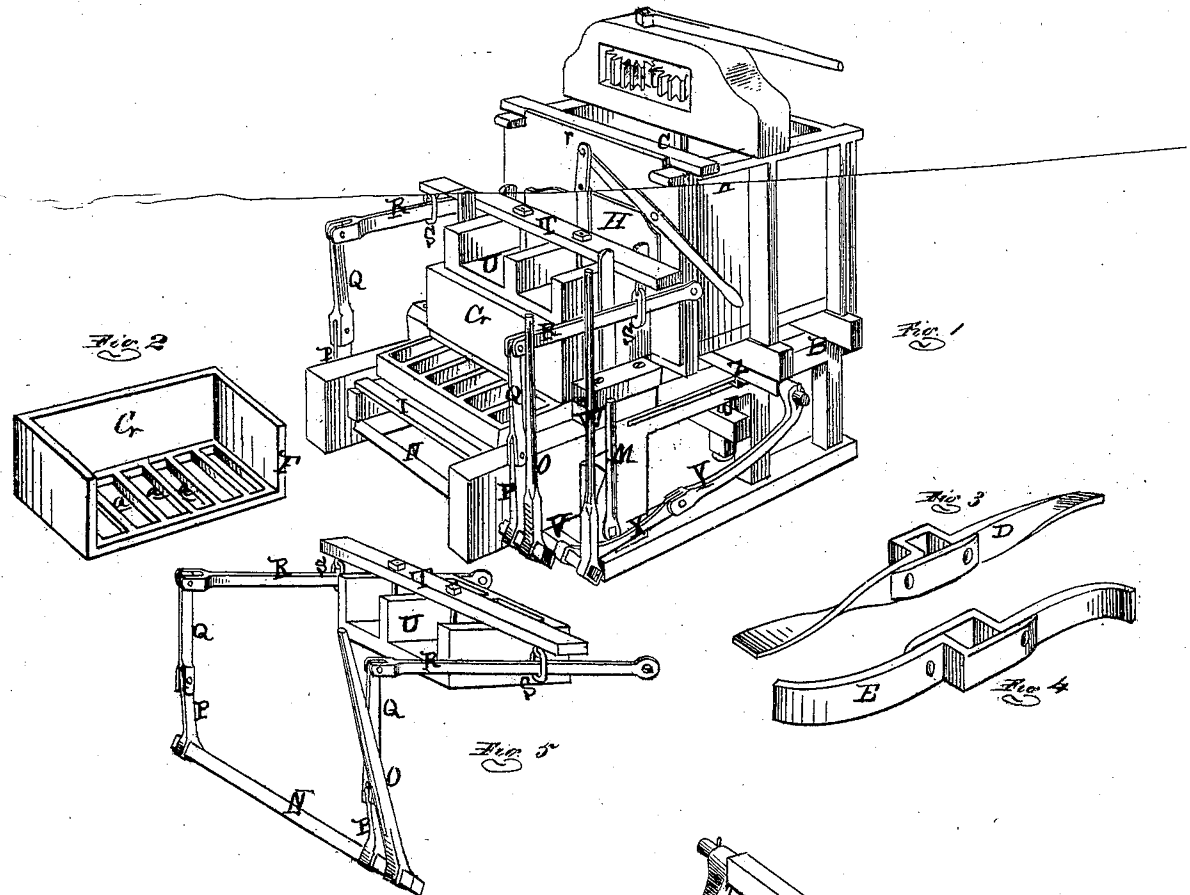
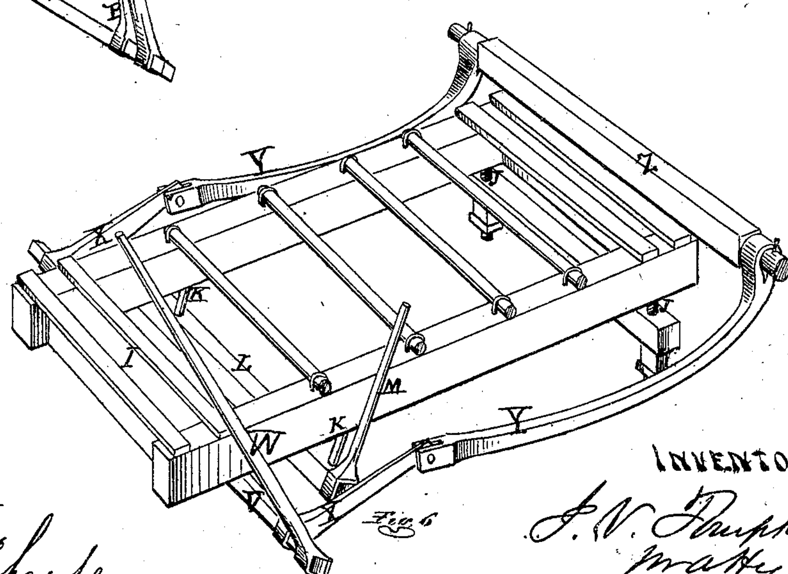
J. V. TOMPKINS.

Improvement in Brick-Machines.

No. 114,884. Patented May 16, 1871.





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United States Patent Office.

JAMES V. TOMPKINS, OF CANANDAIGUA, ASSIGNOR TO HIMSELF AND JOHN CAVENDER, OF ADRIAN, MICHIGAN.

Letters Patent No. 114,884, dated May 16, 1871.

