

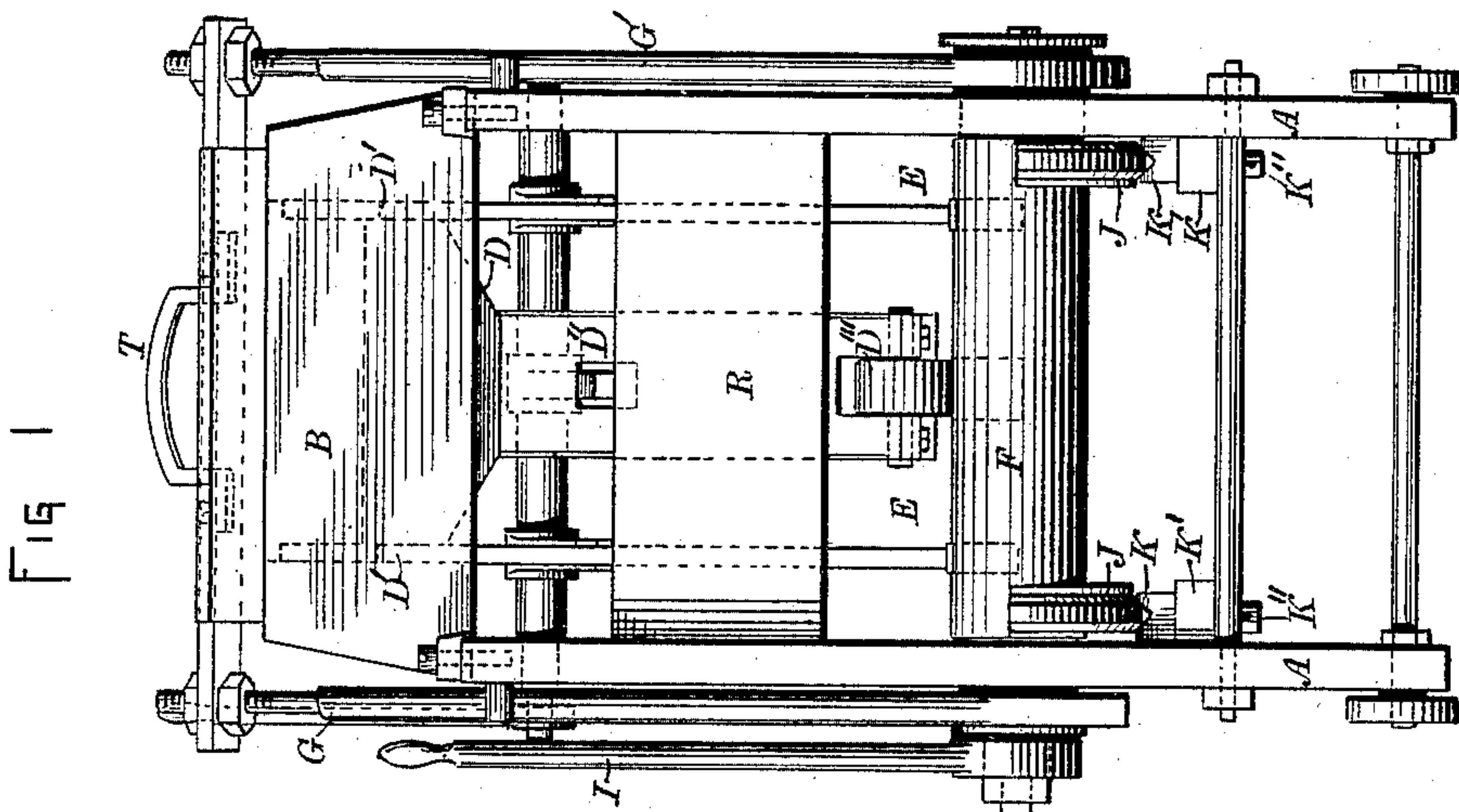
