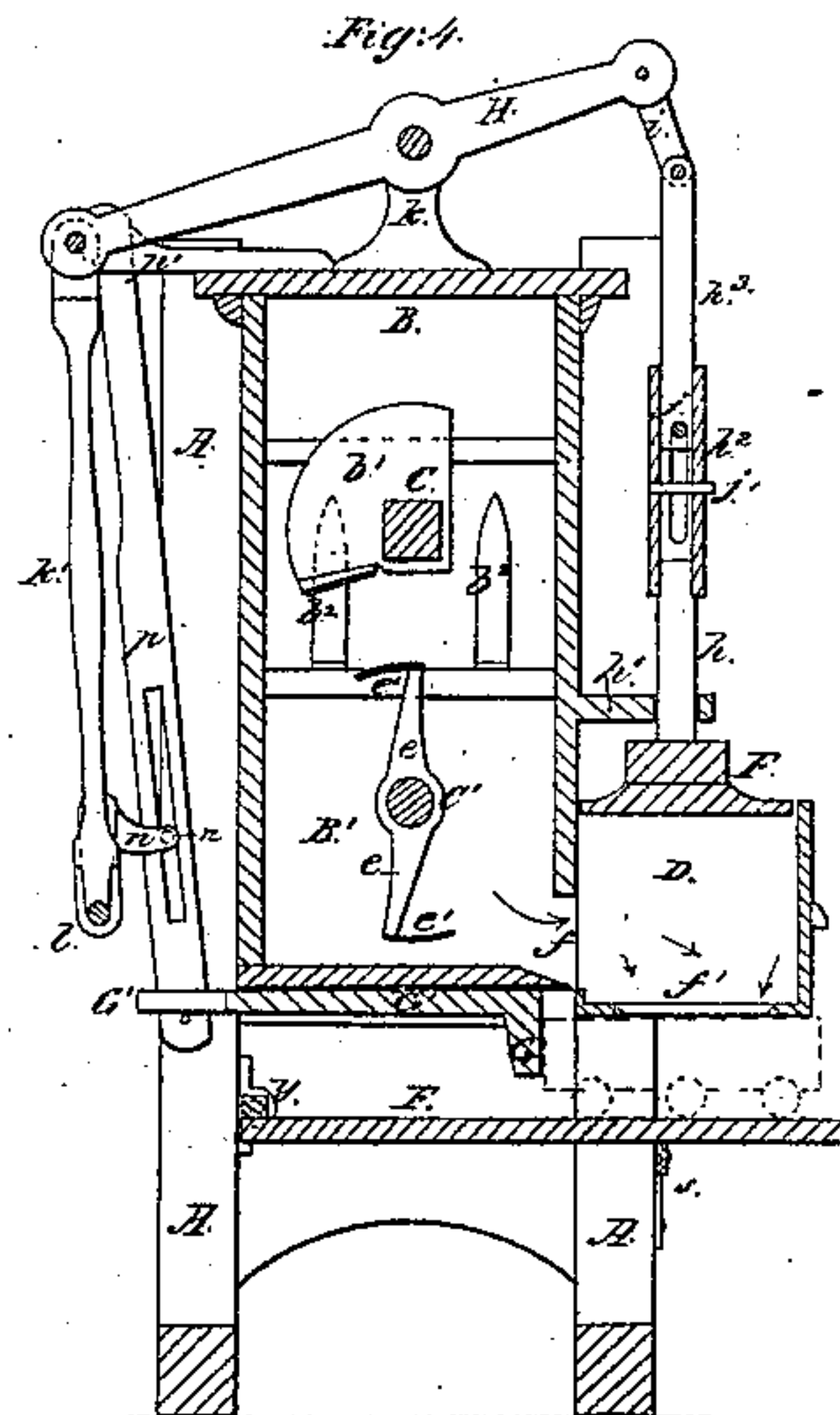
