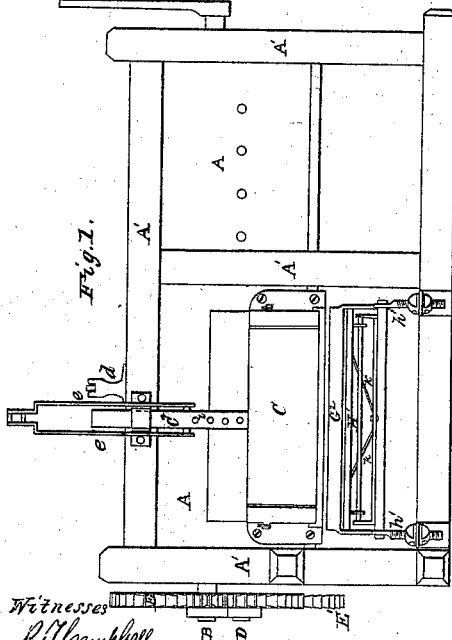
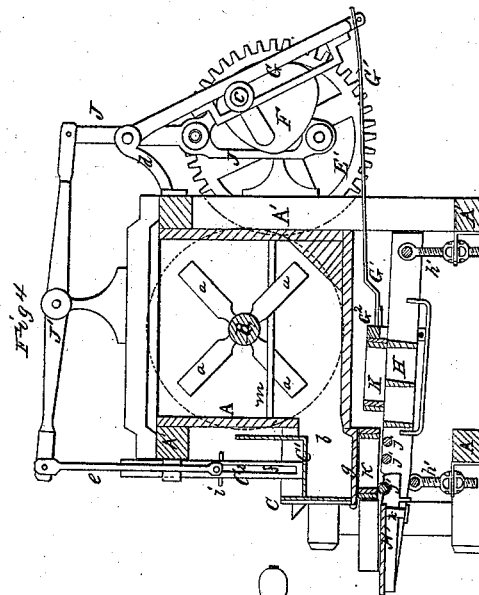
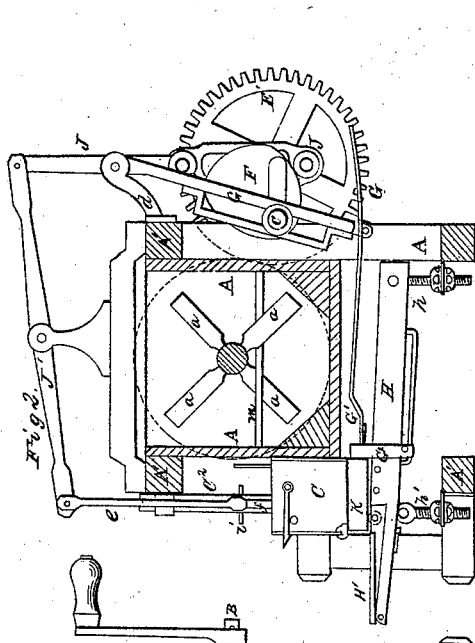


# Seeley & Jacobie, Brick Machine.

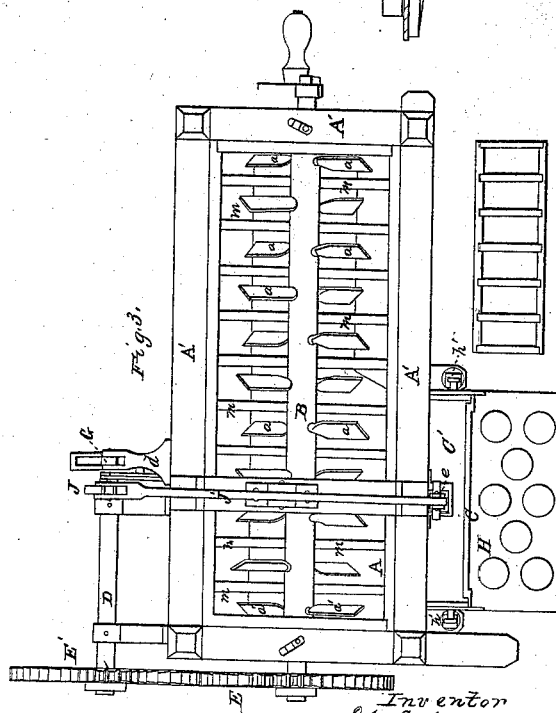
3 Sheets, Sheet 1.

