

# Jacob Cooke's Improved Brick Machine.

2 Sheets--Sheet 1.

No. 121,450.

Patented Dec. 5, 1871.

Fig. 1.

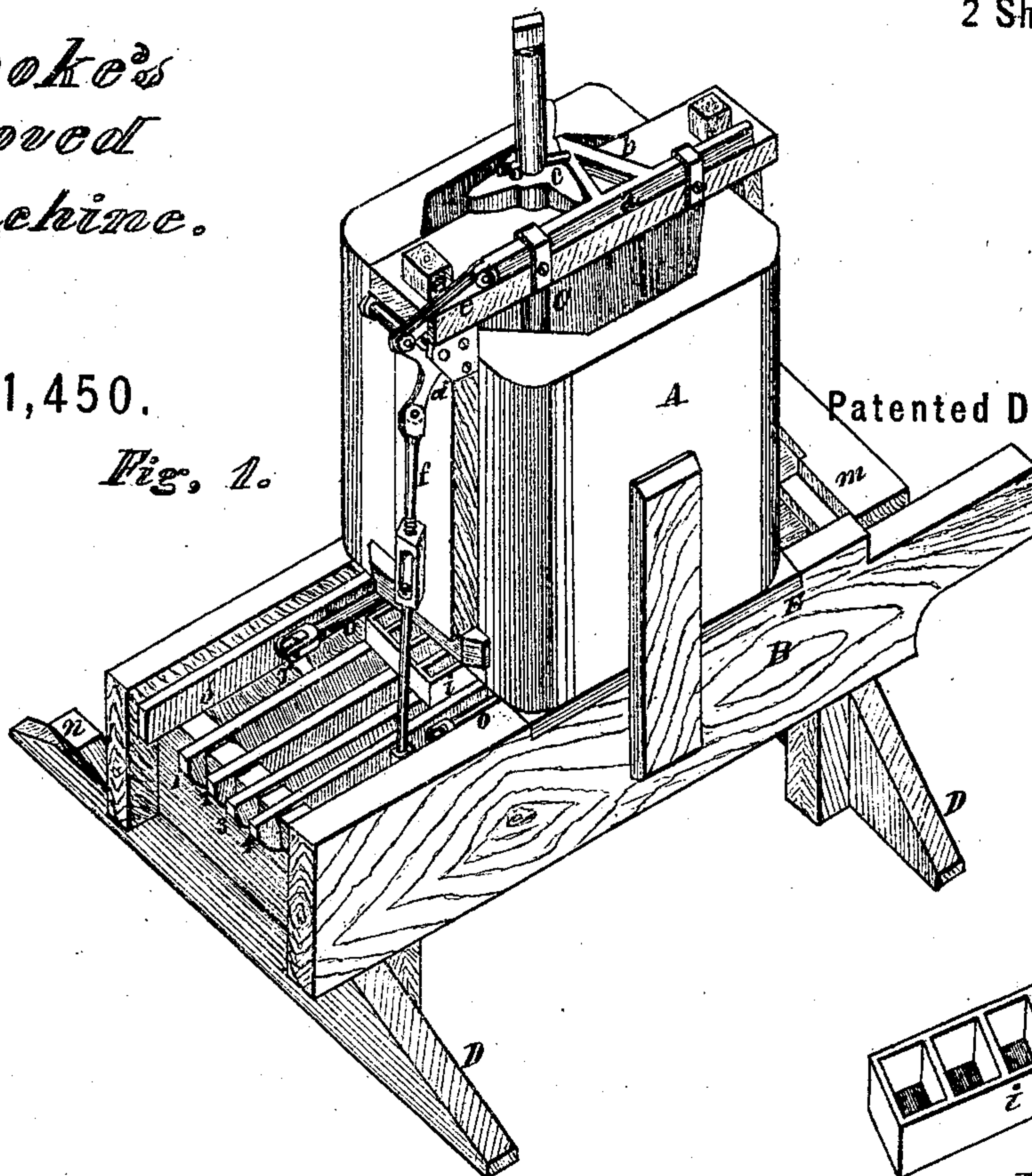


Fig. 4.

