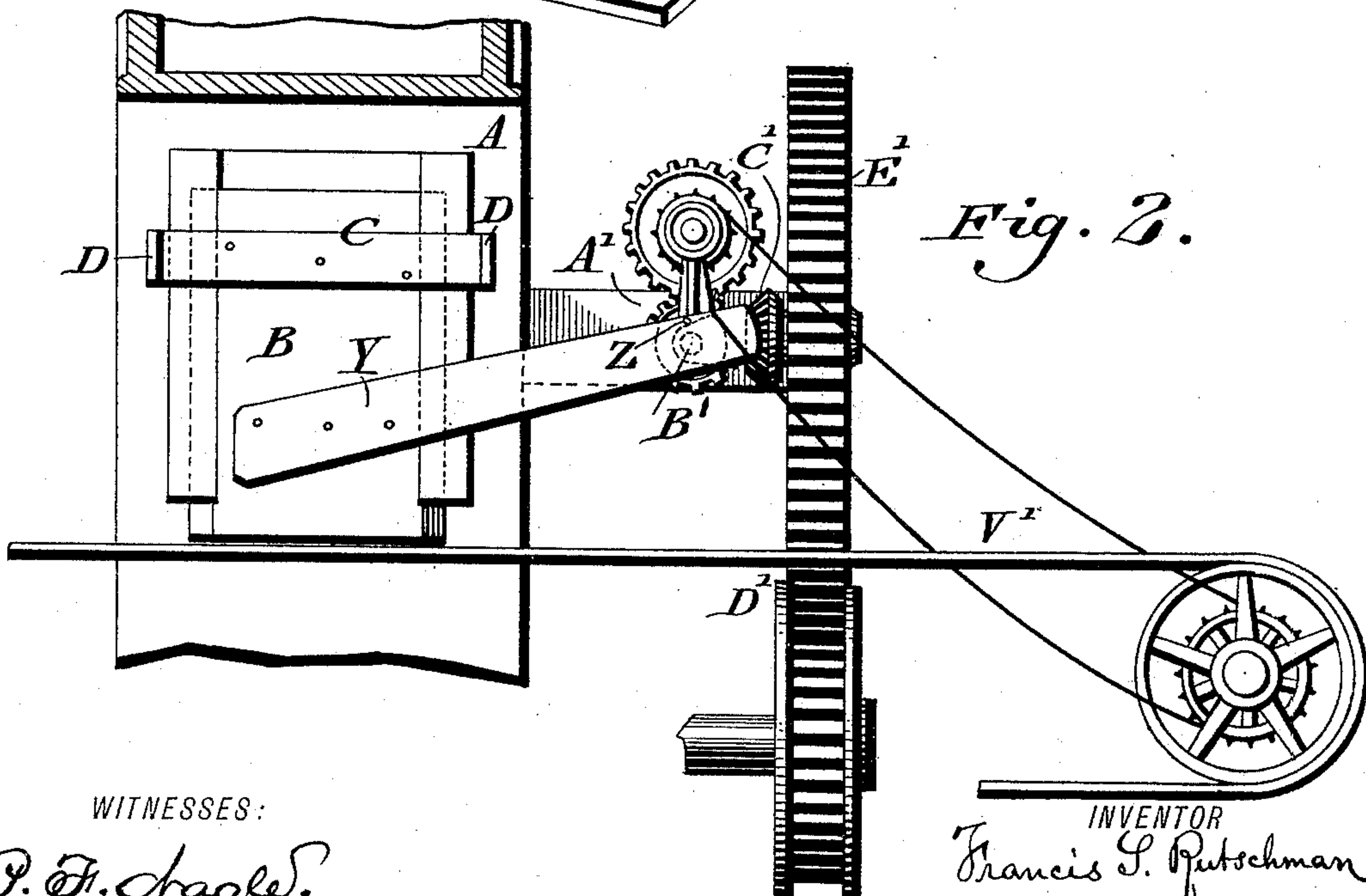


Fig. 2.

WITNESSES:

P. F. Hagler.
Wm. C. Wiedersheim.

INVENTOR
Francis S. Rutschman
BY
John A. Wiedersheim
ATTORNEY.