No 54,610.

Patented May 8, 1866.



Witnesses  
R. W. Campbell  
Edw. Schofer

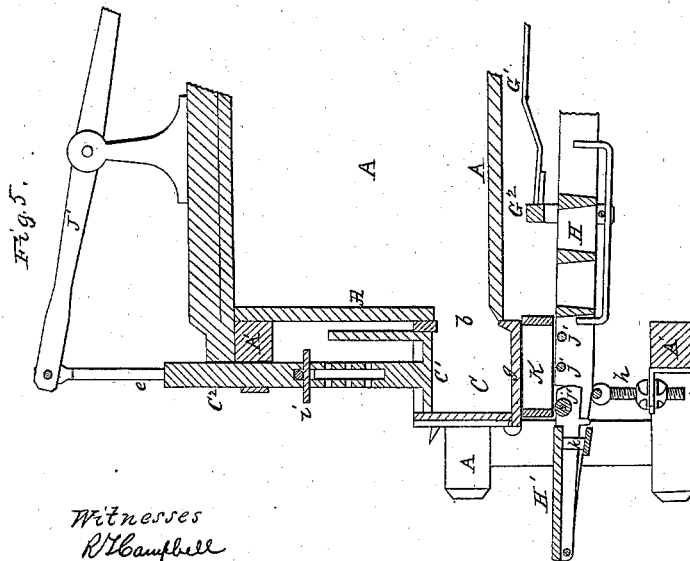
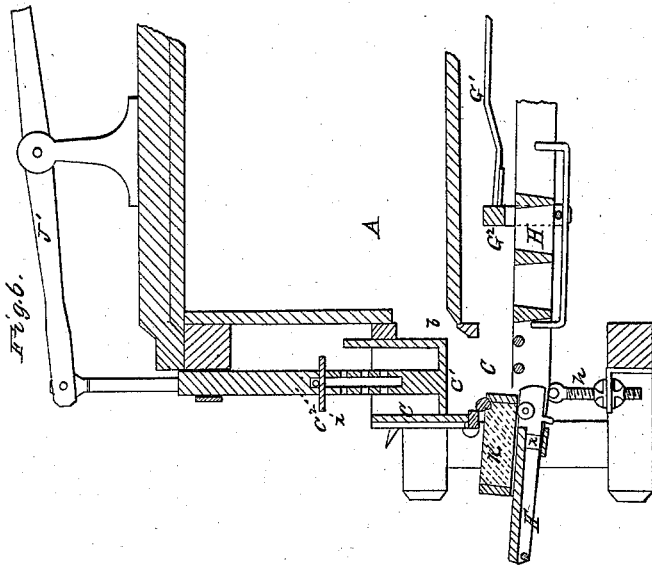


Inventor  
Seeley & Jacobie  
by Atty  
Mason, Kammick & Lawrence

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& Jacobie  
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# UNITED STATES PATENT OFFICE.

D. W. SEELEY AND F. JACOBIE, OF ALBANY, NEW YORK.

## IMPROVED BRICK-MACHINE.

Specification forming part of Letters Patent No. 54,610, dated May 8, 1866.

*To all whom it may concern:*

Be it known that we, DAVID W. SEELEY and FREEMAN JACOBIE, of the city and county of Albany, and State of New York, have invented a new and Improved Brick-Making Machine; and we 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 an elevation of the front of our improved brick-making machine. Fig. 2 is a transverse section taken in the vertical plane indicated by red line *xx* in Fig. 1. Fig. 3 is a top view of the machine with the cover removed. Fig. 4 is a transverse section through the machine, taken in the vertical plane indicated by the course of red line *yy* in Fig. 3. Fig. 5, Sheet 2, is an enlarged sectional view of the press-box, its follower, and a portion of the table upon which the mold-boxes are placed. Fig. 6, Sheet 2, is a similar view of the same parts, showing a portion of the table depressed to allow of the escape of an obstruction.

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

This invention relates to certain novel improvements on brick-making machines, in which the clay is forced from the pug-mill directly into a press-box, and from thence into the mold-boxes.

