N. Adams,

Brick Machine.

No. 6,361. Patented Apr. 17, 1849.

Fig: 1.

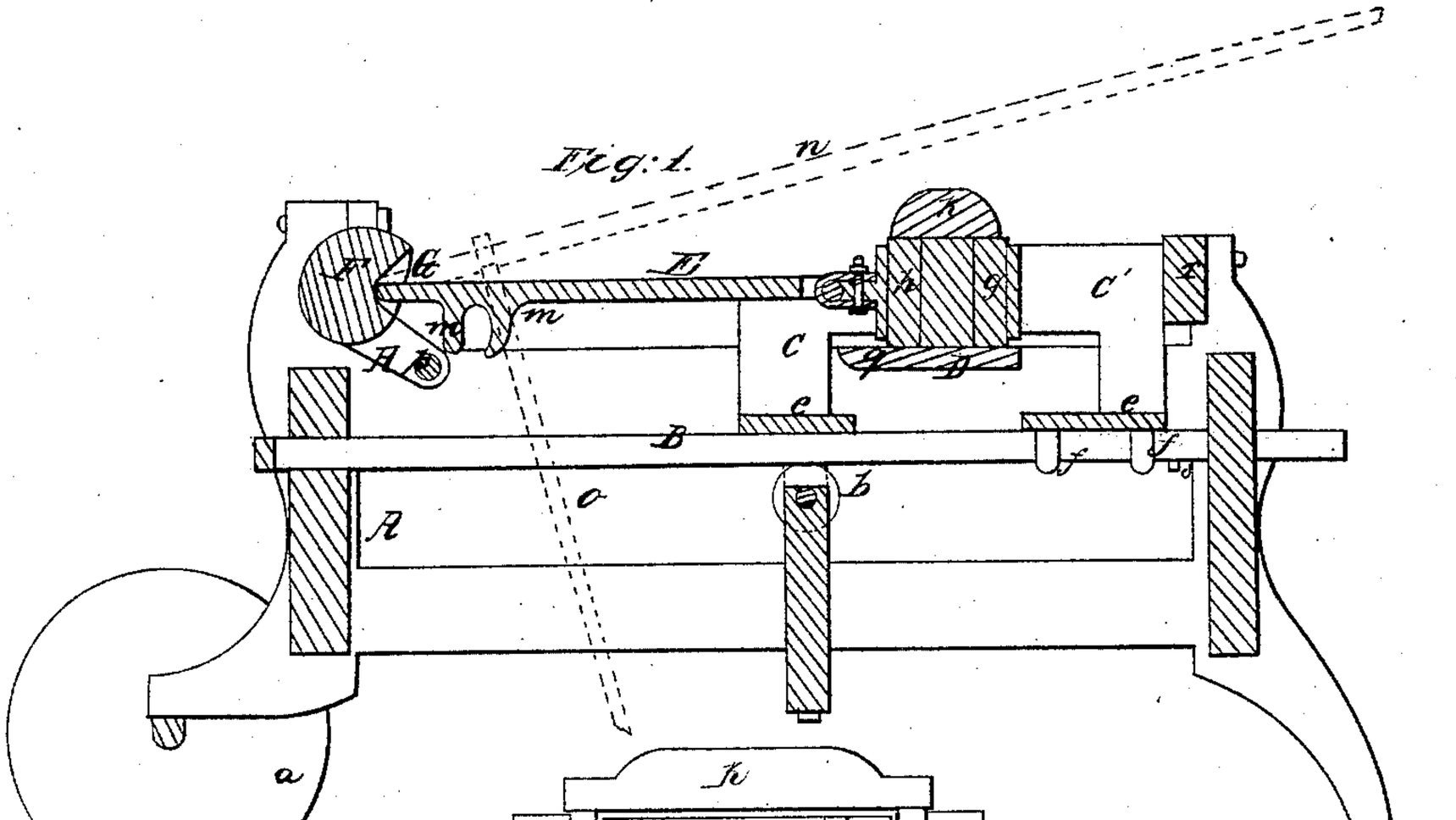
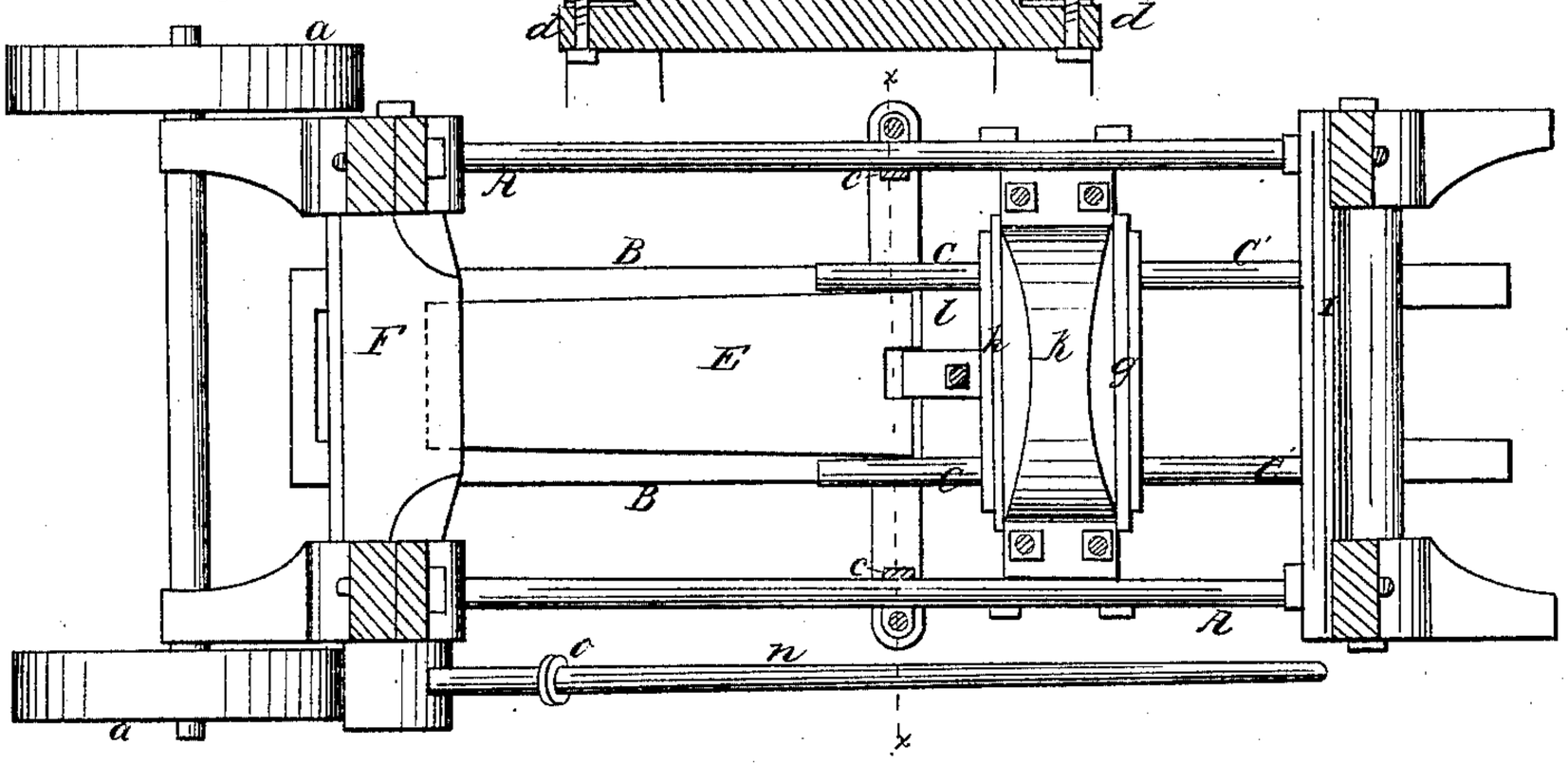