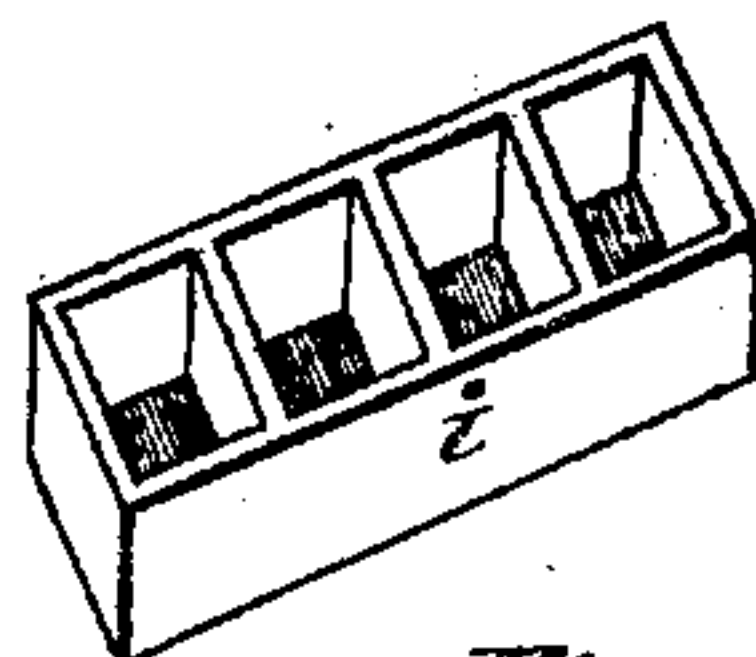


Fig. 2.