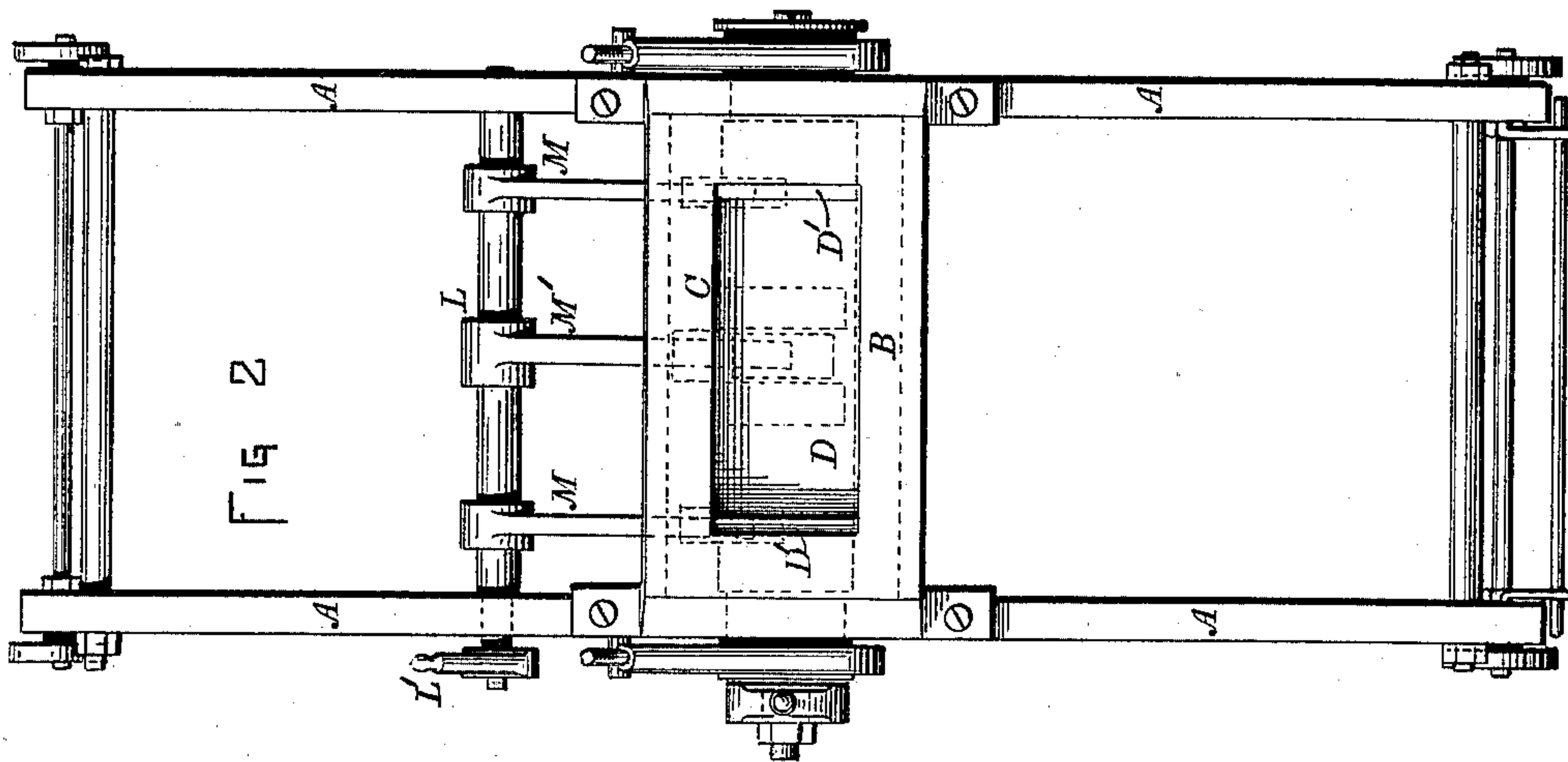
(No Model.)