Fig: 2.

Fig: 3.



UNITED STATES PATENT OFFICE.

NATHL. ADAMS, OF CANTERBURY, NEW YORK.

BRICK-PRESS.

Specification of Letters Patent No. 6,361, dated April 17, 1849.

To all whom it may concern:

Be it known that I, NATHANIEL ADAMS, of Canterbury, in the county of Orange and State of New York, have invented a new and useful Improvement in the Machine for Compressing Bricks by Means of a Duplex Motion, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a vertical, longitudinal section of the machine. Fig. 2 is a vertical transverse section of ditto, at the line *x x* of Fig. 3. Fig. 3 is a top, or bird's eye view of ditto.

Similar letters in the figures refer to corresponding parts.

The nature of this invention and improvement, consists in placing the brick, after being molded in the ordinary or any convenient manner, on a horizontal plate, and forcing the same into a mold formed by the plates firmly secured to the machine, and so arranged as to conform to the shape of the brick, and compressing the same in said mold by means of an eccentric roller, and jointed plate, so combined as to form a cam motion, somewhat similar to a toggle joint, with a sufficient force to smooth the surfaces of the brick, and render them suitable for the fronts of the houses and other purposes where beauty of appearance is desired; and combining with this motion a reverse movement, forming a duplex motion; the whole of the parts necessary to perform the operation, being set in motion by a hand and foot lever, and arranged within a suitable frame provided with a pair or wheels at one end, to enable it being removed from place to place.

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

A is the frame made of an oblong form of suitable size, strength and material, to contain and support the several parts for which it is designed, supported by curved legs at one end, and provided with a pair of wheels *a* at the opposite end, in such a manner as to enable the operator to convey it from place to place, as may be desired.

