

(No Model.)

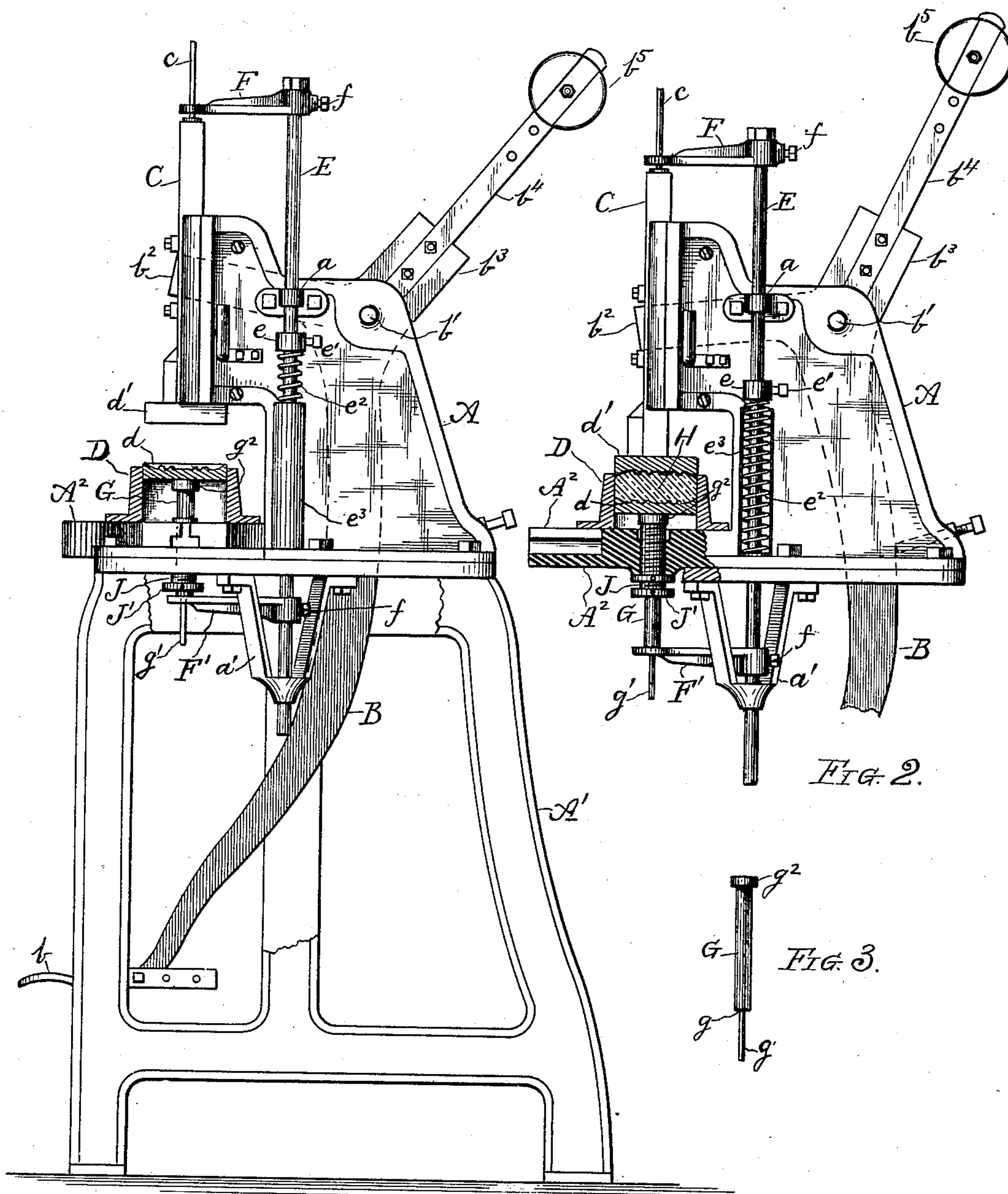
2 Sheets—Sheet 1.