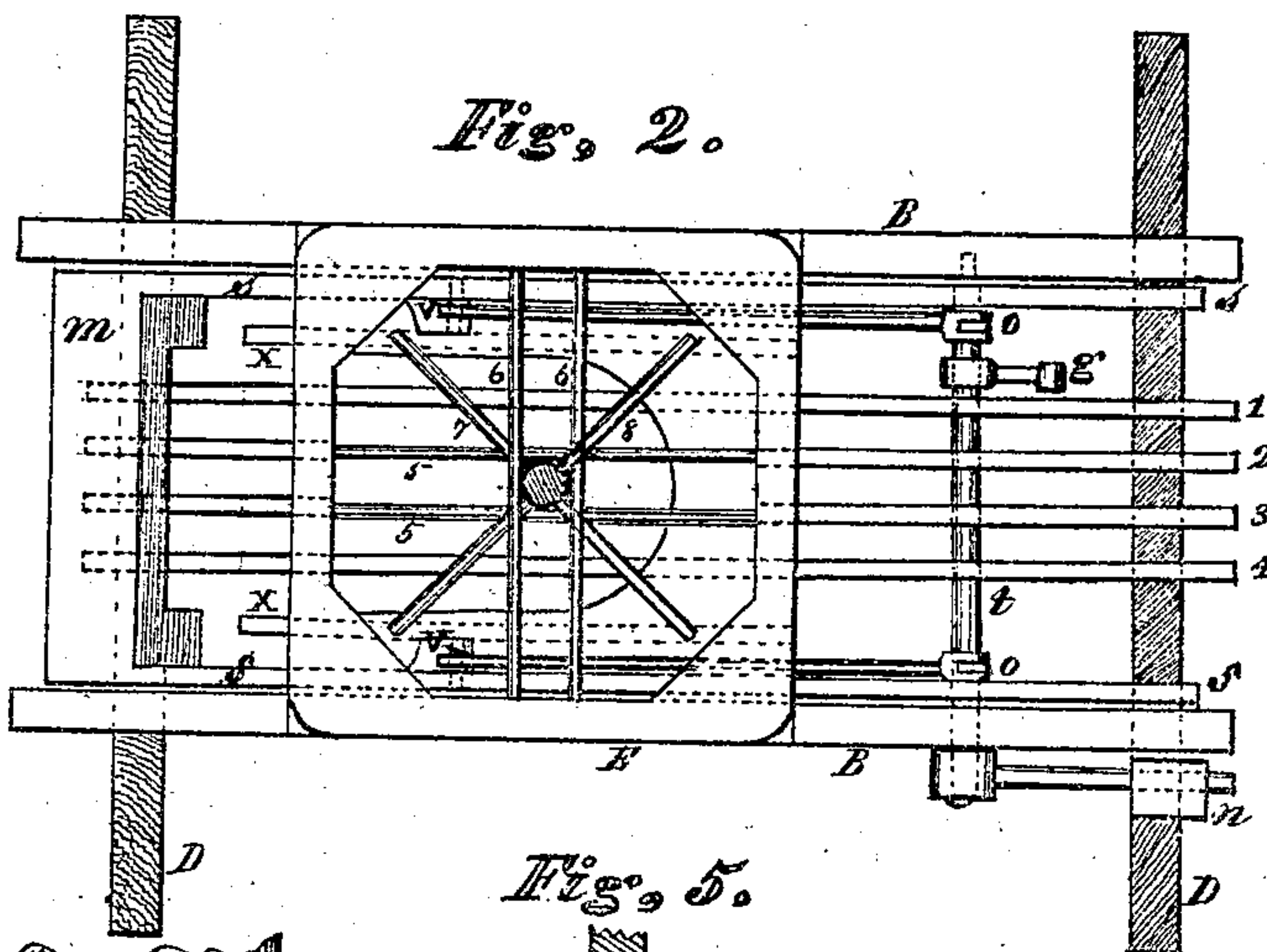


Fig. 5.

