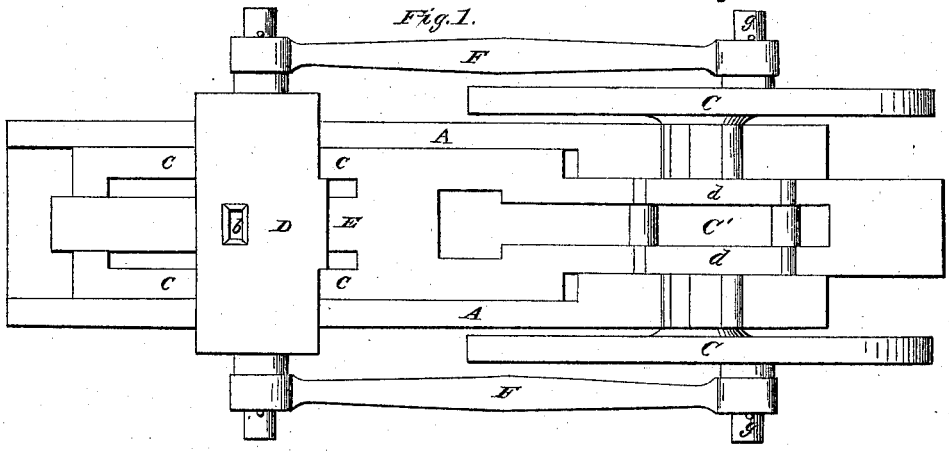
D. W. Seeley,

Brick Machine,

No. 54,967. Patented May 22, 1866.

Fig. 1.



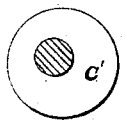


Fig. 2.

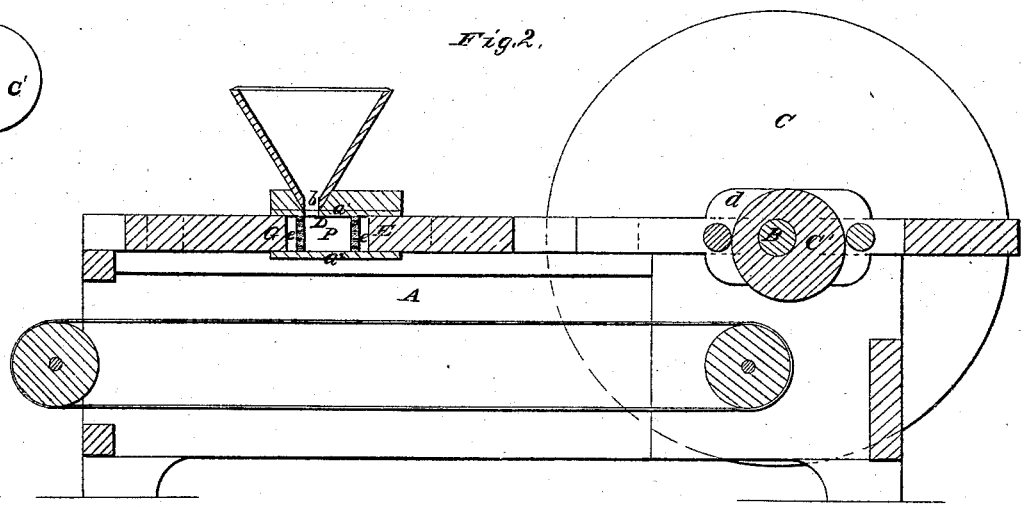


Fig. 3.

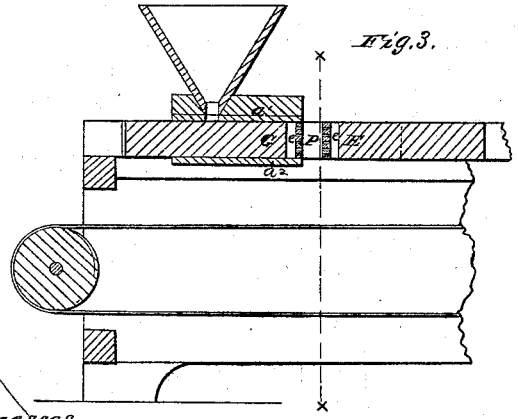
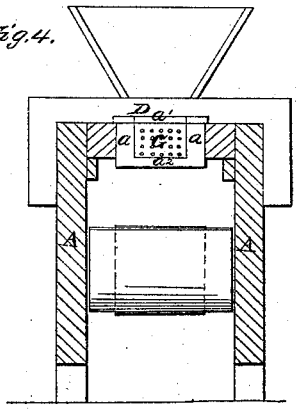


Fig. 4.



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UNITED STATES PATENT OFFICE.

DAVID W. SEELEY, OF ALBANY, NEW YORK.

IMPROVED BRICK-PRESS.

Specification forming part of Letters Patent No. **54,967**, dated May 22, 1866.