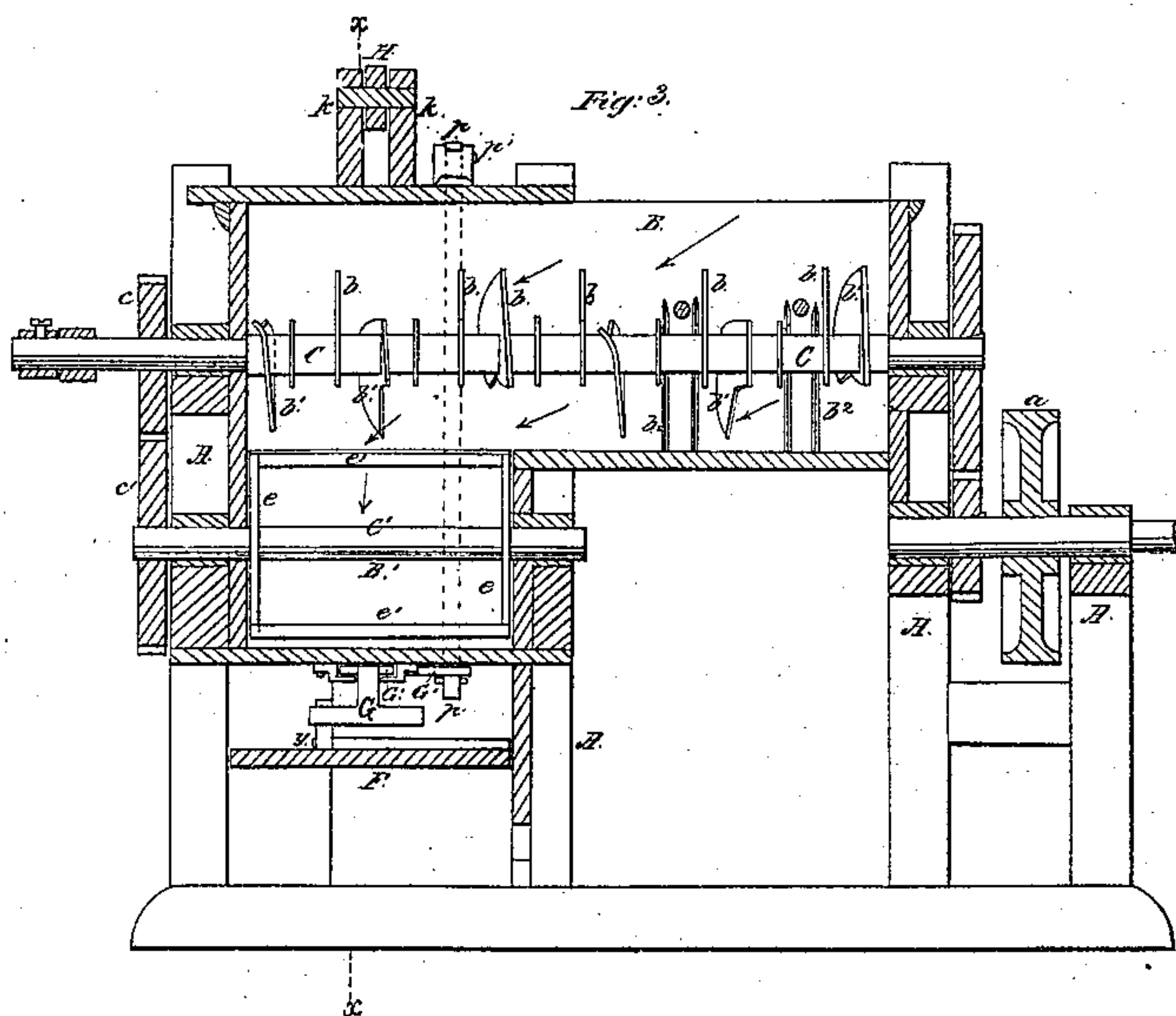