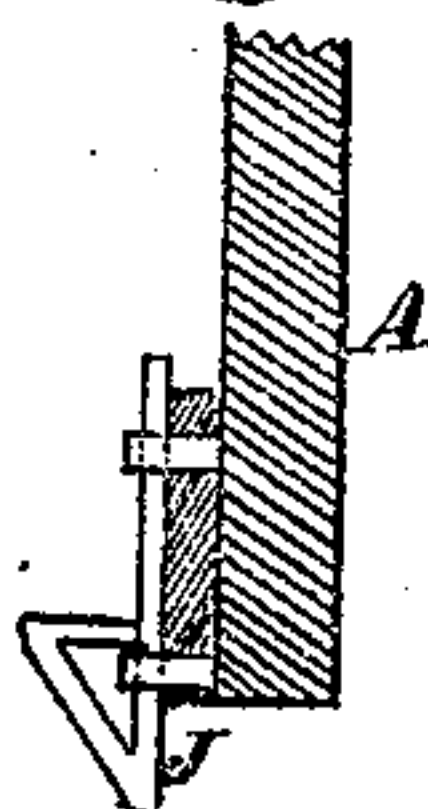
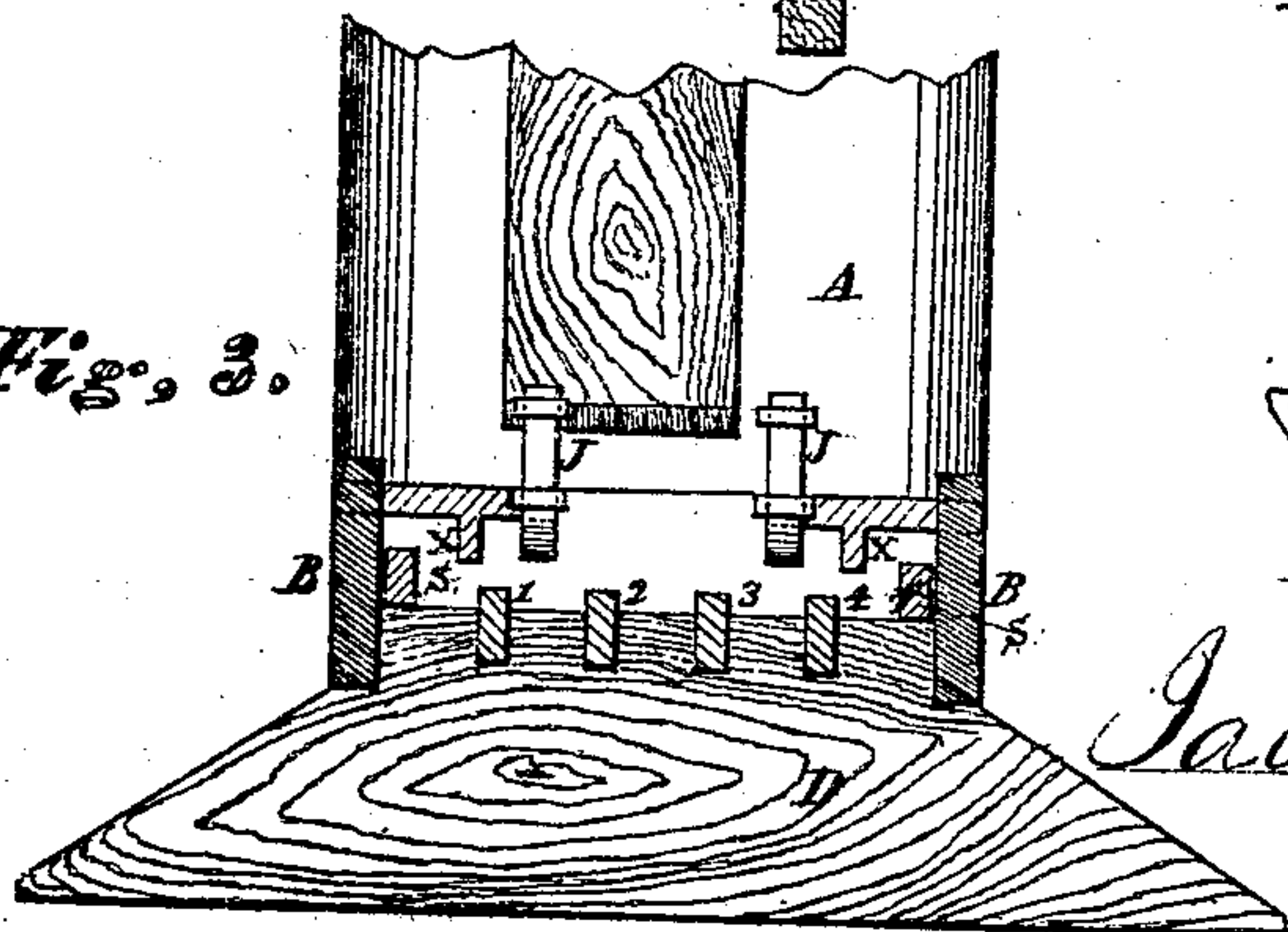


