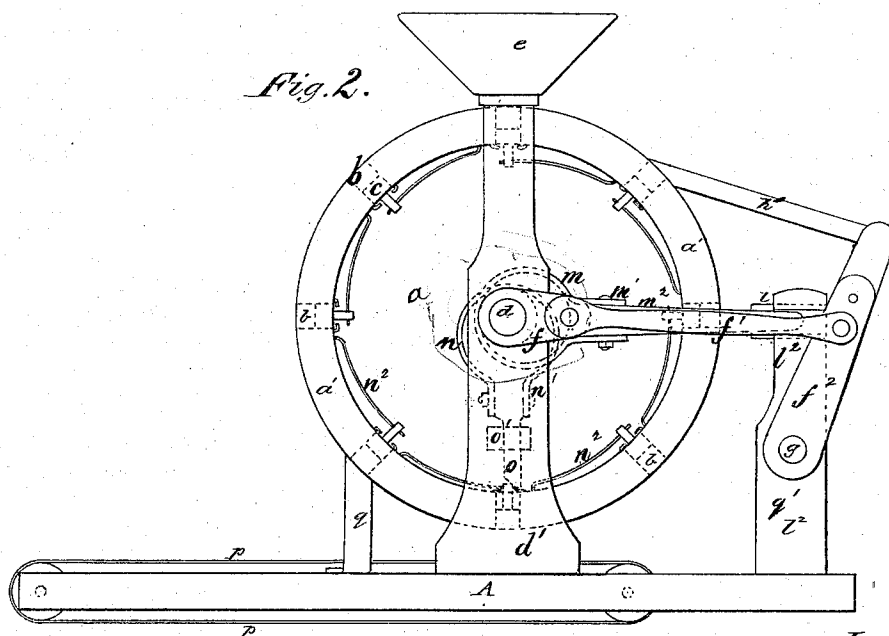
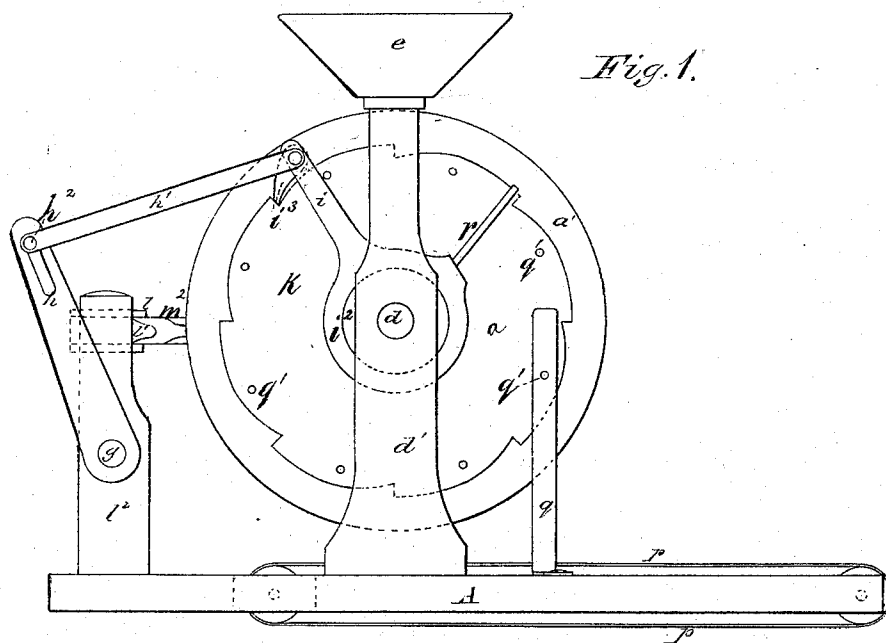


CHARLES CLARK.

Improvement in Brick Machines.

No. 125,272.

Patented April 2, 1872.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES CLARK, OF CONNELLSVILLE, PENNSYLVANIA.

IMPROVEMENT IN BRICK-MACHINES.

Specification forming part of Letters Patent No. 125,272, dated April 2, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, CHARLES CLARK, of Connellsville, in the county of Fayette and State of Pennsylvania, have invented a new and useful Improvement in Machines for Making Bricks; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a side elevation of my invention, showing the hopper, the pressing-plunger, and devices for operating the mold-wheel. Fig. 2 is a like view, showing the cams, pressing mechanism, &c.

Like letters of reference indicate like parts in each.

My invention consists in the construction of a vertically-revolving wheel having brick molds at set intervals in its periphery, and of certain devices for filling the molds, for pressing the bricks therein, and for discharging them therefrom.