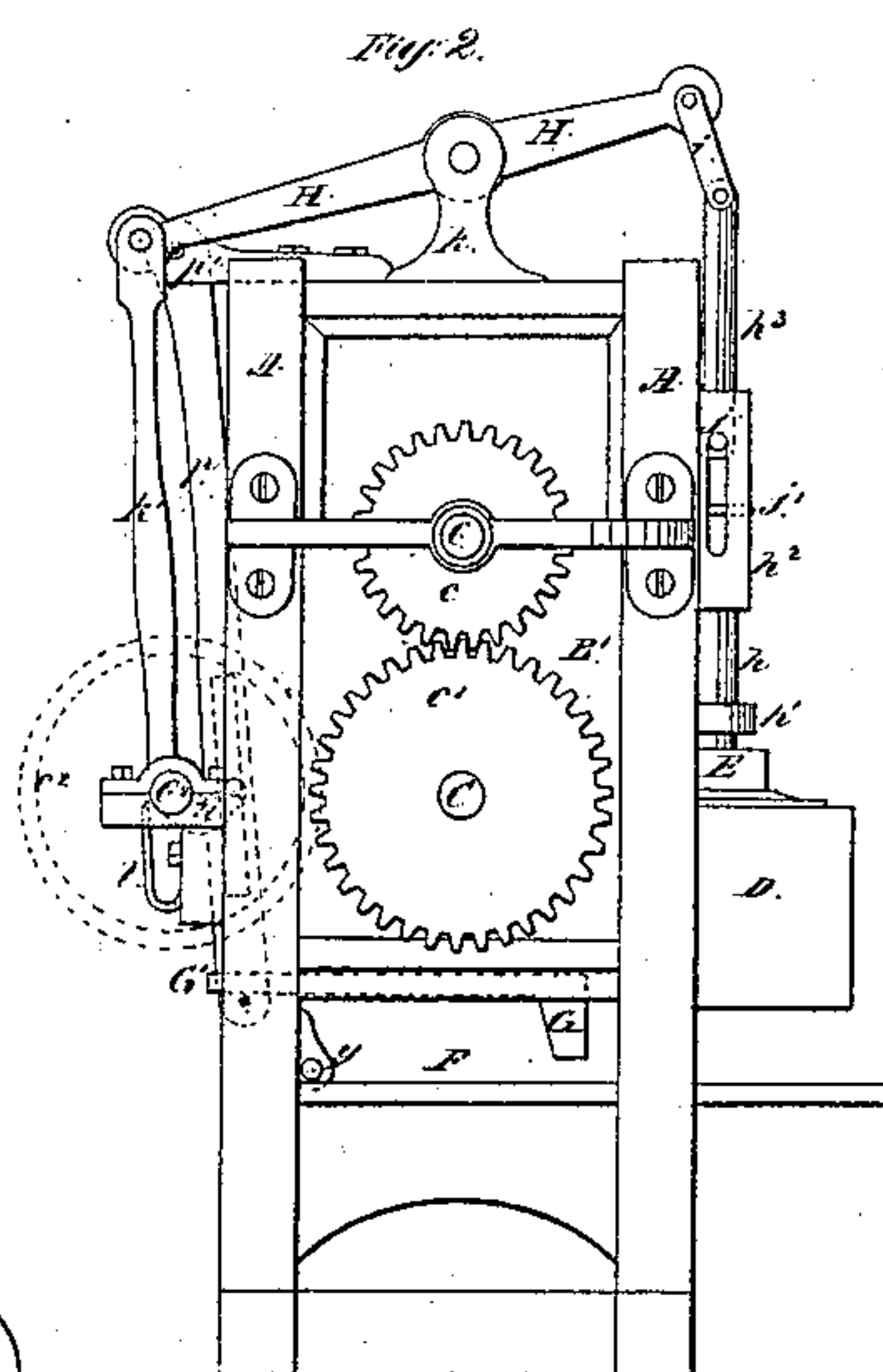
