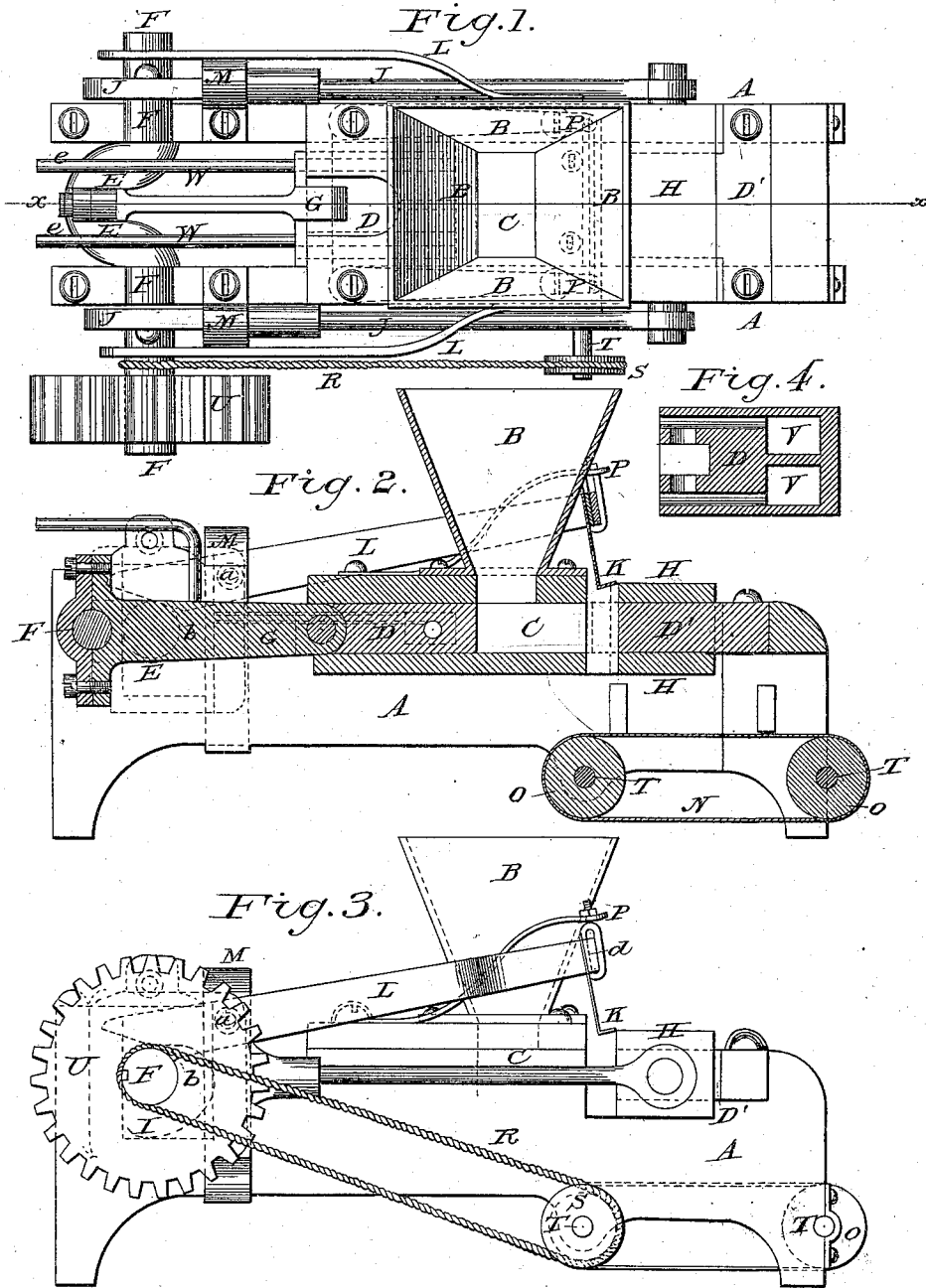


J. L. CHAPMAN.
BRICK MACHINE.

No. 104,268.

Patented June 14, 1870.



Witnesses:

Thomas E. Dewley
J. S. Grew

Inventor.