To all whom it may concern:

Be it known that I, DAVID W. SEELEY, of Albany, in the county of Albany and State of New York, have invented a new and Improved Brick-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top view of the improved press. Fig. 2 is a longitudinal section through the press, taken in a vertical plane through its center. Fig. 3 is a sectional view, showing the piston and mold-box in positions for discharging a brick. Fig. 4 is a transverse section taken through the press in the vertical plane indicated by red line *x x* in Fig. 3. Fig. 5 is a view of the cam or eccentric.

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

This invention relates to an improvement on machinery which is adapted for making bricks of clay which is dry, or nearly so, which improvement is intended for expelling the air from the clay during the operation of molding it, and also to obviate the unequal expansion of the bricks during the act of releasing them from the molds, as will be hereinafter explained.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents the frame for containing and supporting the machinery for molding the clay and subjecting it to an extraordinary pressure.

B is a horizontal transverse shaft which has its bearings near one end and on top of said frame, and which carries on its ends two large wheels, C C, that serve as cranks or eccentric wheels for communicating a reciprocating movement to a mold-box, D.

C′ is an eccentric or cam upon the shaft B, which communicates a reciprocating movement to a piston, E.

The mold-box consists of four walls, *a a a′ a²*, forming four sides of a chamber within which the clay is pressed. The upper wall, *a′*, is a horizontal plate extending transversely across the top of the frame A and connected to the vertical sides thereof by means of tenons fitting into longitudinal grooves, so as to allow the mold-box to reciprocate the proper distance and at the same time to prevent it from rising.

The opening *b* through the upper plate, *a′*, is the hopper through which the clay is fed to the molding-chamber.

The pitman-rods F F connect the box D with wrist-pins on the sides of the wheels C C, and reciprocate said box when these wheels are turned.

The piston E forms one of the walls between which the clay is pressed, and the stationary platen G, opposite the end of this piston E, forms the other wall. The piston is formed on or suitably applied to a reciprocating frame, which consists of two side bars, *c c*, working between the sides of the frame A in suitable guides, which bars terminate at their rear ends in a yoke, *d*, by means of which the eccentric C′ is caused to give a reciprocating movement to the frame and its piston. The forward ends of the bars *c c* are supported between the sides of frame A and the fixed platen G, as shown in Fig. 1, and these bars sustain the two sides *a a* of the mold-box against outward strain.

The ends of the platen and piston are perforated, as shown in Figs. 2, 3, and 4, and these perforations communicate with openings *e e*, for the purpose of permitting the air to escape from the clay during the act of pressing.

The relation of the eccentric or cam C′ on shaft B and the eccentric wrist-pins *g g* on wheels C C is such that when the piston E has completed its back stroke the hopper-hole *b* through the upper wall, *a′*, of the box D will have been moved over the chamber P, in which the clay is pressed, as shown in Fig. 1, and when the face of the box D has been moved to the position indicated in Fig. 3 the piston E will have completed its forward or pressing stroke. The box D then moves slightly forward, and at the same time the piston E is caused to recede and release the brick. The press-box and follower then move back together to the position shown in Fig. 2. When the piston E has completed its forward or pressing stroke the press-box D will have exposed four sides of the brick and left it between the piston and platen, as in Fig. 3, to be discharged when the piston commences to make its back stroke. The piston does not move forward after the box D exposes any portion of the brick, or, in other words, the clay is supported on all sides during the act of pressing it.

In pressing clay which is dry, or nearly dry, into bricks by powerful machinery which will

condense the clay, provision must be made for the free escape of air contained therein, and in removing the pressure from the pressed blocks they must be sustained firmly on two opposite sides while their other four sides are being released from pressure, in order that the blocks or bricks may expand equally.

In brick machines which operate upon a different principle from the one above described—that is to say, in machines which are so constructed that the bricks are not supported on two opposite sides, as I have shown—the unsupported portions of the bricks are apt to expand very suddenly and crack or crumble to pieces. If the bricks are discharged from below the piston and platen I propose to receive them upon an endless apron and conduct them off thereby and deliver them at one end of the press. If the bricks are to be delivered at the top of the machine a spring or elevator of any suitable description will be employed.

In Fig. 5 I have represented a form of cam or eccentric, C′, which will allow the piston E to remain stationary while the mold-box D is drawn from the edges of the brick, as hereinabove contemplated.

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

1. A brick-press which is so constructed that the brick will be supported on two opposite sides during the act of releasing the other sides of the brick, substantially as described.

2. The combination of a reciprocating mold-box, D, a reciprocating piston, E, and a platen, G, the piston and platen having each an irregular motion, and all operating so as to press and release bricks, substantially as described.

3. Discharging the bricks from the pressing devices, substantially as described.

4. Constructing the ends of the rectilinear-moving piston and platen substantially as described.

DAVID W. SEELEY.

Witnesses:
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