B are horizontal longitudinal bars or rails, connected together at one end, and moving in mortises or oblong openings, formed in upright timbers secured between the sides of the frame, at either end of the same, and resting on friction rollers *b*, turning in suitable boxes in another transverse timber, near the middle, having grooves on its ends, in which fit corresponding formed bars *c* secured to the upper longitudinal rail of the frame, and bent at right angles at their lower ends, where they are perforated with female screws to receive male screws *d*, passing through projections on the lower edge of the transverse timber, in such a manner as to allow of said timber, and friction rollers, being raised or lowered, as occasion may require.

C, C′, are right angled longitudinal cheek plates, secured to the bars or rails B, on edge, and connected together at their lower parts by cross plates or bars *e*, those nearest the back part of the machine viz, C′ being attached to the bars or rails B loosely, by clasps or staples *f*, in such manner as to allow of said bars or rails moving under them when any heavy impediment is offered to their movement, and secured to an oblong plate or piston *g′*, and those nearest the forward part of the machine, being secured permanently to the bars or rails B, and to an oblong plate or piston *h*, similar in size and form to the one just mentioned.

D is a transverse oblong plate secured to the side of the frame, and having vertical plates *i*, rising from either end, connected together at their upper ends by a transverse plate *k*, in such a manner as to form a smooth mold, corresponding in size and form with the length and width of the plates or pistons, and the brick *h* to be compressed.

E is an oblong plate secured to a horizontal plate *l*, projecting from the plate or piston *h* between the cheek plates C, C′, by means of a strap and bolt, and rounded or made convex on either side of the strap, to correspond with the concavities on the edge of the projecting plate *l*, and provided at near its forward end with two curved cogs *m* projecting from its lower surface.

F is a horizontal eccentric shaft, turning in suitable boxes in the forward end of the frame, and having an opening near one end in which is inserted a lever *n* having an arm or rod *o* secured at right angles to the same, a short distance from the end which enters the opening in the shaft, in such a manner as to enable the operator to turn said eccentric shaft by the employment of both hands and feet.

G is a concave space formed in the periphery of the eccentric shaft, commencing at the part farthest from the center, and extending to a little short of midway its radius, and being made of sufficient length to admit the end of the oblong plate E, which is rounded and inserted in the same.

H are cogs or ears, projecting tangentially from the periphery of this shaft, immediately next the concave space G, connected together at their ends by a bolt or pin *p*, so situated in relation to the cogs on the lower surface of the oblong plate E, as to enter the space between the same, when the shaft is turned to the left, and connect itself with said oblong plate and forming with the cam motion above mentioned a duplex motion.

Operation: When it is desired to compress brick with this machine the lever N is raised so as to draw the piston *h* and its attachments toward the forward part of the machine, sufficiently far to enable the operator to place a brick, molded in the ordinary, or any desired manner, between the pistons on the ledge *q* projecting from the lower plate D, of the mold. The operator then takes hold of the upper end of the foot lever *n* with his hands, and turns the eccentric shaft F to the right, which causes the pistons, check plates, and bars or rails B, to be moved toward the back part of the machine, and the ends of the check plates to be brought against the plate *r* and the brick to be carried into the mold, between the pistons, by the action of the pin or bolt *p* in the cogs *m*, and the rounded end of the oblong plate E to be brought into the concave space G in the eccentric shaft F until the lower end of the bar *o*, is sufficiently low, when he places his feet against the lower end of the same, and takes hold of the upper end of the hand lever *n*, and continues to turn said shaft, by the power of his hands and feet combined. The motion of the shaft being continued, the pin or bolt *p*, will detach itself from the cogs *m*, and the oblong plate E, whose end is inserted in the concave space G of the eccentric shaft, will form a cam motion, similar to a toggle joint, with said shaft, and will enable the operator to exert a pressure on the brick, between the pistons (the one nearest the back part of the machine being prevented from moving by the check plates resting against the transverse plate *r*) sufficiently great, to smooth its surface, and otherwise render it suitable for purposes requiring a solid and beautiful brick; the power exerted by one man supposed to be equal to 50 tons. The motion of the levers or bars *n*, *o*, is then reversed, as likewise that of the pistons, check plates and rails, by the action of the pin or bolt *p*, on the curved cogs *m* the cheek plate C′ being moved by the action of the pin S on the staple *f*. Thus the pressed brick is forced out of the mold by the piston *g* and is removed, and another put in its place.

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

The mode of compressing the brick and withdrawing the same from the mold by means of the concave space G in the eccentric shaft F and oblong plate E whose end is inserted in the same, forming a cam motion, somewhat similar to a toggle joint, and tangential cogs or ears H, connected together by a bolt or pin *p*, and curved cogs *m* forming with the movement above mentioned, a duplex motion, in combination with the radial hand lever *n* or bar, and foot bar *o*, by which the operator is enabled to exert the power of his hands and feet, as herein set forth; whether the parts above mentioned be combined with the pistons and other necessary parts, and constructed substantially as those described in the specification, or any others substantially the same by which analagous results are produced.

NATHANIEL ADAMS.

Witnesses:

O. D. MUNN,

EL. POLHAMUS.