Fig. 3.



Inventor. Witnesses.

Jacob Cooke

Wm. P. Patton

James M. Foster



# Jacob Cooke's Improved Brick Machine.

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Fig. 6.

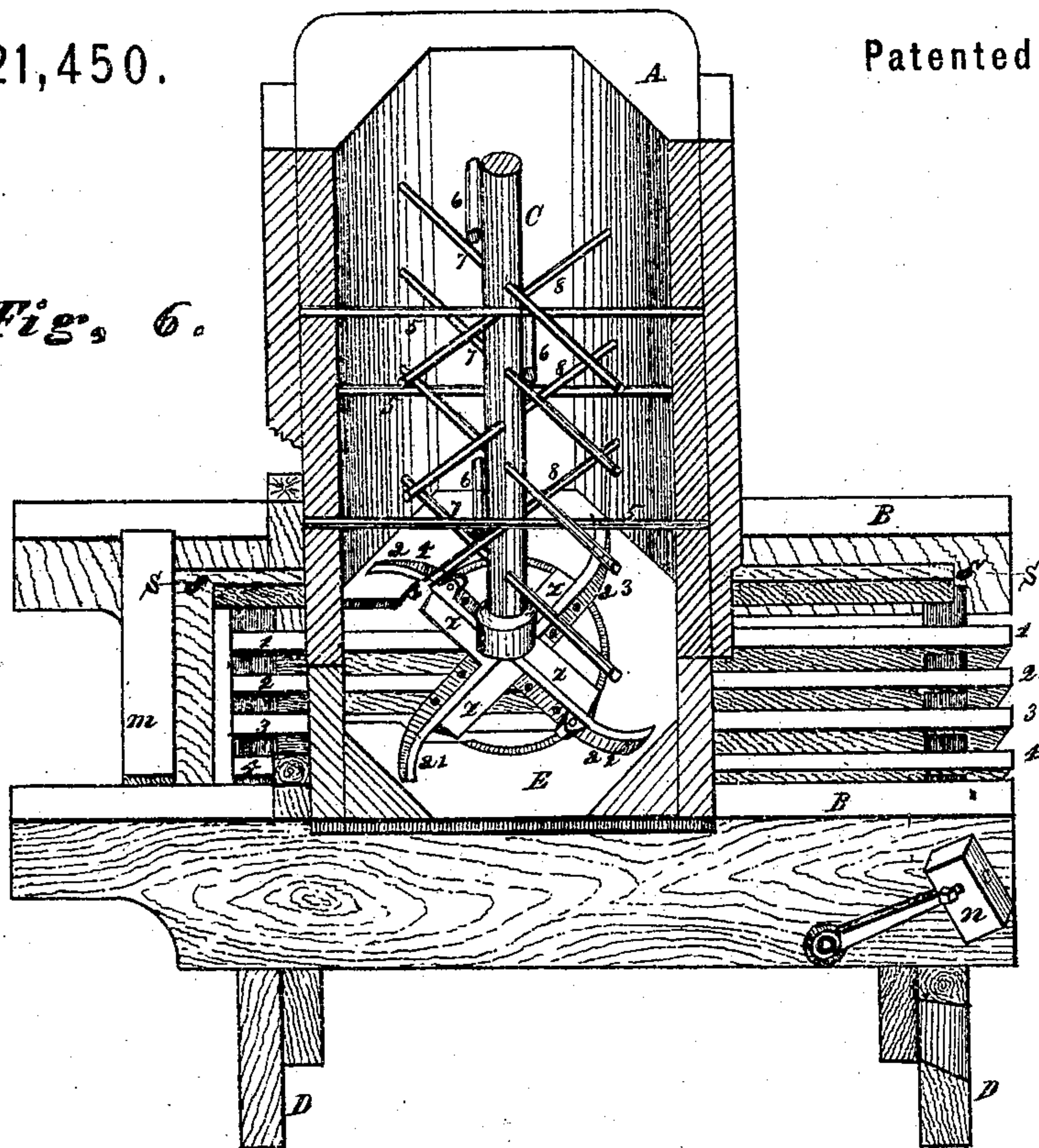


Fig. 8.

