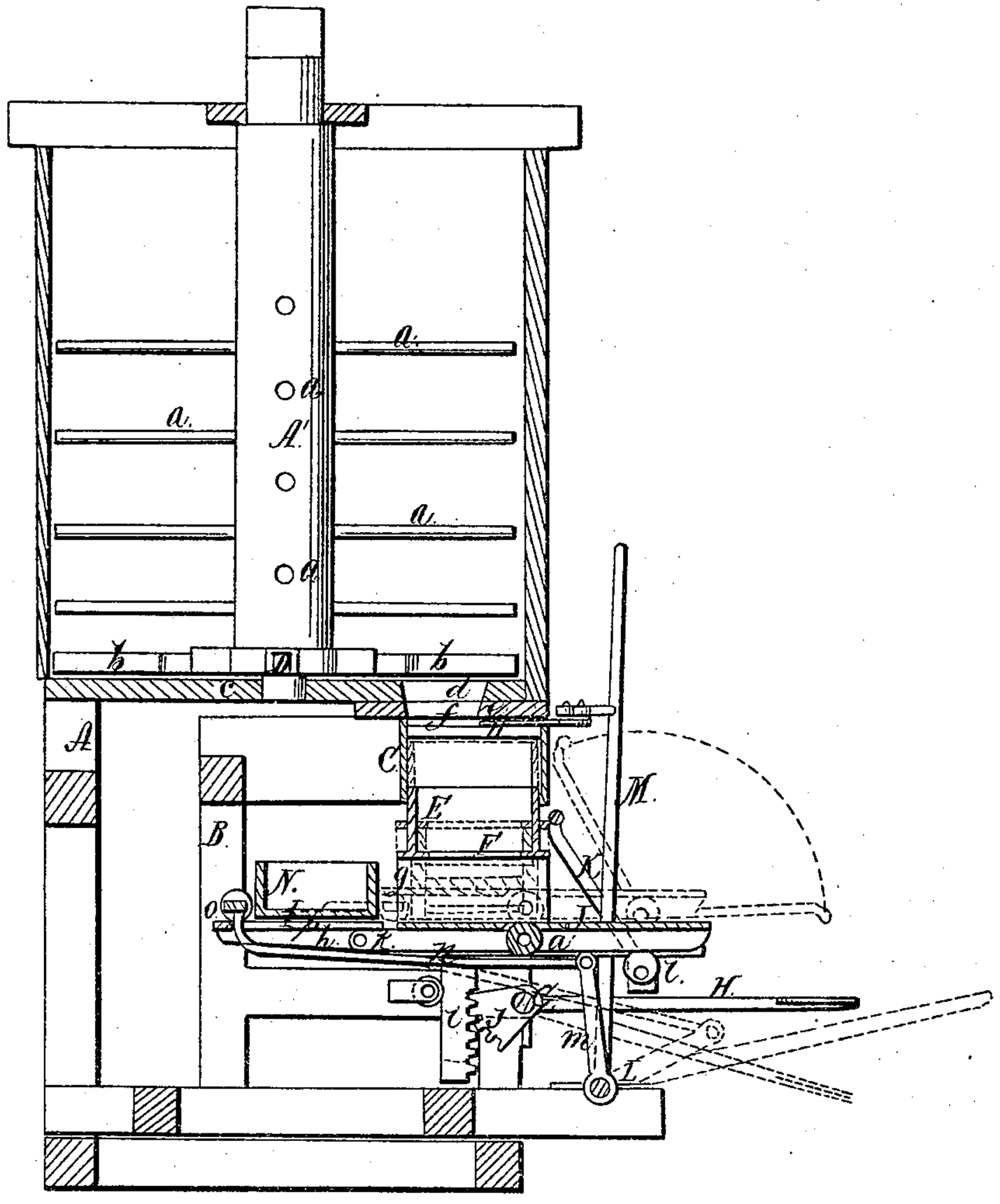
S. Lillie, Jr,

Brick Machine,

No. 16,649. Patented Feb. 17, 1857.