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

I make the wheel *a* of any suitable material, with a wide periphery or rim, *a'*, in which, at certain regular distances apart, are the brick-molds *b*, having movable bottoms *c*. The wheel is loosely mounted upon a shaft, *d*, so that it will turn independently, such shaft in turn being mounted in the housings or standards *d'*. Directly over the highest point or elevation of the wheel *a*, and supported by the bearers *d'*, is a hopper, *e*, which supplies clay to the molds. This hopper is so arranged that when the mold is brought into position under it it will discharge and fill the mold, but will become closed by the plain surface of the rim *a'* between the molds, when the wheel begins to turn again, and cannot discharge. The clay in the hopper is forced down into the molds by the operation of the screw-bit of the pug-mill or other equivalent device. At one end of the shaft *d* is a small crank, *f*, which is connected by the arms *f*¹ and *f*² to a shaft, *g*, which is supported by the bearer *g'*. A little distance in front of the wheel *a*, projecting radially from the other end of the shaft *g*, is a slotted arm, *h*. When the main shaft *d* is operated the small

crank *f*, through the arms *f*¹ and *f*², imparts a reciprocating motion to the shaft *g*, and thereby to the arm *h*. The arm *h* is connected by the rod *h'* to the arm *i*, which is sustained on the shaft *d* by the collar *i*², and carries on its side, near the upper end, a pawl, *i*³, which bears against the periphery of the ratchet-wheel *k* on the wheel *a*, to operate as hereinafter explained. Directly in front of the wheel *a*, and operating horizontally in a plane which cuts the shaft *d*, is a plunger, *l*, supported in the groove *l'* in the standard *l*². This plunger is operated by the cam *m* on the main shaft *d*, which is connected with and communicates a reciprocating motion to it by means of the cam-yoke *m*¹ and rod *m*². The object of the plunger *l* is to press the clay in the molds, as by the operation of the wheel *a* they are brought to position opposite to and in the path of the plunger. On the shaft *d* is a second eccentric or cam, *n*, which is connected with and imparts a reciprocating motion to the vertical plunger *o* by means of the yoke *n*¹. This plunger is guided by the block *o'*, and operates to discharge or force the bricks from the molds, as they come into position directly in its path, down onto the moving or endless table *p*, by which they are carried away. The plunger strikes the movable bottom of the mold and forces it outward to the surface of rim *a'*, discharging the brick. When the revolution of the wheel brings the mold around to the hopper, the movable bottom drops back by its own weight to the bottom of the mold, or it is thus returned by the reaction of springs *n*². In front of the wheel *a*, extending up from the bed-plate *A*, is a spring-catch, *q*, which, catching on the pins *q'*, locks the wheel and holds it stationary when the molds come into position opposite the hopper and levers. The catch *q* is disengaged, so as to allow the wheel *a* to revolve, by the arm *r*, which is attached to and operated by the oscillating arm *i*.

The operation of my machine is as follows: Power is applied to the shaft *d*, at the end *d'*, in any convenient way. The crank *f* and cams *m* *n*, being rigidly attached to the shaft, are turned with it. The crank *f*, through and by means of the arms *f*¹ *f*², shaft *g*, arm *h*, and rod *h'*, imparts a reciprocating motion to the radial arm *i*. In the forward reach of the arm *i* the pawl *i*³ moves from one tooth of the ratchet-

wheel *k* to and engages with the next one. In the backward stroke of the arm *i* it draws the wheel *a* around so as to bring the next mold into position, the length of stroke being gauged by means of the slotted arm *h* and set-screw *h*². During the forward stroke of the arm *i* the wheel *a* is held stationary by means of the spring-catch *g*, which catches on the pins *q*'. When the arm *i* reaches the extreme forward end of its stroke the arm *r* forces the spring-catch *g* off the pin *q*', and releases the wheel. The cam *m* operates the plunger *l* for pressing the bricks, and the cam *n* the plunger *o* for discharging them. These cams are so arranged that the operative strokes of the plungers shall be given during the forward stroke of the arm *i*, and while the wheel is held stationary. Thus it will be seen that all three operations—that of filling the molds with clay from the hopper, pressing the bricks in the molds, and discharging them therefrom—are performed while the wheel *a* is held stationary, and that these three operations are going on simultaneously in as many different molds.

Any desired number of molds may be made in the periphery of the wheel *a*; but they must be arranged at regular distances therein, and the operation of the other parts of the machine regulated correspondingly.

Other mechanical devices for transmitting the power from the main shaft to operate the wheel and plungers may be substituted for those described and shown.

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

1. The mold-wheel *a* *b*, which is intermittently rotated by means of the oscillating arm *h*, adjustable connecting-rod *h*', arm *i* with pawl *i*³, and ratchet-wheel *k*, in combination with the eccentrics *m* *m*¹ *m*² and *n* *n*¹ *o* and the plungers *c* and *l*, which are operated simultaneously during the cessations of the mold-wheel, substantially as set forth.

2. The mold-wheel *a* mounted upon the driving-shaft *d*, in combination with the discharging-plunger *o*, cam *n*, and yoke *n*¹, arranged to operate substantially as described.

3. The spring-catch *g* and pins *q*', in combination with the mold-wheel *a*, ratchet-wheel *k*, arm *i*, pawl *i*³, and arm *r*, operating substantially as and for the purpose specified.

In testimony whereof I, the said CHARLES CLARK, have hereunto set my hand.

CHARLES CLARK.

Witnesses:

A. S. NICHOLSON,
THOS. B. KERR.