J. H. CLAPP.

SOAP PRESS.

No. 340,979.

Patented May 4, 1886.



Witnesses:
J. B. Halpenny.
David Stevens.

FIG. 1.

Inventor:
James H. Clapp
By Gridley & Fletcher
Attys.

(No Model.)

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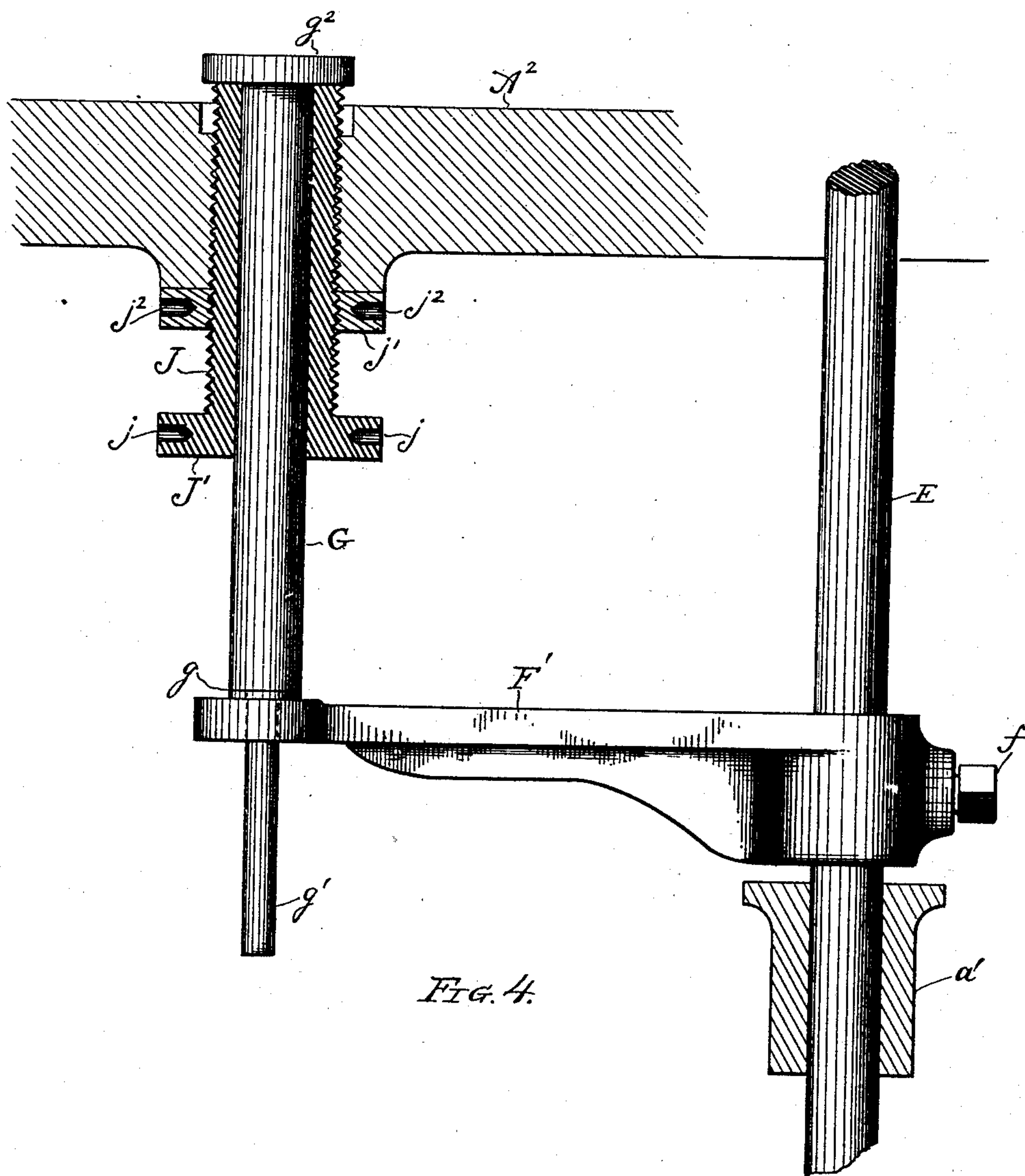


FIG. 4.