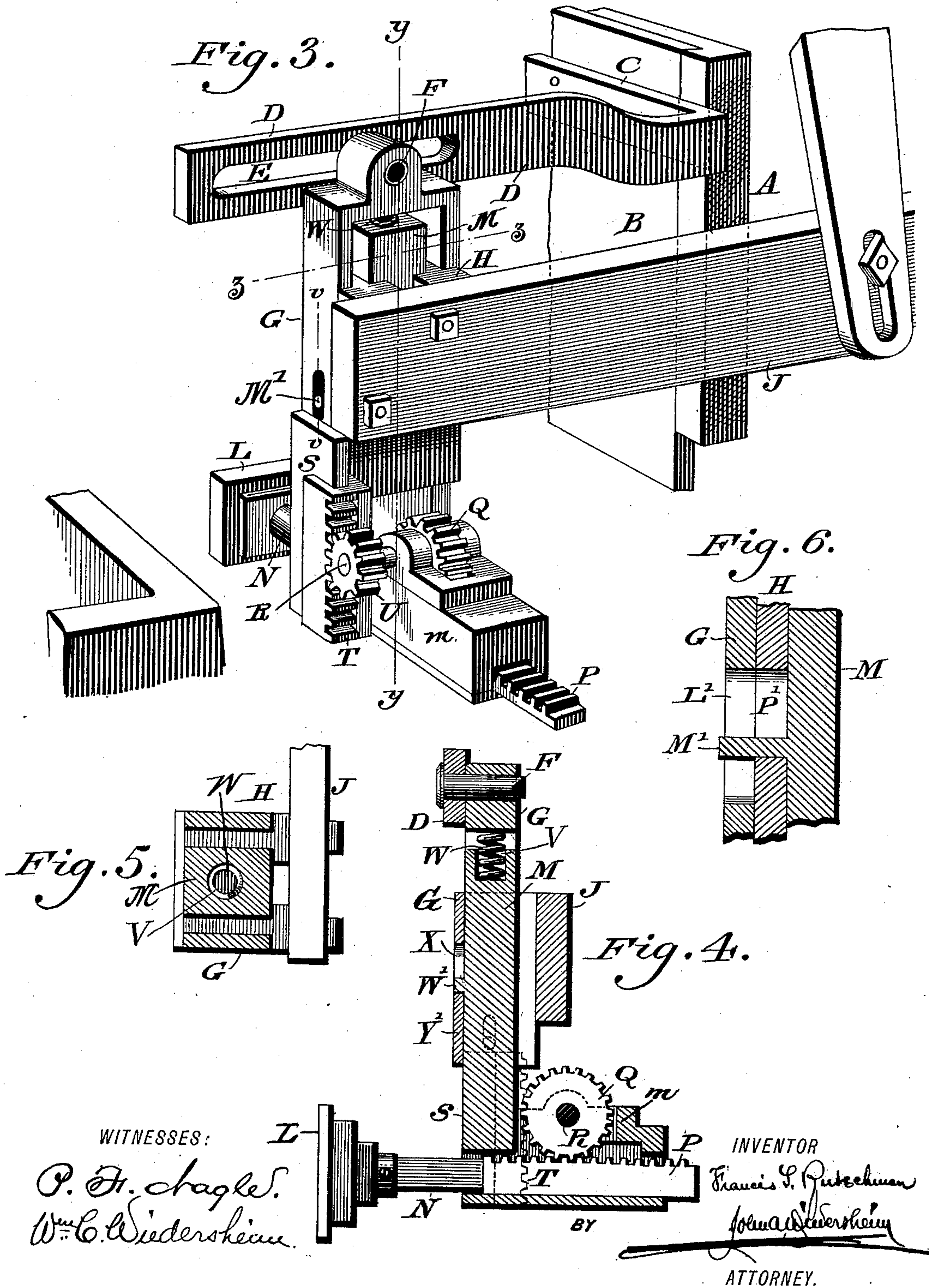
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3 Sheets—Sheet 2.