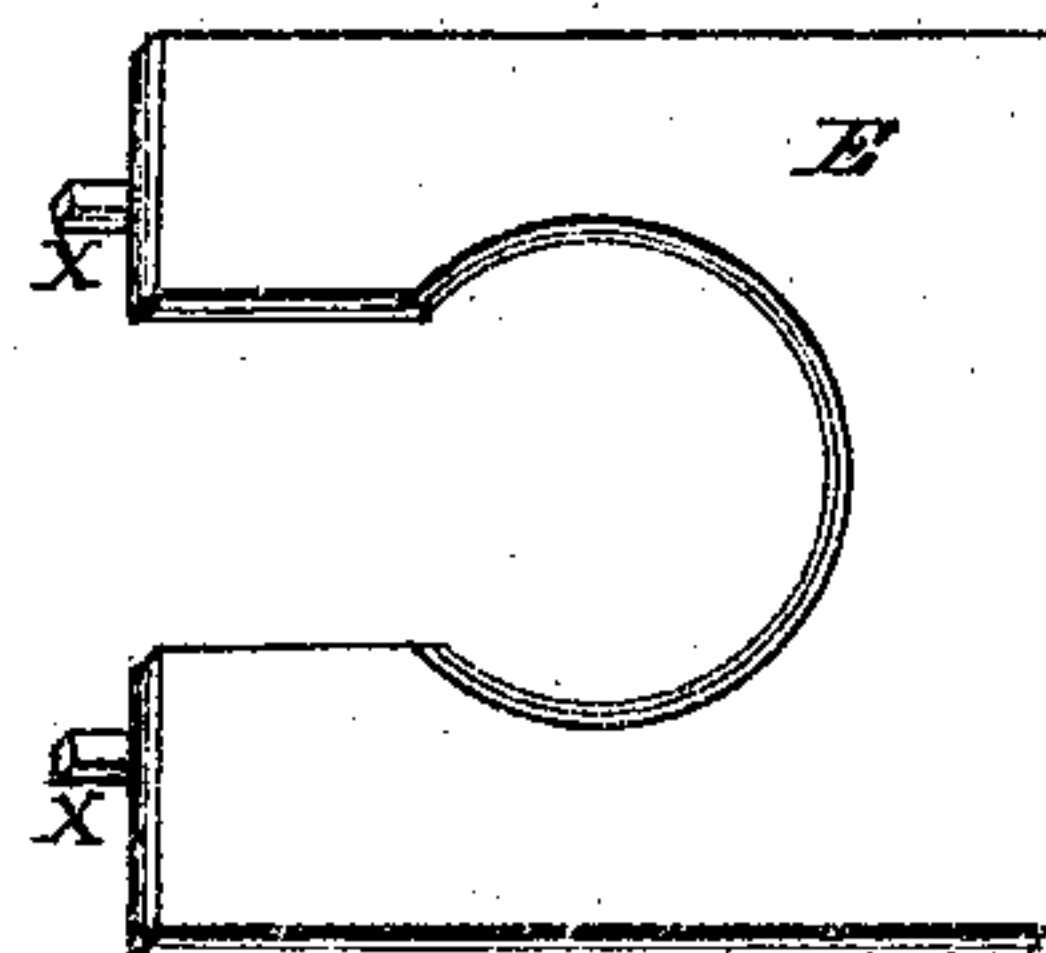
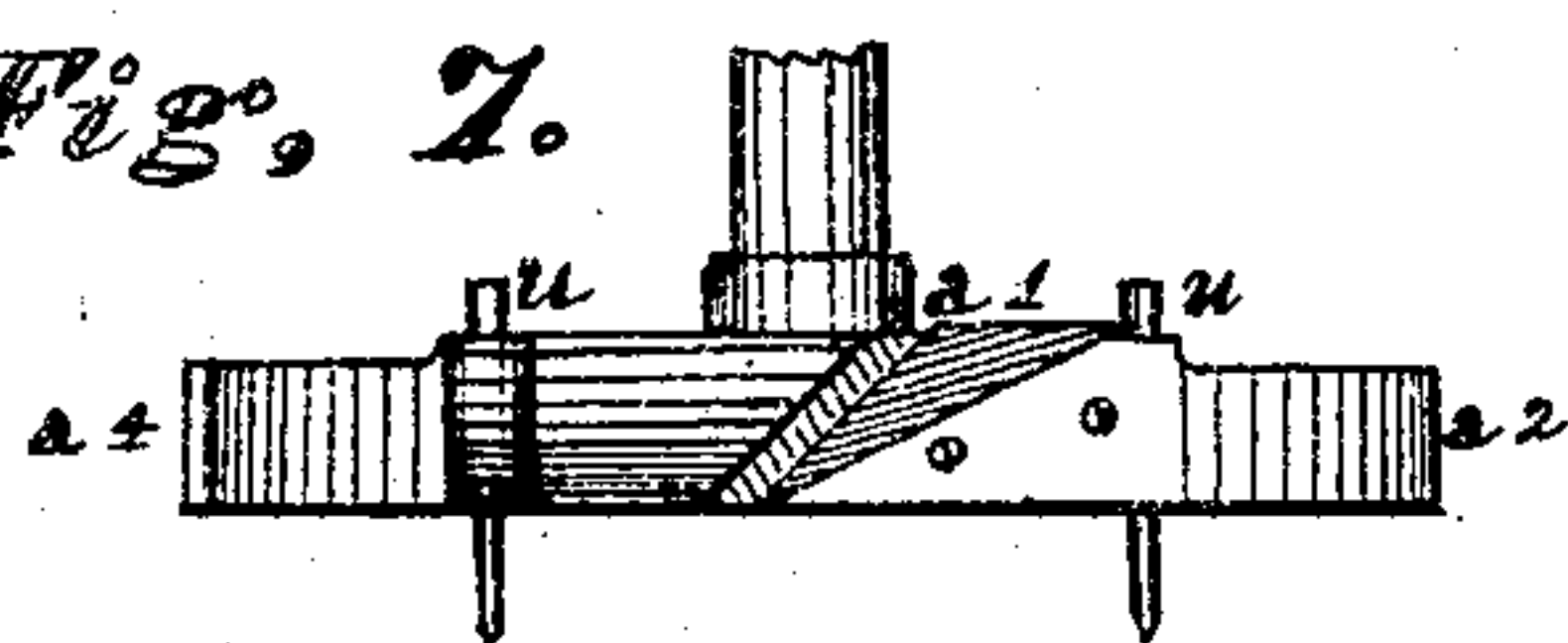


Fig. 7.