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JOSEPH L. CHAPMAN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND JAMES BLEE STUART, OF SAME PLACE.

Letters Patent No. 104,268, dated June 14, 1870.

IMPROVEMENT IN BRICK-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

I, JOSEPH L. CHAPMAN, of the city of Philadelphia and State of Pennsylvania, have invented certain Improvements in Brick-Machines, of which the following is a specification.

The nature of my invention, in the first place, consists of a horizontal movable pressing-mold and stationary piston, combined and arranged with a hopper and filling-mold, the pressing-mold being moved by means of cams on a revolving shaft, and the movable piston by means of a crank of the said shaft, as hereinafter described.

In the second place, it consists of double horizontal levers, and a plunger in connection therewith, for removing the bricks from the mold, and an endless apron for the delivery of the same, the levers being operated by pins or cams on each end of the said revolving shaft. The plunger is then returned to its upward position by means of springs.

The invention, in the third place, consists in the heating of the face of the movable or pressing-piston, by means of steam through a pipe or pipes, in connection with a chamber of the piston, whereby the bricks are prevented from adhering to the face of the piston.

To enable others skilled in the art to which my improvement appertains to make and use my invention, I will now give a detailed description thereof.

In the accompanying drawing, which makes a part of this specification—

Figure 1 is a plan view of the improved machine.

Figure 2 is a vertical section at the line *xx* of fig. 1.

Figure 3 is a side elevation.

Figure 4 is a horizontal section of the piston D.

Like letters in all the figures indicate the same parts.

A is the standing frame of the machine.

B is the hopper from which the mold is charged with clay, there being a receiving-chamber, C, beneath it, into which the clay falls when the movable piston D is drawn back into the position seen in full lines in fig. 2.

The said piston is operated by the crank E of the shaft F and connecting-rod G.

H is the pressing-mold, which has a reciprocating movement by means of the cams I I on the ends of the driving-shaft F and the connecting-rods J J.

The mold is brought against the receiving-chamber C before the piston D is drawn to the rear side of the hopper B, and remains in that position until the clay, in the forward motion of the piston, is pushed through the said receiving-chamber C. Then, as the crank E bears the piston still forward, for the condensation of the clay between it and the reacting stationary piston

D', the condensing-mold H is moved forward over the latter piston, at about one-half the velocity of the movable piston D, to equalize the pressure on the two parallel flat faces of the bricks.

The positions which the movable piston D and condensing-mold H assume when the condensation of the clay is completed are represented by dotted lines in fig. 2. The mold H is then still borne forward into the position represented by full lines, and the brick is pushed out from between the pistons D and D' by the plunger K, connected with the side-levers L L, which have fulcrum-pins *aa* in the vertical stationary yokes M M, the rear ends of the levers being raised by the pins *b b* on the ends of the crank-shaft F, as the shaft revolves.

The levers, at their front ends, have elbows *d*, which are connected by means of rivets or otherwise. To these elbows the plunger K is connected.

When the brick is pushed from between the pistons onto the endless removing-apron N on the rollers O O, the plunger is brought back to its former elevated position, as shown in the drawing, by means of the spring P P, the front ends of the same being connected, by means of the links Q Q, with the elbows of the levers.

The endless apron N is actuated by means of the belt R, connected with the driving crank-shaft F and pulley S on one end of the shaft T of one of the rollers O.

Power is communicated to the driving-shaft F by suitable gearing in connection with the gear-wheel U.

To overcome the adhesion of the bricks to the pressing-piston D, I construct it with one or more chambers V, and connect therewith steam-pipes W, which are supplied with steam from the generator of the engine.

The horizontal parts *e* of the pipes should work in stuffing-boxes of the steam-pipes with which they are connected.

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

The combination of the plunger K and levers L L, constructed and arranged substantially as described, and operated by means of the springs P P and crank-shaft F, provided with pins or cams *b b*, as above set forth.

In testimony that the above is my invention, I have hereunto set my hand and affixed my seal this 26th day of March, 1870.

JOS. L. CHAPMAN. [L. s.]

Witnesses:

THOMAS J. BEWLEY,
STEPHEN USTICK.