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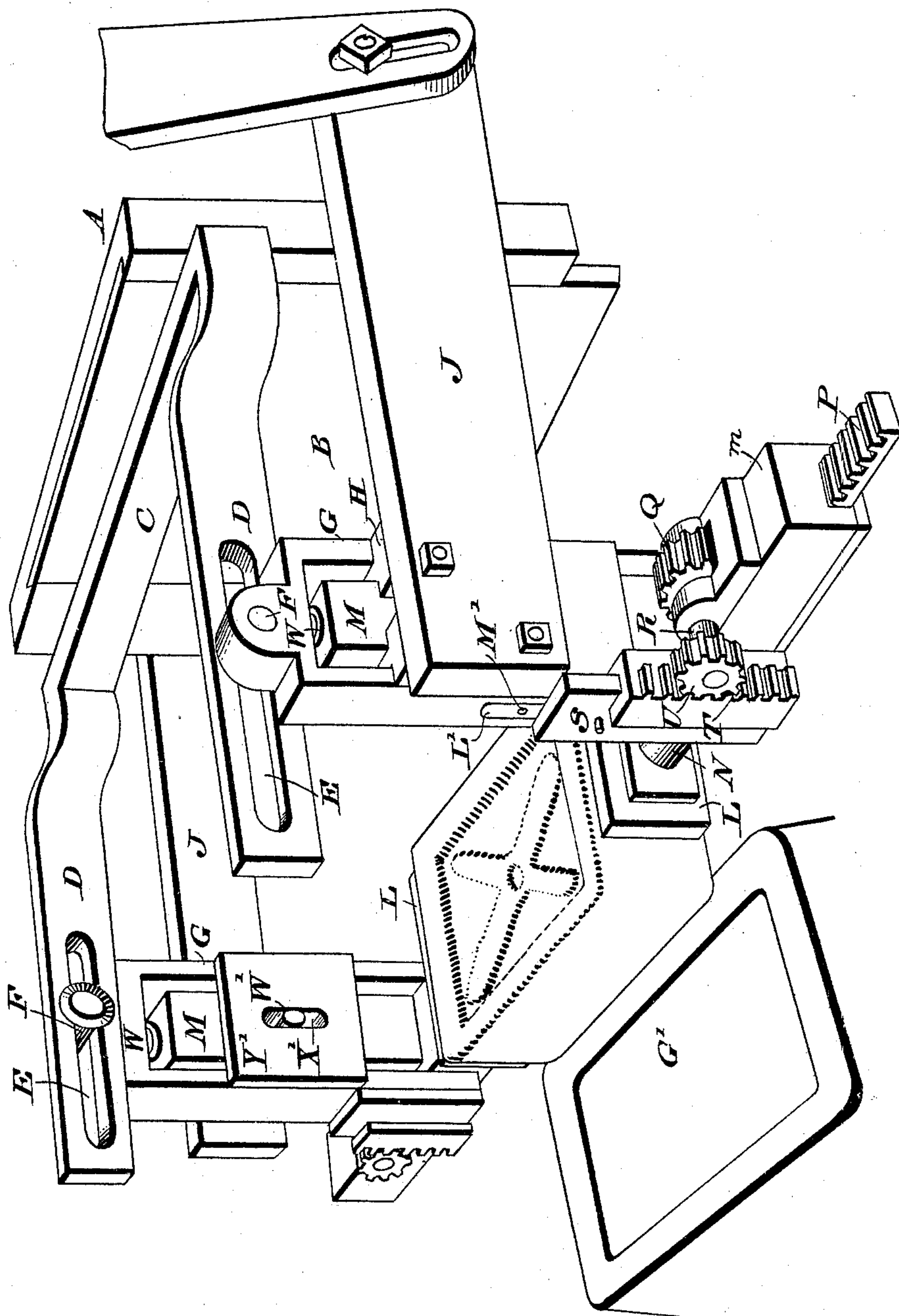
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Fig. 7.



WITNESSES:

P. H. Chagel.
L. Douville.

INVENTOR
Francis S. Rutschman
BY *John A. Schermer*
ATTORNEY.

UNITED STATES PATENT OFFICE.

FRANCIS S. RUTSCHMAN, OF PHILADELPHIA, PENNSYLVANIA.

SOAP-PRESS.

SPECIFICATION forming part of Letters Patent No. 462,064, dated October 27, 1891.