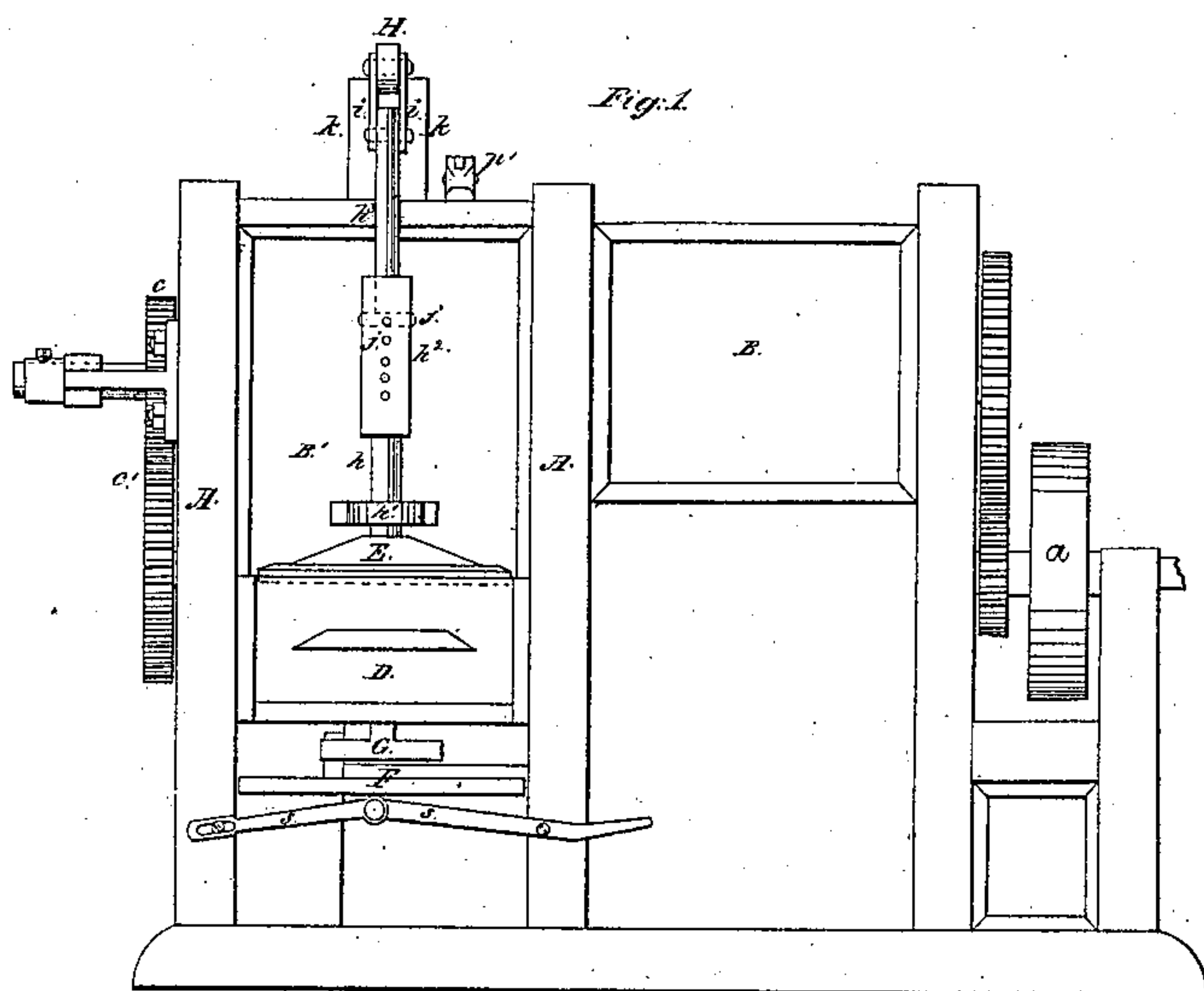