3 Sheets—Sheet 1.

W. WEEBER.
BRICK MACHINE.

No. 395,765.

Patented Jan. 8, 1889.



WITNESSES.
Pro B. Shepherd
S. B. Lewis

INVENTOR
William Weeber
per George E. Buckley
att'y.

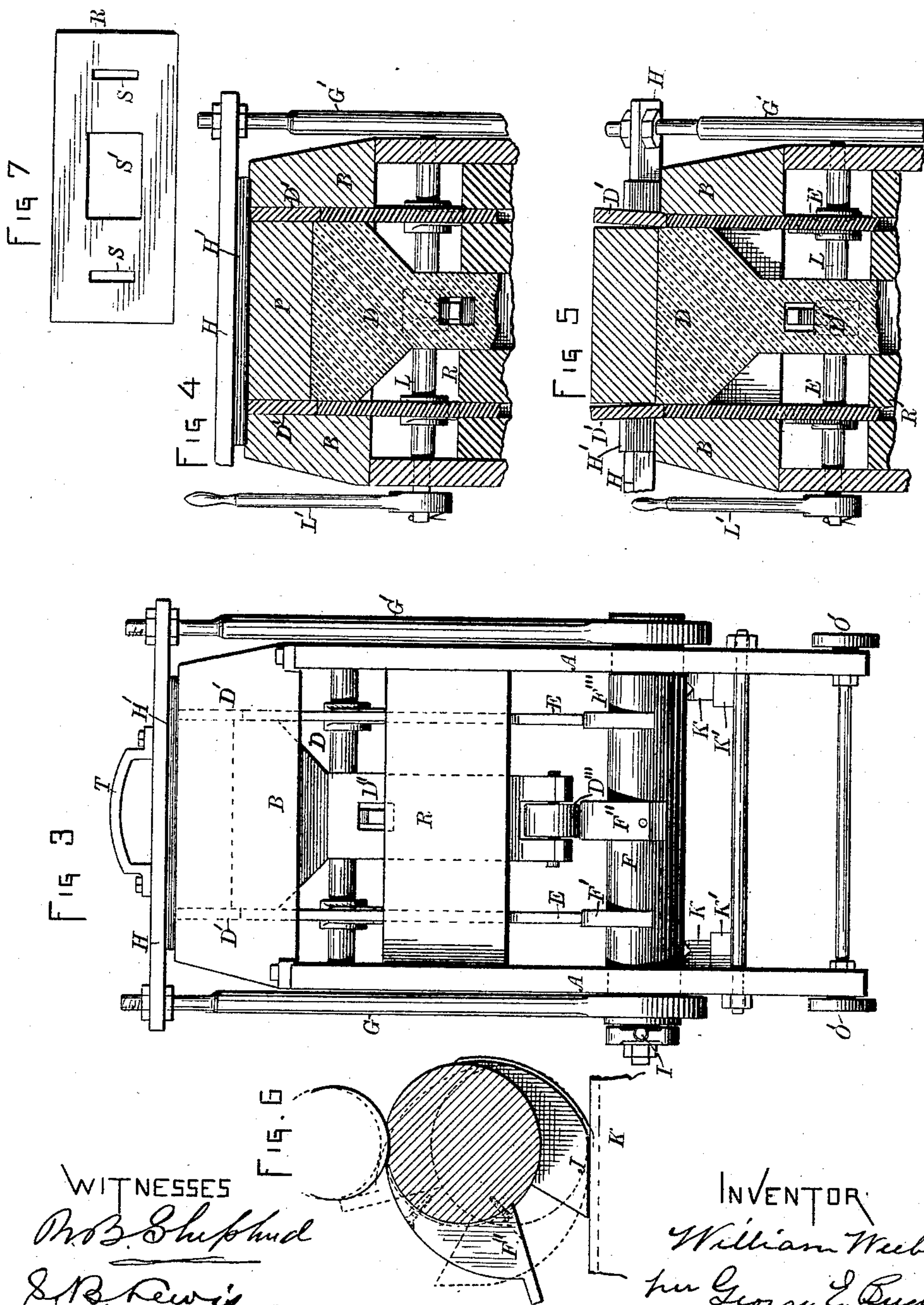
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WITNESSES
Wm. B. Shepherd
S. B. Lewis

INVENTOR
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by *George E. Buckley*
Atty.