Application filed January 27, 1891. Serial No. 379,247. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS S. RUTSCHMAN, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Soap-Presses, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of improvements, as hereinafter described, in a soap-press adapted to imprint on a cake or block of soap the name, brand, trade-mark, ornamentation, &c., as desired, the said improvements embodying novel means for grasping the soap and for conveying it from the support on which it rests when stamped or marked.

Figure 1 represents a perspective view of a portion of a soap-press embodying my invention, but one of the grasping-jaws and hangers with operating sliding arm being shown in this figure. Fig. 2 represents a front view of the mechanism for operating the rising and falling plate to which the jaws are connected, also the operating mechanism for the endless apron, said parts being shown on an enlarged scale. Fig. 3 represents a perspective view of detail portions of the device embodying my invention on an enlarged scale. Fig. 4 represents a vertical section on line *y y*, Fig. 3. Fig. 5 represents a horizontal section on line *z z*, Fig. 3. Fig. 6 represents a vertical section on line *v v*, Fig. 3. Fig. 7 represents a perspective view of the grasping-jaws with inclosed cake and a portion of the operating mechanism for said jaws on an enlarged scale.

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

Referring to the drawings, A designates a portion of the frame of a soap-press, and B a rising and falling plate movable in guides thereon, said plate being operated by mechanism hereinafter described, but which is old and not claimed herein, being described and claimed in a patent granted to me June 24, 1890, No. 430,888, the present invention being an improvement on a portion of the device shown in said patent. To the plate B is secured a cross-piece C, having extending therefrom the parallel arms D, with the horizontally-extending slots E therein. Depending from each of the arms D by means of a

pin F is a slotted hanger G, which in its rising and falling movements with its arm D and plate B is guided on a bracket H, firmly secured to a sliding arm J, movable in the guides K on the said frame A. Supported on each of the brackets H is a hanger M, having an upper portion located between the sides of the hanger G, and which in its rising and falling movements is guided on the said bracket, and a lower horizontally-extending portion, in which is located a sliding arm N, to one end of which is secured a jaw L, consisting of a flat piece of any suitable material and proper form for grasping the piece of soap which is to be printed on. The other end of the arm N is provided with a rack P, which engages with a pinion Q, mounted on a horizontal shaft R, the latter being journaled in the horizontally-extending portion *m* of the hanger M. Secured to the lower end of one side of each of the hangers G is a block S, having a vertical rack T thereon, said rack meshing with a gear-wheel U on the shaft R. Seated in a recess V in the upper end of each of the hangers M is a spring W, bearing against the said hanger and the under side of a cross top piece or bar of the hanger G, for a purpose hereinafter explained.

To operate the rising or falling plate B an arm Y is secured thereto, said arm having a pin Z, which is inserted in a cam-groove on a wheel A', mounted on a shaft B', suitably journaled, the latter carrying a bevel gear-wheel meshing with a bevel-pinion C', operated from the driving-shaft by intermediate gear-wheels D' E'. From the shaft B' motion is communicated to the endless belt V' by any suitable train of gearing.

F' designates a plunger adapted to carry at its lower end a die or stamp for making the imprint upon the soap, G' a box or mold in which the cake is held during the stamping or printing thereon, and H' a follower within said box for raising and lowering said cake. Mechanisms for operating said plunger and follower are old and well known and are not claimed *per se* herein; neither is the mechanism for operating or raising and lowering the plate B, such mechanism being fully described in the patent already alluded to—viz., No. 430,888, of June 24, 1890.

The upright portion of each of the hangers

M which is between the sides of the hanger G has on each of its sides a projecting pin M', which, when the hangers G do not sustain the said hangers M in their movements, rests upon the lower wall of the slots P', formed in the sides of the brackets H and projects in slots L' in the sides of the hangers G, the said slots L' being of such length as to extend a short distance below the lower wall of the said slots P' when the hangers G are in their lowest position, so as to permit a short upward movement of the said hangers G without raising the hangers M.

As an additional support for the hangers M, the same are provided with pins W', which rest on the lower walls of the vertical slots X', formed in the front cross pieces or plates Y' of the hangers G when the latter are sustaining the said hangers M.