# F. Jacobie, Brick Machine.

N<sup>o</sup> 43,505.

Patented July 12, 1864.



Witnesses:  
R. J. Campbell  
O. Schmitt

Inventor:  
F. Jacobie  
by his atty  
Malcolm David Hammon



# UNITED STATES PATENT OFFICE.

FREEMAN JACOBIE, OF ALBANY, NEW YORK.

## BRICK-MACHINE.

Specification forming part of Letters Patent No. 43,505, dated July 12, 1861.

*To all whom it may concern:*

Be it known that I, FREEMAN JACOBIE, of the city of Albany, county of Albany, and State of New York, have invented a new and Improved Brick-Making 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 side elevation of my improved machine. Fig. 2 is an end view of the same. Fig. 3 is a vertical longitudinal section through the entire machine, and Fig. 4 is a transverse section taken in the vertical plane indicated by red line *xx* in Fig. 3.

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

The nature of my invention consists in arranging within a suitable box or receptacle a rotating conveyer which will operate as such, and also as a disintegrator, and force the clay into a chamber, where it is acted upon by a revolving beater and feeder and forced into a molding-box, from whence the clay is discharged under pressure by means of a follower into molds adapted for receiving it and giving the required shape to it, as will be hereinafter described.

My invention also consists in a new and improved contrivance for governing the pressure of the follower and timing the movements of the same according to the various conditions of the clay used in the manufacture of bricks, as will be hereinafter described.

My invention further consists in a reciprocating pusher in combination with a molding-box, and a platform arranged beneath said box for supporting the movable molds which receive the clay forced out of the molding-box, as will be hereinafter described.

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

In the accompanying drawings, A represents the frame-work of my machine, which is constructed of such strength and capacity as will adapt it for receiving and supporting the several parts of the machine, which are employed for preparing the clay and forcing it into the brick-molds.

B represents a horizontal clay-box, which is open at top and closed at its sides, bottom,

and one end, which end opens into a vertical receptacle, B'.

C represents a horizontal and longitudinal shaft, which has its end bearings in the frame A, and which is rotated by means of a belt-wheel, *a*, that is driven by any suitable prime motor. This shaft C is provided at suitable intervals along its length with fins or knives *b b b*, and also with segmental plates *b' b'*, arranged obliquely to the axis of their shaft. The fins or knives operate in conjunction with vertical and fixed knives *b<sup>2</sup>*, projecting from the bottom of the horizontal box B, and disintegrate the clay, while the oblique wings or propellers *b' b'* force the clay toward and into the chamber B'. The conveyer-shaft C carries on its end nearest the box B', and outside of this box, a pinion spur-wheel, *c*, which engages with and drives a spur-wheel, *c'*, which is keyed on the end of a short shaft, C', arranged beneath that portion of the shaft C, which extends across the box B'. To this shaft C' radial arms *e e* are secured, carrying on their ends plates *e' e'*, which operate upon the clay as beaters and stirrers and greatly assist in the disintegration of the clay after it leaves the horizontal box B, and preparatory to its entering a small box, D.

The box D, which I term a "press-box," receives the clay in a condition for working into bricks through an opening, *f*, through the side of the box B', and as the clay is compressed into this press-box it is forced out through a number of quadrangular holes, *f'*, in the bottom of said box by means of a plunger, E, which is elevated and depressed, as will be hereinafter described. The openings through the bottom of the press-box correspond in number to the chambers in a mold-box, which I have represented in red lines, Fig. 4, said chambers being the molds into which the clay is shaped. I have represented only one of the mold-boxes used in my machine, as they are all of an equal size and contain an equal number of chambers. They may be mounted on wheels or not, and when used two are placed on the adjustable or swinging platform F one being arranged directly under the press-box D and the other directly behind it, to be forced up in the position of the first by means of a follower, G, when this one is filled, as will be hereinafter described. The



edges of the openings through the press-box D may be beveled downward, as shown in Fig. 4, so that when the filled chambers of the mold-boxes are moved away from the machine to be emptied these edges will leave the upper surfaces of the bricks smooth and level.

The plunger E may be furnished with a vertical plate projecting up from that edge nearest the box B', which plate will close the opening *f* should the plunger descend below it and prevent any of the clay from being forced over this plunger.