The object of one part of our invention is to arrange within a horizontal pug-mill or mixing-chamber a horizontal shaft having blades or paddles arranged upon it in such manner that the clay which is or may be fed into the mill at one end will be thoroughly reduced and forced from both ends of the mixing-chamber into the press-box, thus preventing the accumulation of clay at either end of the mill and insuring a thorough mixing of the clay before it is forced into the press-box, as will be hereinafter described.

Another object of our invention is to so construct the contrivances which move the plunger in the press-box and the contrivances which move the mold-boxes beneath the said box that the pressure will be retained on the filled mold-boxes during the act of moving them from beneath the press-box, as will be hereinafter described.

Another object of our invention is to pro-

vide for allowing the mold-boxes to yield downward as they pass beneath the press-box should an obstruction be offered by a stone or other foreign substance getting into the mold-box, thus preventing the machine from liability of being deranged or broken, as will be hereinafter described.

Another object of our invention is to provide for regulating the descent of the follower or plunger in the press-box for the purpose of increasing or diminishing the degree of density of the bricks, as will be hereinafter described.

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

In the accompanying drawings, A represents an oblong rectangular box, in which the clay is mixed previously to introducing into the press-box and forcing it from thence into the mold-boxes. This mixing-box or pug-mill is mounted upon a frame, A', and has a horizontal, or nearly horizontal, shaft, B, passing longitudinally through it, which shaft carries two sets of radial blades, *a a'*. One set of these blades is feathered so as to force the clay toward the press-box C, in the direction indicated by the red arrow in Fig. 3, and the other set, *a'*, of blades is feathered so as to force the clay toward the press-box in an opposite direction.

The clay being thus forced in opposite directions from the ends of the chamber A, it will be thoroughly mixed and disintegrated and compelled to pass through the opening *b* in the front side of the chamber A into the press-box C beneath the follower or plunger C'.

The press-box C is located near one end of the chamber A, and the clay is fed into this chamber at its opposite end. For this reason there are comparatively few of the blades *a'* used.

On that end of the mixing-shaft B which is nearest the press-box C a large spur-wheel, E, is keyed, which communicates a rotary motion to a horizontal and longitudinal shaft, D, through the medium of a spur-wheel, E'. Shaft D has its bearings in brackets which are secured to the frame A' at the back part of the mixing-chamber or pug-mill, and this shaft has keyed to that end which is opposite wheel E' a cam, F. This cam has an eccentric or crank-pin, *c*, applied to its face, which works

in an oblong slot in an arm which is pivoted at its upper end to the bracket *d*, projecting from the frame *A'*. The lower end of this slotted arm *G* works in a slot which is in a rod, *G'*, that is attached to the center of the mold-box pusher *G*<sup>2</sup>. As the shaft *D* is turned the arm *G* receives a vibrating motion from the crank-pin *c* and moves the pusher *G*<sup>2</sup> back and forward upon its table *H*. The pusher is moved forward and then backward at every revolution of the shaft *D*.

*J* is a slotted rod, which is applied to the shaft *D* so as to be acted upon by the cam *F*. Two anti-friction rollers are applied to the rod *J*, one above and the other below said cam, so that when the latter rotates it gives a reciprocating motion to this rod in a direction with its length. The upper end of rod *J* is pivoted to a vibrating beam, *J'*, which is pivoted to a standard on top of the pug-mill, and connected at its opposite end to a double link, *e*, as shown in Figs. 2 and 4. The double link *e* is connected to the follower-rod *C*<sup>2</sup> by means of a pin which passes through an oblong vertical slot, *f*, in this rod *C*<sup>2</sup> as shown in Figs. 1, 5, and 6. A pin, *i*, is introduced beneath the pin above-mentioned through one of a number of holes which are made through the rod *C*<sup>2</sup>, and by means of this pin *i* the links *e* are caused to depress the follower *C'*. When the links *e* are caused to rise their pin comes against the upper end of the slot *f* and elevates the follower *C'*. By placing pin *i* through one or the other of the lower holes which are through the rod *C*<sup>2</sup> the follower will be caused to descend more or less in the press-box *C*, as may be required. The nearer the follower the pin *i* is placed the less will be the descent of this follower, and the less will be the pressure upon the clay in the mold-boxes.

