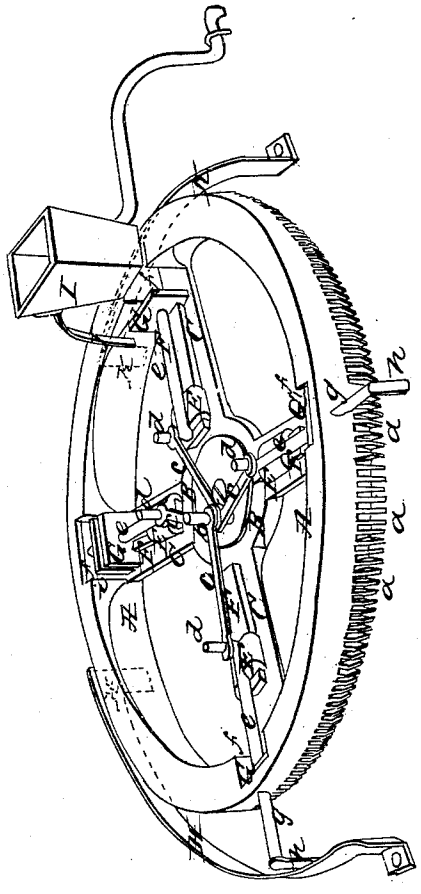
P. S. DEVLAN.

BRICK MACHINE.

No. 11,745. Patented Oct. 3, 1854.



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UNITED STATES PATENT OFFICE.

PATRICK S. DEVLAN, OF READING, PENNSYLVANIA.

BRICK-MACHINE.

Specification of Letters Patent No. 11,745, dated October 3, 1854.

To all whom it may concern:

Be it known that I, PATRICK S. DEVLAN, of Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Brick-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part thereof, in which—

Figure 1 represents a prespective view of the entire machine.

My invention consists in a peculiar manner of working the plungers in a revolving brick press, by which I am enabled to employ the toggle joint as a pressing power.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A, represents a rim or wheel, connected to its center B, by the radial arms C.

D is a journal or axle permanently fixed on any suitable frame, and on this journal the wheel A is revolved horizontally, by means of a bevel gear working into the teeth *a a a* &c. of the wheel A, or by any other well known mechanical means. A fixed pin *b*, is eccentrally placed in the journal D, on which the four connecting rods *c*, *c*, *c*, *c* are so arranged as to freely turn, as the wheel A, revolves. The opposite ends of these rods *c* are similarly connected to the pins *d*, *d*, *d*, *d*, placed respectively upon the slides E, E, E, E, which move on the ways F, F, F, F, suitably arranged on the radial arms of the wheel. It is obvious that, the center of the rods *c*, being eccentric to that of the wheel itself, will give these slides E, a motion to and from the center of the wheel, whilst they rotate with it. The platens or plungers G, G, G, G, are connected to the slides E, by the rods *e*, *e*, *e*, *e*, and receive their motion therefrom. In the inner perimeter of the wheel A, are formed the molds *f*, *f*, *f*, *f*, immediately opposite each one of the plungers G, and into which molds its appropriate plunger is forced and withdrawn once during each revolution of the wheel A.

Suitable rods *g*, *g*, are made to pass from the outer perimeter of the wheel into the molds *f*, having upon their outer ends a bent arm *h*, which if found essential may be furnished with a friction roller, to run against the cam H. The rods *g*, have a follower *i* on their inner ends which should neatly fit into the mold.

I, is the hopper or clay box, and J, an arm thereon, which pushes the brick after delivered from the mold, off onto an endless belt or table from which they may be removed to be dried or burnt.

K is a cam for drawing the followers back into the rear of the mold, as each mold successively arrives near the hopper, the arms *h*, passing on the outside of the said cam, whilst they pass on the inside of the cam H, to give them a contrary movement. The top surface of the wheel fits so closely to the bottom or underside of the hopper, as to prevent any clay from leaving the hopper until the opening in front of the mold comes under said hopper, when sufficient clay is dropped to make or form the pressed brick.

It has been usual to employ the plunger merely for the purpose of pressing, but I so arrange and operate the plunger and follower, that their movement out of the mold shall be simultaneous, and the pressed brick held between them during its delivery, which prevents its warping or twisting. When the plunger is first withdrawn from the mold it being perfectly packed as it were with clay, a vacuum is formed behind it which forces the pressed brick from its bed causing it to be damaged or warped. By my plan of delivery this can not happen, as the brick is under constant pressure on both sides, whilst the machine is reduced to extreme simplicity.

I am acquainted with the brick machine of S. Ustick, patented July 10th 1847—and therefore do not wish to be understood as claiming any device, or arrangement or combination of devices therein embraced; nor do I claim to be the first who has employed the toggle joint for the pressure of bricks, as that mechanical device has been used in many varieties of brick presses, but

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

The above described manner of actuating a number of plungers G, G, to wit: by the cranks *c*, *c*, attached to the eccentric pin, *b*, upon the stationary journal or axis, D, by which I am enabled to adapt the well known toggle joint pressure, in a simple and yet effective manner, to a number of molds in a revolving brick press.

PATRICK S. DEVLAN.

Witnesses:
MYER STROUSE,
DENNIS L. O'BRIEN.