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UNITED STATES PATENT OFFICE.

JAMES H. CLAPP, OF CHICAGO, ILLINOIS, ASSIGNOR TO JAMES LEWIS BOARD, OF SAME PLACE.

SOAP-PRESS.

SPECIFICATION forming part of Letters Patent No. 340,979, dated May 4, 1886.

Application filed January 23, 1886. Serial No. 189,368. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. CLAPP, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Soap-Presses, of which the following is a description, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of said press, in which a portion of the frame is broken away and the lower die and die-box are shown in transverse section to reveal the working parts. Fig. 2 is a similar view, in detail, of a portion of said press, showing a transverse sectional view of the table and dies, the latter being at the point of compression. Fig. 3 is a detail view of the removable piston used to raise the lower section of the die upon the return-stroke of the cross-head; and Fig. 4 is an enlarged detail view, partly in section, of the device for adjusting the die to the thickness of the soap-cake.

Like letters of reference indicate like parts in the different figures.

The object of my invention is to provide an automatic device to be used in connection with soap-presses, whereby after compressing the soap-cake the matrix may be raised out of the box by a positive and certain movement, thus enabling the cake, when formed, to be removed at will.

A further object is to render said device adjustable to the varying thickness of the soap-cakes, and to initiate a quick reverse movement of the dies after the compressing-stroke is completed, and while the counterpoise-weight is in a position to exert its least gravitating force, all of which are hereinafter more particularly described, and pointed out in the claims.

In the drawings, A represents the body of the machine, the bed of which is supported upon the usual frame-work, A', said body being of the ordinary pattern in machines of its class. A foot-lever, B, provided with a treadle, b, is pivoted to the frame at b', and is provided with diverging arms b² b³, the former of which is extended forward and passes through a slot in the usual vertical reciprocating cross-head, C, which is fitted to slide in a suitable bearing, and is operated by the movement of the arm b². The arm b³ has rigidly attached thereto a sec-

ondary arm or bar, b⁴, to which is secured an adjustable counterpoise or weight, b⁵.

Removably attached to the bed A² by means of bolts, or in any well-known way, is a metal receiving-box, D, into which is loosely but accurately fitted one member, d, of a die, the counterpart, d', of which is rigidly attached to the bottom of the cross-head C.

Near the top of the frame A, and upon one side, is bolted a lug, a, and upon the bottom of the bed A², and secured thereto in like manner, is a depending bracket, a', the two forming bearings for a vertical rod or bar, E, which is loosely fitted therein. At the top of said bar is rigidly but adjustably attached a horizontal projecting arm, F, perforated at its extremity, through which is loosely inserted a vertical rod, e, rigidly attached to the cross-head C. A like arm, F', is likewise attached to said bar E, near its lower end, both of said arms being adjustably secured to the bar E by means of set-screws ff. Through the perforated extremity of the arm F' is loosely protruded a bolt or pin, G, (shown in detail in Fig. 3,) provided with a shoulder, g, and a smaller portion or extension, g'. A head, g², is likewise formed upon the upper end. Said pin is fitted loosely in a bearing in the bed, so as to insure an accurate movement thereof, into which it is placed before inserting the die d in the box D. An adjustable collar, e, is attached to the bar E, below the lug a, by means of the set-screw e'. Between the collar e and the bed A², I place a spiral spring, e², the upward pressure of which may be regulated by the position of the collar e. Said spring is protected by means of a shield, e³, surrounding the same.