<i>Inventor</i>	<i>Witnesses.</i>
<u>Jacob Cooke,</u>	<u>Wm. F. Patton</u>
	<u>James M. Forster</u>



# UNITED STATES PATENT OFFICE.

JACOB COOKE, OF MUNCY, PENNSYLVANIA.

## IMPROVEMENT IN BRICK-MACHINES.

Specification forming part of Letters Patent No. 121,450, dated December 5, 1871.

*To all whom it may concern:*

Be it known that I, JACOB COOKE, of the town of Muncy, county of Lycoming and State of Pennsylvania, have invented a new and useful Improvement in Brick-Machines; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 represents a perspective view of the machine; Fig. 2, a plan view; Fig. 3, a view of the front end; Fig. 6, a side elevation of the machine, the mud-tub being in section to expose the interior mechanism. Figs. 4, 5, 7, and 8 are representations of details.

Like letters and figures indicate like parts in the different figures.

The nature of my invention consists in the employment of peculiarly-constructed devices for filling and striking off the molding-boxes; also, in the use of novel latch-hooks to retain the said molding-boxes in place while being filled, as is hereinafter shown and set forth.

In the drawing, A represents the mud-receptacle or tub. It is made square, with rounded corners upon the outside. Inside the corners are filled up so as to make it eight-sided. This tub is mounted upon a suitably-constructed frame, substantially as shown in the drawing. The bottom of tub A consists of a square metallic plate, formed as shown in Fig. 8. Upon the top of tub A, in a line parallel with the sides of the frame B, a brace is mounted, as is shown in Fig. 1. It is retained in place by tenons on side pieces that are inserted in mortises in the ends of said brace, secured by keys. Through this brace a hole is perforated at a point central to the inside of the tub A. This hole is for the reception of the shaft C that is placed in a vertical position in said tub. This shaft is retained in position by stay-rods that are inserted in the sides of the tub A and pass through the same, so as to bear at opposite points against the shaft C. To be more critical, these rods are placed on opposite sides, but not directly opposite each other. Their manner of arrangement is shown in Fig. 6, at 5 5 5 6 6 6. Through the shafts C the rods or tempering-bars 7 7 7 8 8 8 are inserted and rigidly secured in a position at right angles to each other, as seen in Fig. 6. They are placed an equal distance apart, and are in such position in relation to the rods or bars 5 5 5 6 6 6

that said bars come directly over them and bear upon them when the shaft C is rotated. Upon the lower end of the shaft C the mold-filling device is attached. This consists of four arms that radiate from a central hub, which is rigidly secured to the shaft C. The outer ends of said arms are curved in the direction in which the shaft C is intended to turn, as is shown in Fig. 6. These arms are inclined forward, so that their upper edges overhang and thus cause the front sides of the arms to form an acute angle with the bottom plate E. The inclined adjustable presser-blocks *z z z z* are secured by screw-bolts to the front side of the arms *a<sup>1</sup> a<sup>2</sup> a<sup>3</sup> a<sup>4</sup>* between the center hub and the curved ends of said arms, as seen in Fig. 6. Upon two opposite arms, *a<sup>2</sup> a<sup>4</sup>*, bosses are formed through which holes are drilled for the reception and retention of the adjustable scrapers *u u*. (See Fig. 7.) The base-plate E, Figs. 8 and 6, has a circular hole cut or formed in its center. It is cut through to the front edge so as to remove that part of the plate, as shown. The circular orifice is of the same diameter as the distance from the outer ends of the opposite presser-blocks, that are in position immediately over it. The circular edge of the orifice is chamfered so as to produce a sharp edge on the lower side of the plate E. The bosses on the arms *a<sup>2</sup> a<sup>4</sup>* are so placed as to permit the scrapers *u u* to bear against the inclined or beveled circular edge of the plate E when the shaft C is rotated. Immediately beneath the plate E, at a proper distance, the parallel bars 1 2 3 4 are rigidly fastened by their ends to the upper edges of the cross-pieces of the frame B B, as seen in Fig. 6, said cross-pieces being represented by the letters D D. The parallel bars 1 2 3 4 are intended as a supporting-bed for the molding-boxes to slide upon. A series of said boxes, shaped as shown in Figs. 1 and 4, at *i*, is used. The mold-boxes are inserted or placed on the recessed platen *m* that is attached to the bars *s s*. (See Fig. 2.) These bars rest on the pieces D D and lie along the inside of the sides B B. They are actuated or given a reciprocatory movement by the connecting-rods *v v* that are pivoted by one of their ends to said bars *s s* and by their other ends to the arms *o o* that are rigidly attached to the rocking-shaft *t*, an arm, *g*, set at a right angle to the arms *o o*, being connected by the adjustable rod *f* to the bar *a* by means of the bell-crank *d* and connecting-links *e e*. (See