It will be seen that the follower *C'* and the pusher *G*<sup>2</sup> are both operated by the shaft *D*, each one making two full strokes at every revolution of this shaft.

The press-box *C* is of a rectangular oblong form, having its front side hung so that access can be had to the interior of this box, beneath the follower, at pleasure. The bottom of this box is made up of beveled transverse bars *g g*, having spaces between corresponding in width and length to the width and length of the brick-cells in the mold-boxes *K*. The clay is forced by the right and left blades on shaft *B* into the box *C* through the opening *b*, when the follower is elevated, as shown in Figs. 4 and 5. When this follower is depressed its vertical plate will close that portion of the opening *b* above the horizontal plate, as shown in Fig. 6, and prevent clay from being forced out over said follower.

The transverse table *H* consists of two parallel side plates, which are suitably connected together by fixed rods and rollers, upon which the mold-boxes *K* are placed. This table *H* is hinged at its rear end to a rod, which is supported by adjusting-screws *h h*, and it is supported near its front end upon a rod which is

attached to adjusting-screws *h' h'*. By means of these screws the table can be adjusted up or down and made level.

The three rollers *j j' j'* support the mold-boxes directly beneath the press-box *C* during the operation of pressing the clay into them. The roller *j'* is applied to the yielding portion *H'* of the table for the purpose of allowing the mold-boxes to pass from beneath the outer edge of the press-box should a stone or other hard substance get into these boxes, thus preventing injury to the machine.

The yielding portion *H'* is hinged at its front end to the ends of the side bars of the portion *H*, and supported at its end beneath the press-box by a spring, *k*, as shown in Figs. 1, 5, and 6. This portion *H'* of the table is shown depressed in Fig. 6. When there is no obstruction offered to the movement of the mold-boxes from under the press-box then the table *H* will not yield, but it will hold the mold-boxes up closely against the bottom of the press-box, as shown in Figs. 4 and 5.

In commencing the operation of molding bricks a mold-box, *K*, is placed beneath the press-box *C*, and behind this box another is placed, as shown in Fig. 5. The follower *C'* is then caused to descend and fill the mold-box beneath it, and when this follower has completed its downstroke it remains at rest, in consequence of the peculiar form of the eccentric or cam *E*, until the vibrating arm *G* pushes the slotted rod *G'* forward, and thus moves the filled mold-box from beneath the press-box, at the same time forcing another mold-box beneath this press-box. The follower *C'* is now elevated and the arm *G* moved back, carrying with it the pusher *G*<sup>2</sup>. By these motions there is a pressure upon the clay in the mold-box during the movement of these boxes from beneath the press-box, and the surfaces of the bricks are smoothed and well finished. When the pusher recedes another mold-box is put upon the table *H*, in front of it, so that when the pusher advances it will always push one box beneath the press as a filled box is moved away.

In order to facilitate the mixing and disintegrating of the clay in the pug-mill previously to its being forced into the press-box, cross-bars *m* or cutters may be fixed in the chamber *A* to operate in conjunction with the right and left blades *a a'*.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. A horizontal or nearly-horizontal feeding and grinding shaft with knives or blades of a screw form so arranged relatively that they force the clay or other material from both ends of the machine into the press-box, notwithstanding the clay is only introduced into the grinding-box at one end, substantially as described.

2. The combination of a shaft with right and left screw-blades or knives and a brick-molding press, substantially as set forth.

3. The means, substantially as herein de-

scribed, for retaining the filled molds under pressure, and while under pressure forcing them out from under the press-box, for the purpose set forth.

4. Retaining the pressure on the filled molds during their removal from under the press-box by means substantially as set forth.

5. The means, substantially as herein described, for keeping the molds up to the bottom of the press-box and allowing the molds to descend clear of an obstruction as they pass under the front part of the press-box, as set forth.

6. The slotted and perforated stem of the press-follower, in combination with the link and walking-beam, substantially as and for the purposes described.

Witness our hands, in the matter of our application for a patent on a brick-press or brick-making machine, this 1st day of March, 1866.

D. W. SEELEY.  
F. JACOBIE.

Witnesses:

R. T. CAMPBELL,  
EDW. SCHAFER.