The operation of the device is as follows: A cake of soap is placed on the table J' between the box G' and the feed-board K', the press or machine being then set in motion. As the follower H' reaches its highest position, the said follower receives the cake of soap. The follower now descends in the box the depth of the thickness of the cake, after which the plunger F' descends, so that a die attached thereto imprints on the cake the mark desired. Meanwhile the jaws L are on opposite sides of the top of the ends of the box G', and as the plunger recedes the follower H' rises, lifting the cake until its under side is level with the top of the box. Owing to the timing of the parts the slide B now rises a short distance, lifting the hangers G and the connected racks T without raising the hanger M, thereby rotating the pinions U and shafts R with pinions Q, thus moving by means of the racks P the arms N and jaws L, whereby the latter are advanced toward each other, so as to grasp the cake of soap. As the slide B is further raised, lifting the hangers G, the lower walls of the vertical slots L' in the sides of each of the said hangers bear upward against the pins M', thereby raising the hangers M, so that owing to the hangers G and M moving together the jaws L are lifted without shaft R rotating. When the hangers have been lifted to their highest extent of travel, the arms J are then, owing to the rotation of the cam R', operated so that they are drawn or moved inward, thereby carrying the hangers G and M with the jaws L from over the box G' to a position over the endless belt V', the connecting-pins F' of the hangers G during this movement moving in the slots E of the arms D. The plate B is now lowered with the hangers G and M, and as the pins M' of the hangers M come in contact with the lower end wall of the slots P' of the brackets H the hangers M are stopped in their downward motion, so that as the hangers G are further lowered their racks T, meshing with the gear-wheels U, rotate the shafts R and pinions Q, so as by means of the racks P to move the arms N with the jaws L out-

ward, thereby releasing the soap and depositing it on the endless belt or apron, which conveys it to one side of the machine. The springs W serve to prevent any jar of the hangers in their movements upon each other, keeping the pins M' of the hanger M in contact with the lower end walls of the slots L' when the said pins M are not supported on the brackets H. The connected hangers with their jaws are returned to their first position by the rising movement of the plate B, followed by the forward movements of the arms J and then a lowering of the said plate, these operations being performed by the mechanisms already described.

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

1. A rising and falling hanger with a rack thereon, a second hanger movable in said first hanger, a rotary shaft journaled in said second hanger, a pinion on said shaft meshing with said rack, and a grasping-jaw with an arm having a rack engaged by a pinion on the said shaft, said parts being combined substantially as described.

2. A soap-press having a rising and falling plate with projecting arms, hangers connected with said arms, brackets having suitable supports, other hangers supported on said brackets and adapted to be raised therefrom and lowered thereto by contact with and the movement of said first hangers, jaws having arms movable in said second hangers, and racks and rotary pinions connected with said hangers for moving the arms carrying the said jaws, said parts being combined substantially as described.

3. A soap-press having a rising and falling arm with a horizontal slot therein, a hanger mounted in said slot and having a rack connected therewith, a second rising and falling hanger with a rotary shaft having a pinion meshing with said rack, and a grasping-jaw with rack engaged by a second pinion on said rotary shaft, said parts being combined substantially as described.

4. A soap-press having a rising and falling plate with slotted projected arms, hangers with connecting-pins movable in said slots, sliding arms with brackets secured thereto, said hangers being guided on said brackets, other hangers supported on said brackets and having pins or projecting portions adapted to be engaged by said first hangers in their vertical movements, so as to be in contact with and support said second hangers, arms having racks horizontally movable in said second hangers, and carrying-jaws and racks connected with said first hangers and meshing with rotary pinions on said second hangers, the shafts of said pinions having gear-wheels meshing with the racks on the arms having the jaws, said parts being combined substantially as described.

5. A soap-press having a rising and falling hanger, a second hanger with a suitable sup-

port and having pins or projections adapted to be engaged by the first hanger during a portion of its vertical movement, an arm carried by the second hanger and provided
5 with a jaw, and a spring between said first and second hangers, said parts being combined substantially as and for the purpose set forth.

6. In a soap-press, the combination of a
10 hanger having a rack thereon, with a second

hanger having a shaft journaled therein and provided with a pinion meshing with said rack, and an arm having a rack movable in said second hanger and meshing with a pinion on said shaft, substantially as described. 15

FRANCIS S. RUTSCHMAN.

Witnesses:

JOHN A. WIEDERSHEIM,
A. P. JENNINGS.