Figs. 1 and 2.) The bar  $a$  is placed in position upon the brace on top of tub A, and is retained by clips rigidly attached to said brace, as seen in Fig. 1. This bar receives a reciprocatory motion from the joint action of the triple-toed cam  $c$ , that is secured to the shaft C just above the brace, and the weight  $n$ . This cam, in operation, bears against the right-angled projection or shoulder  $b$  formed on the bar  $a$ , and causes the said bar to move back in a line parallel to the edge of the brace. A weight,  $n$ , placed on the outer end of an arm that is secured to one end of the rock-shaft  $t$  outside of the frame B B, causes the bar  $a$  to move forward as each toe of the cam  $c$  leaves the shoulder  $b$ , so that three distinct strokes of the mold-moving mechanism is obtained by one revolution of the shaft C. The molding-boxes  $i$  are retained in line by the guides X X that are formed on the lower side of plate E. These guides are parallel to each other and to the sides B B of the frame of the machine. The molds are prevented from being forced back, under the pressure of the filling mechanism, by the drop-latches J J. (See Figs. 3 and 5.) These consist of pieces of metal having their lower ends bent, as shown in Fig. 5, an edge view being given in said figure. They are secured in place on the outside of the tub A, on its front end, immediately over the bottom bars 1 2 3 4, by staples, in such manner as to permit them to play up and down a proper distance upon the insertion of a molding-box.

The operation of the machine is as follows: An arm or other suitable attachment is made to the upper end of the shaft C in order to rotate it. Motion being communicated, crude clay is thrown in the tempering-tub A. The joint action of the arms 7 7 7 8 8 8 and cross-braces 5 5 5 6 6 6 forces

it down and thoroughly tempers and mixes it. The inclined radial arms  $a^1 a^2 a^3 a^4$  force the clay into the mold-box that is underneath and perfectly fill the same. As each toe of the cam bears against the shoulder on the bar  $a$  the platen  $m$  is caused to recede and a mold-box is inserted. The action of the weight carries the mold-box forward, as well as those that precede it; and as the molds are forced against the beveled edge of the plate E the shearing action of the same strikes off the superfluous clay, and the mold, filled, appears at the rear of the machine, as seen in Fig. 1. The action of the machine can be continued indefinitely in the same manner.

Having thus given a full, clear, and exact description of my improved brick-machine, what I claim as new, of my invention, and desire to secure by Letters Patent of the United States, is—

1. The radial arms  $a^1 a^2 a^3 a^4$  provided with adjustable presser-blocks  $z z z z$ , in combination with the base-plate E, rods 5 6 7 8, and shaft C, substantially as and for the purpose described.

2. The combination and arrangement of the shaft C with the cam  $c$ , bar  $a$ , links  $e e$ , bell-crank  $d$ , adjustable rod  $f$ , rock-shaft  $t$ , connecting-rods  $o o$ , bars  $s s$ , pusher-bar  $m$ , and weight  $n$ , when used to operate the molding-boxes  $i$ , substantially as described.

3. The drop-latches J J, in combination with the mud-tub A, brick-molds  $i$ , and bar  $m$ , substantially as shown and described.

4. The radial arms  $a^1 a^2 a^3 a^4$ , constructed as described, provided with the adjustable presser-blocks  $z z z z$ , as and for the purpose specified.

JACOB COOKE. [L. S.]

Witnesses:

JOHN QUINN,  
J. M. M. GERNERD.

(20)