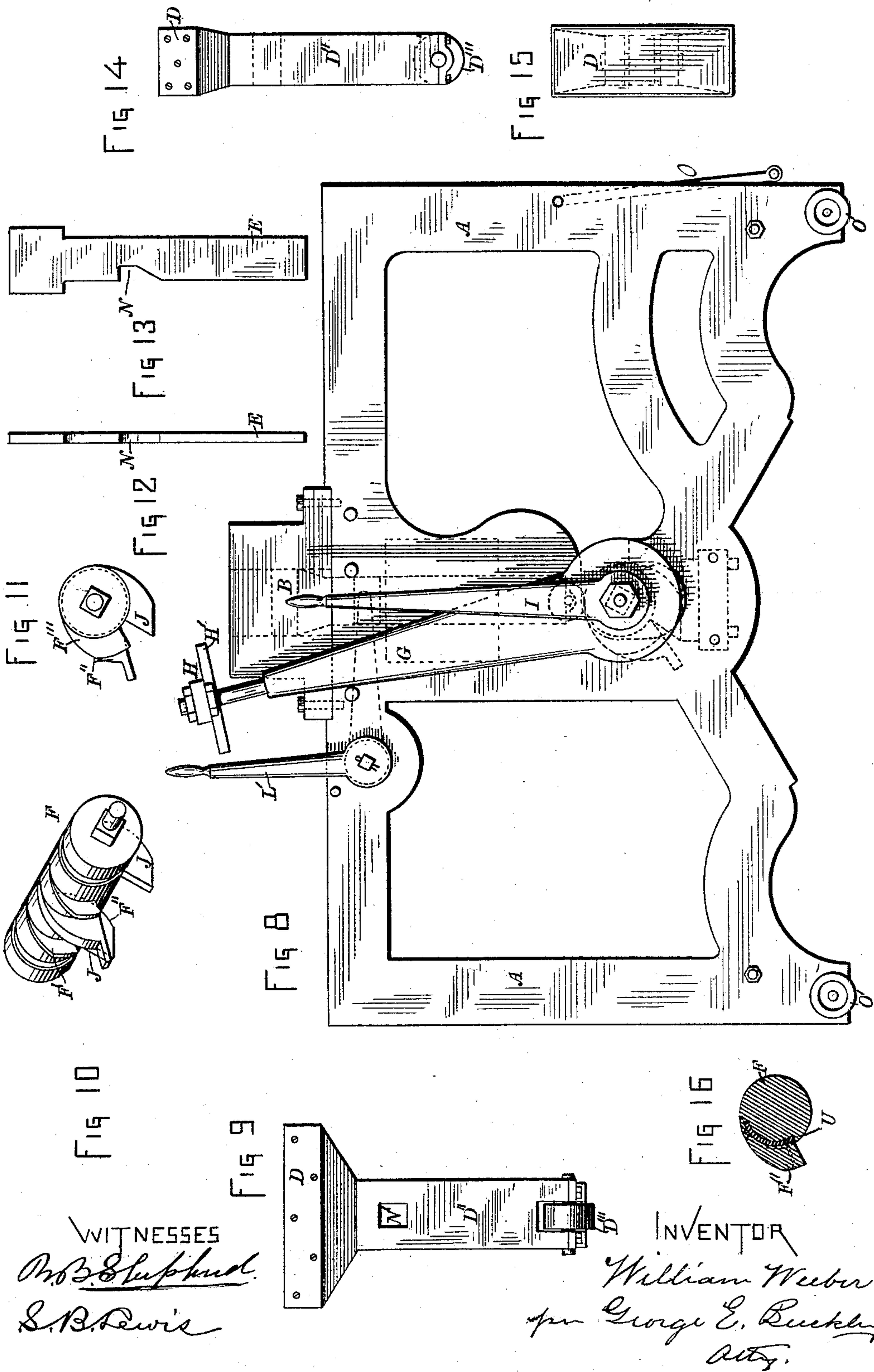
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No. 395,765.

Patented Jan. 8, 1889.



WITNESSES

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INVENTOR

William Weber
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UNITED STATES PATENT OFFICE.

WILLIAM WEEBER, OF PHILADELPHIA, PENNSYLVANIA.

BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 395,765, dated January 8, 1889.

Application filed April 11, 1888. Serial No. 270,368. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WEEBER, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain new and useful Improvements in Brick-Machines, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part hereof.

10 The nature of my invention will fully appear from the following specification and claims.

My device is a hand-press, and is designed to facilitate the work and do it well and rapidly.