The plunger rod *h* passes up through a bracket guide, *h'*, and carries on its upper end a hollow guide-box, *h*<sup>2</sup>. This box receives in its upper end the rod *h*<sup>3</sup>, that is connected by links *i* to one end of a working-beam, H. That end of rod *h*<sup>3</sup> which enters the upper end of the box *h*<sup>2</sup> has a pin, *j*, passing transversely through it, and also through vertical slots in each side of said box, and through the opposite sides of the box *h*<sup>2</sup> a number of holes are made, one above the other, for the purpose of receiving the pin *j'*. By this arrangement it will be seen that the rod *h*<sup>3</sup> is allowed to descend a certain distance before it will act upon the plunger to depress it, which distance can be regulated by adjusting the pin *j'*; and, then again, when the rod *h*<sup>3</sup> starts upwards it will move through a corresponding space before the pin *j* is brought into operation to elevate the follower. This intermittent movement of the plunger gives time for the follower G to move one of the empty mold-boxes up to its place under the press-box and then to recede again a sufficient distance to admit of another mold-box being introduced behind the first.

The working-beam H is supported on top of the machine, and has its fulcrum in pillow-blocks *k k*. The long arm of this beam is connected by means of a pitman, *k'*, to a crank, *l*, which is on a shaft, C<sup>2</sup>, that receives its motion from the main shaft C through the medium of spur-wheels *c c' c*<sup>2</sup>. This shaft C<sup>2</sup> carries a crank-arm, *n*, having a wrist-pin, *n'*, projecting from it and entering an oblong slot in a vibrating arm, *p*, which is pivoted to an overhanging bracket, *p'*. The lower end of the arm *p* enters a slot formed in a projecting portion of the follower-plate G', which plate is guided by means of two fixed jaws, which are secured to the bottom of the box B', as shown in Fig. 3, and on the inner end of the plate G', the T-head G which I call the "follower," is secured.

The table or platform F is arranged beneath the follower G and press-box D, and hinged at *y* to the frame A at one end, and supported at or near the other end by toggle-levers *s s*, which are used to elevate or de-

press the platform F. It is important to employ a table which is capable of being adjusted up to and from the press-box, inasmuch as the mold boxes should be forced up closely against the bottom of the press box and held in this condition, the passage of the boxes under it.

Having thus described the construction and operation of the individual parts of my machine, I will briefly describe the operation of making bricks in this machine: The clay is introduced into the horizontal box B, where it is disintegrated and forced forward into the box B', and thence compressed into the press-box D. During the operation of filling the machine the pin J' may be removed and the plunger E disengaged from the working-beam H. When the box D is filled and the plunger properly connected to the working-beam, this plunger descends and forces out of said box the clay and presses it into the mold-box which had been previously arranged under D. During the descent of the plunger E the follower recedes and allows a mold-box to be introduced between it and the mold-box which is being filled. When the plunger rises, the follower forces the filled box out of its place and also forces the empty box under the press-box and then returns to allow another empty box to be introduced behind the former.

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

1. The intermediate chamber, B', forming a vertical continuation of the horizontal or nearly horizontal chamber B, and also communicating with the press-box D, substantially in the manner and for the purpose described.

2. The combination of the rotary discharger C' *e e'*, or its equivalent, with the intermediate-chamber, B', substantially as and for the purpose set forth.

3. The combination of the three boxes or chambers B B' and D, communicating with each other, with the conveyer C, and revolving discharger C', all constructed and operating substantially as and for the purpose set forth.

4. The adjustable hinged table F, arranged beneath the press-box D and clay-box B', substantially as and for the purpose set forth.

5. The combination of the reciprocating follower G, a platform, F, and press-box D, constructed and operating substantially as described.

Witness my hand in matter of my application for a patent for an improved brick-machine.

FREEMAN JACOBIE.

Witnesses:

L. M. HENDLE,  
P. WEEDEE.