In lieu of removing the matrix d and inserting blocks or pieces of leather or other material of varying thickness beneath said matrix, in order to adjust it to form the soap-cake of the desired thickness, I insert an adjustable screw-bushing, J, (better shown in Fig. 4,) within the perforation in the bed, and which forms a bearing for the pin G, the head g² of said pin being adapted to rest upon the upper end of said bushing when the latter is above the surface of the bed. Said part J is preferably provided with an enlargement, J', at its lower end, into which is formed a series of holes, j, into which a pin may be inserted for turn-

ing said screw and adjusting its height. When so adjusted, the same may be locked by means of a jam-nut, j' , provided with like holes, j'' .

5 It is obvious that the part J' , as well as the nut j' , may be made square or polygonal in form, so as to be adjusted by means of a wrench in any well-known way. Said device is capable of the most exact adjustment, while
10 at the same time it furnishes a solid and firm foundation for the matrix.

The operation of said machine is as follows: Assuming the parts to be in their normal position, as shown in Fig. 1, the soap to be
15 pressed is placed between the dies d d' , when a quick pressure is made upon the treadle b . This movement forces the die d downwardly within the box D , which, by means of the bolt G , presses down upon the arm F' , thus com-
20 pressing the spring e^2 . The die d' is forced downwardly within the box by means of the arm b^2 , thus compressing the soap H , Fig. 2, into a compact cake, the momentum of the weight b^3 producing a powerful impact of the
25 die d' therewith, thus rendering the body of the cake dense and its surface smooth and glossy. The power stored in the spring e^2 immediately initiates an upward movement of the bar E , thus causing the pin G to force the
30 die d upwardly until its upper face is even with the top of the box D , when the cake may be readily removed. In addition to the force of the spring e^2 , which, as stated, serves to initiate the upward movement of the bar E , the cross-
35 head C , acting upon the arm F , continues said movement, and renders it positive and certain at all times, thus insuring the delivery of the compressed cake upon each return-stroke. By means of the set-screws f f the arms F F'
40 may be adjusted at will to conform in movement to the height of the die-box, and thus deliver the cake.

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

1. The combination, with a soap-press having a loose matrix inclosed within a box, the counterpart of which matrix is attached to a reciprocating cross-head, of a bar arranged to move
50 longitudinally in bearings and provided with arms at or near its respective ends, which are in turn connected with said cross-head and loose matrix, substantially in the manner and for the purposes specified.

55 2. In a soap-press, a rigid bar loosely sup-

ported in bearings in which it is fitted to slide, and provided with rigid arms at or near its ends, one of which is connected with the cross-head, and the other by an intermediate pin, G , or equivalent means, with the lower section
60 of the die, whereby the latter may be positively raised to the surface of the box upon the return-stroke of the cross-head, substantially as described.

3. The combination, with a soap-press the
65 male die of which is attached to a reciprocating cross-head operated by a lever and counterpoise-weight, of the reciprocating bar E , provided with arms F F' , the former of which is connected with the cross-head, and the latter
70 with a loose vertical pin in contact with the movable matrix d , substantially as and for the purposes set forth.

4. The combination, with a soap-press the
75 male die of which is attached to a reciprocating cross-head operated by a lever and counterpoise-weight, of the reciprocating bar E , provided with adjustable arms F F' , the former of which is connected with the cross-head, and the latter with a loose vertical pin in contact
80 with the movable matrix d , substantially as described, and for the purposes specified.

5. The combination, with a soap-press the
85 male die of which is attached to a reciprocating cross-head operated by a lever and counterpoise-weight, of the reciprocating bar E , provided with arms F F' , the former of which is connected with the cross-head, and the latter with a loose vertical pin beneath and in contact with the movable matrix d , and the spring
90 e , for initiating a backward stroke of the cross-head, substantially as described.

6. In a soap-press, the reciprocating bar E , having adjustable arms F F' connected with the respective dies thereof, substantially as
95 and for the purposes set forth.

7. In combination with the dies and die-box of a soap-press, the adjustable device J , whereby said dies may be adjusted to form cakes of
100 varying thickness, substantially as specified.

8. In combination with the dies and die-box of a soap-press, the adjustable die-support J and means, as a jam-nut, for locking the same in position when adjusted, substantially in the manner and for the purposes described.

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Witnesses:

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