IMPROVEMENT IN BRICK-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To whom it may concern:

Be it known that I, JAMES V. TOMPKINS, of Canandaigua, in the county of Lenawee and State of Michigan, have invented a new and useful Improvement in Brick-making Machines; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which—

Figure 1 is a perspective of my invention.

Figure 2 is a perspective of the jack-mold from the rear.

Figure 3 is a perspective of the cutting-knives of the mud-mill, showing the mode of attaching them to the vertical shaft.

Figure 4 is a perspective of one of the forcing-knives or scrapers, which force the mud from the mud-mill into the jack-mold.

Figure 5 is a perspective of the device for working the plunger in the jack-mold.

Figure 6 is a perspective of the table upon which the molds rest, and of the mechanism by means of which the molds are thrown out, and of the devices for elevating or depressing the table, as may be required.

Like letters refer to like parts in each figure.

The nature of this invention relates to an improvement in the construction of brick-making machines intended to be run by horse or other power, and to deliver the clay from the mud-mill directly into a jack-mold, from which, by means of a suitable plunger, it is forced directly into the molds.

The invention consists in the arrangement of the principal operating parts, constructed as more fully hereinafter described.

In the accompanying drawing—

A represents a mud-mill, secured to the top of a frame, B, to which is also secured the other working parts of the machine.

C is a vertical shaft, to which are secured the cutting-knives of the device, and which are constructed in the form shown in fig. 3, marked D, and sleeved upon the vertical shaft C in such a manner that they can be raised or lowered on the shaft, as may be desired.

E are forcing-scrapers, also sleeved on said shaft, made in the form shown in fig. 4, secured near the bottom end of said shaft so as to rotate in close proximity to the bottom of the mud-mill, to force the puddled clay, through an opening in the front side of said mill, into a corresponding opening, F, in the rear side of the jack-mold G.

H is a cut-off, working between the front of the mud-mill and the rear of the jack-mold, at the opening F, to regulate the flow of mud from the mill into the jack-mold.

I is a table, resting loosely at the rear end upon set-screws J, which are secured in the frame in such a manner that, by means of said screws, that end of the table may be raised or depressed at pleasure.

The front end rests upon set-screws K, which are secured to the rock-shaft L (which is operated by the crank-lever M) in such a manner that, by means of said screws K, the front end of the table may be adjusted to the same plane of the rear end.

When stone or other foreign substances enter the molds, and for their removal it becomes necessary to still further lower the front end of the table, it may be done by partially rotating the shaft L by means of the crank-lever M, thereby disengaging the upper ends of the set-screws K from their bearing against the under side of the table, and allowing the front end thereof to drop and rest upon the rock-shaft N, or upon any suitable supports arranged for the purpose.

The rock-shaft N is square, and properly journaled into the sides of the frame, and is caused to partially rotate by power applied to the lever O.

Outside the frame there is secured to said rock-shaft the rigid cranks P, the upper ends of which are pivoted to the short arms Q, the opposite ends of which are in turn pivoted to the levers R.

These levers pass through links S or their equivalents, suspended from the pressure-bar T of the plunger U, and are there pivoted to the sides of the mud-mill.

V is another rock-shaft, properly journaled into the sides of the frame, and operated by the lever W.

Near each end of this rock-shaft are secured cranks X, the opposite ends of which are pivoted to the curved arms Y, the opposite ends of which are in turn pivoted to the bar Z, which has a reciprocating motion on the top rail of the frame.

The mud, being thrown into the mill and power applied to the shaft thereof, is mixed or puddled by the rotation of the cutting-knives D.

The forcing-scrapers E then force the clay through the opening F into the jack-mold G, the cut-off H governing the flow, according to the consistency of the clay and its consequent tendency to flow through the opening faster or slower.

This jack-mold is so constructed that its inner sides are beveled, being wider at top than at the bottom, and said bottom is provided with suitable openings, *a*, through which the clay is forced into corresponding molds upon the table, immediately below said openings.

When the jack-mold is filled a forward motion of the lever O, through the intermediate connections above described, forces the plunger U into the jack-

mold, and the clay is thereby driven through the openings in the bottom of said jack-mold into the molds below with such power that the clay entirely fills the corners of said molds and forms a brick with perfectly square corners.

The molds are inserted at A′, and laid upon the rear end of the table, the arms Y being curved, as shown in the drawing, to allow this to be done.

A forward throw of the bar Z, by means of the lever W and the intermediate connections hereinbefore described, forces the mold directly under the bottom of the jack-mold, where it is filled, as above described.

The bar Z is then thrown back and another mold inserted, when another forward motion of said bar forces the mold which is under the jack-mold, and filled, forward upon the table, whence it may be removed, and the above operations repeated at will.

As the molds, after being filled, are forced from under the jack-mold, they are "struck" by the lower front edge of the said jack-mold.

Should stones or other hard or foreign substances get into the molds and prevent their passage from under the jack-mold, the front end of the table may be lowered by partially rotating the rock-shaft L, as above described.

This device is not costly in construction, is easily and rapidly worked, can be operated by horse or other power, and is especially calculated for use in those yards where the demand for bricks is not so large as to require a large capital and more expensive machinery.

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

In brick-making machines, the arrangement of the rock-shaft N, lever O, cranks P, arms Q, levers R, links S, pressure-bar T, and plunger U, when constructed and combined to operate substantially as and for the purposes herein set forth.

JAMES V. TOMPKINS.

Witnesses:

THOS. S. SPRAGUE,

H. F. EBERTS.