15 In the drawings, Figure 1 is an end elevation of my device, showing it in condition to receive the clay to be pressed; Fig. 2, a plan view of the same; Fig. 3, an end view of the device, showing the cap in place and the machine in operation; Fig. 4, a broken cross-sectional view, showing the brick being pressed; Fig. 5, a similar view, showing the brick being forced out of the machine; Fig. 6, a detached sectional view, showing the middle cylinder with its cams; Fig. 7, a plan view of the guide-block for the plunger-stem and the standards which raise the end formers; Fig. 8, a side elevation of my device, showing the actuating-levers and part of the cap-frame and cap; Fig. 9, an elevation of the plunger and its stem, all of which I construct of cast iron; Fig. 10, a perspective view of the main actuating-cylinder and its cams; Fig. 11, an end view of the same; Fig. 12, an edge view of one of the standards to the end formers; Fig. 13, a side view of the same; Fig. 14, a side elevation of the plunger and stem; Fig. 15, a plan view of the plunger, showing the edge of the steel sheathing around the sides thereof; Fig. 16, a cross-section of one of the standard-cams, showing its elastic cushion.

45 A is the frame of the machine; B, the mold-block set across the top of the two sides of the frame, and secured thereto by bolts, screws, or pins. Each hole through which any of these bolts, screws, or pins pass should be larger in diameter than that of the bolt, so as to allow a slight play longitudinally and laterally, whereby the bolts may be loosened and the mold slightly shifted in the event of its

binding at any point on the plunger. After the shifting the bolts are tightened.

C (see Fig. 2) is the middle opening in the mold to receive the clay to be pressed. 55

D is the plunger, which, with its loose end pieces, D' D', fits snugly in opening C.

E E are the standards, which set up beneath and sustain pieces D' D'.

D'' is the stem of the plunger. This stem 60 is provided at its lower end with a friction-roller, D'''.

F is a cam-shaft or cylinder, the ends of which project through and beyond the two opposite sides of the frame A. Upon this 65 shaft are located two sets of cams. One set, F' F'' F''', (see Fig. 3,) raise the standards E E and the plunger D; the middle one, F'', impinges against the roller D''', and the other two against the feet of the standards, which 70 latter may also be provided with friction-rollers, if desired.

G G' are upright arms sustaining the cross-bar H, to which is secured the pressure-plate H', the lower face of which covers opening C 75 in the mold-block B. These arms are pierced below with openings which permit them to be secured loosely upon the outwardly-projecting ends of shaft F. These openings are so much larger in diameter than the shaft that 80 considerable play is allowed as the shaft is raised, but the latter sets down firmly upon the bottoms of the openings when it is down in position and pressing is in progress. The arm G' is secured on the shaft by a large 85 washer and nut, and arm G has a washer set against it. The long lever I is then set against this washer on a polygonal end of the shaft, and the whole is secured by a nut, as shown in Fig. 1. 90

Another set of cams, J J, are set upon shaft F, between the sides of the frame and in such positions that as the cams F' F'' F''' cease to operate they come into play upon adjustable blocks K K. These cams J J are narrow- 95 edged and engage in grooves in blocks K K. The latter when seated rest on fixed supports K' K', and can be raised or lowered at will by set-screws K'' K''. The sides of the frame are braced apart by ordinary means well 100 known to mechanics, which require no special description. If desired, side pieces similar to

end pieces D' may be used, the ends of which may rest on the tops of standards E E. In such case the inner faces of these side pieces may bear an imprint either in cameo or intaglio, which will be impressed upon the long side or sides of the brick.

L is a rock-shaft projecting through the side of the frame at one end and there provided with a lever, L'.

M M' M are arms rigidly attached to the shaft L. Their outer ends engage with notches N N' N, (see Figs. 12 and 13,) or catches of any suitable description, upon the vertical faces of standards E E and the plunger-stem D''. The notch N' on the plunger-stem is carried completely through it, (see Fig. 9,) and the arm M' rests therein. O, Fig. 8, is a handle to move the machine from place to place on its wheels O' O'.

P, Figs. 4 and 5, are the bricks in process of manipulation.

R is the guide-block for the plunger-stem and standards E E, provided with openings S S' S (see Fig. 7) through it, in which they slide snugly.

S' is the opening through which the plunger-stem passes, and S S those through which the standards pass.

T is a handle to be used in replacing the pressure-plate over the mold-block after it has been upset and the pressed brick removed.

The operation of my machine is as follows: The clay is first tempered and then shaped into brick form in a common brick-mold; it is then allowed to attain a partial dryness—that is, until it is in a comparatively dry but plastic state. The shaped clay is then placed in the opening C in mold-block B, while the pressure-cap H' is thrown back, as shown in Figs. 1, 5, and 8. The cap H' is then placed in its position over the mold, being raised by the handle T. When it is in position, the lever I is thrown down, as in Fig. 3, which brings the pressure-cap H' down flush upon the upper surface of the mold-block B. The throwing of lever I down also brings cams F' F'' F''' into play and raises the plunger and standards E E. The cams F' F'' F''' are screwed down in place with an elastic cushion, U, (see Fig. 16,) between them and shaft F. They are then adapted to keep up the end pieces, D', by an elastic pressure, while they do not interfere with the positive pressing action of the plunger on the brick. All the cams are detachably secured in place so as to be easily removed as they wear, and they can be raised by the interposition of metallic or other strips between them and the shaft. The plunger thus presses the brick to an extent gaged by the upwardly-projecting throw of cam F''. (See Fig. 3.) As cams F' F'' F''' pass their bearing-points on the standards and stem, the shaft F is kept revolving in the same direction, which brings the cams J J (see Fig. 1) into play. These cams, acting on blocks K K, raise shaft F and arms G G' and conse-

quently the plate H'. (See Figs. 1 and 8.) The arms G G' and plate H' are then thrown back, as shown in these figures, and the lever L' is used to rotate the shaft L and elevate the outer ends of arms M M' M, which raise the standards E E and plunger-shaft D'' to about the position shown in Fig. 5. The end pieces, D', then fall away and the pressed brick is removed for burning. The holes in the ends of bar H, through which the ends of arm G G' pass, are greater in diameter than that of said ends in order to permit of a slight shifting of the bar, after which it can be tightened up by the nuts which secure it in place. There is a stationary washer beneath each end of this bar on the end of each arm, which washer sets on a shoulder on the latter. A screw-nut sets down on the bar at each end to secure it, as shown. To make a plain brick the end pieces, D' D', are not used, and the plunger completely fills the whole space in the mold to compensate for their absence. In such case as is apparent a mold-block, B, with a smaller opening will be used in order to preserve the regulation size of the brick. The standards E E will then not be utilized, and will be temporarily removed until such special work is finished. The pressure given by cams F' F''' will necessarily be only sufficient to raise the end pieces, D' D', up against the pressure-plate and hold them there, when the cam F'' will raise the plunger D to do the pressing. The cams are secured to their shaft by screws.

What I claim as new is—

1. The combination, with frame A of a brick-press, of mold-block B, guide R, plunger D, with its stem D'', the plunger being adapted to fit snugly in the opening C of the mold-block, cam-shaft F, with its cam F'', to raise the plunger-stem, pressure-plate H', secured to side arms, G G', and cams J J, impinging on blocks K K as the cam-shaft F is turned, whereby the plunger is raised by its cam to press the brick, and the arms G G' are then raised by cams J J to throw the plate H' off the mold, substantially as described.

2. The combination, with frame A of a brick-press, of mold-block B, guide R, plunger D, with its stem D'', end pieces, D' D', standards E E, supporting said end pieces, cam-shaft F, with its cams F' F'' F''', to operate on the standards and plunger-stem, pressure-plate H', with side arms, G G', and cams J J, to raise the latter and throw the pressure-plate off the mold, rock-shaft L, with its arms M M' M, to engage with the plunger-shaft, and standards to finally raise them and release the brick from the mold, substantially as described.

3. The combination, with the frame A and standards E E, of cam-shaft F, provided with cams F' F''' and elastic cushions U, substantially as and for the purpose described.

4. The combination, with the brick-press, of mold B, plate H, guide R, plunger D, stem D'',

standards E E, and side arms, G G', of cam-
shaft F and its several cams, operating as
shown, the latter being detachably secured
to the said shaft, whereby as they wear lay-
5 ers or strips may be placed between them
and the shaft to raise them, substantially as
described.

In witness that the above is my invention
I have hereunto set my hand.

WILLIAM WEEBER.

Witnesses:

GEORGE E. BUCKLEY,
ANDREW ZANE, Jr.