UNITED STATES PATENT OFFICE.

SAMUEL LILLIE, JR., OF FORT WAYNE, INDIANA.

BRICK-PRESS.

Specification of Letters Patent No. 16,649, dated February 17, 1857.

To all whom it may concern:

Be it known that I, SAMUEL LILLIE, JR., of Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Machines for Molding and Pressing Brick; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, making a part of this specification, said drawing being a vertical section of my improvement.

This invention consists in the novel means employed for compressing or forcing the clay into the molds.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A represents a rectangular framing in the upper part of which the mud mill is placed. The mud mill is of usual construction consisting of a vertical shaft A′ having horizontal arms or beaters (*a*) passing through it, and horizontal scrapers (*b*) through its lower end, the scrapers being inclined transversely and their lower edges being quite near the bottom (*c*) of the mud mill. In the bottom (*c*) of the mud mill an oblong opening (*d*) is made.

B, represents a rectangular frame which is fitted within the frame A underneath the mud mill. This frame B, has a rectangular box C, fitted in its upper part, the upper end or top (*e*) of said box having an opening (*f*) made through it corresponding with the opening (*d*) in the bottom (*c*) of the mud mill, the two openings being in line with each other.

In the upper part of the box C, a slide D is fitted by which the communication between the box C and mud mill may be cut off when desired or the openings (*d*) (*f*) which form the communication contracted as occasion requires.

E, represents a case or box which is fitted and allowed to work freely up and down within the box C. This case or box E, is open at its upper end, and its lower end has a grate F fitted to it, the spaces between the bars corresponding in width to the boxes of the molds. To the lower end of the case or box E, and at each side, a plate (*g*) is attached; and the lower ends of the plates are attached to two parallel bars (*h*), a bar being at each side of the frame B. To the underside of each bar (*h*) a vertical rack (*i*) is attached, and into each rack a toothed section (*j*) gears. These sections are placed on a shaft G fitted transversely on the front part of the frame B, and having a treadle H attached at one end.

A platform I is secured upon the back parts of the bars (*h*), and a platform J, is placed or fitted between the bars (*h*) in front of the platform I, the back part of the platform J, being pivoted to the bars as shown at (*k*). A roller (*a′*) is fitted transversely in the platform. The front ends of the bars (*h*) rest upon eccentrics (*l*) which are placed on the lower ends of a frame K, the lower ends of said frame passing through the bars (*h*), or through pendents attached thereto, so that the eccentrics will be at the inner sides of the bars.

L is a shaft which is placed transversely on the front and lower part of the frame B. This shaft has a lever M, attached at one end, and two arms (*m*) are attached to the shaft, the upper ends of the arms being attached to rods (*n*) which are also connected to a cross head (*o*) which rests and works upon the platform I, the rods working through slots in the platform I.

The operation is as follows: The slide D is shoved inward so as to cut off the communication between the mud mill and box C; and the clay, properly moistened, is thrown into the mud mill, the shaft A′ being located in any proper manner. The clay is acted upon by the arms or beaters (*a*) and when properly tempered, the slide, D, is drawn out a requisite distance so that the tempered clay may pass down within the box C. The cross head (*o*) at the commencement of the operation is at the back end of the platform I, and the case or box E, is at the lower part of the box C as shown in black in the drawing. A mold N, is now placed on the platform I directly in front of the cross head (*o*), and the operator draws forward the upper end of the lever M, to the position shown by the dotted lines. The mold N, will consequently be moved forward underneath the case or box E by the cross head (*o*) also shown by dotted lines. The operator then depresses the outer end of the treadle H with the foot, and the toothed sectors (*j*) in consequence of gearing into the racks (*i*), elevate the bars (*h*), platforms I, J, and case or box E, as shown in red, the box or case E, being forced upward into the box C, and causing

the clay in said box to be forced through the grate F and into the boxes of the mold N. The box or case E therefore serves as a plunger. When the mold is filled, the foot of the operator is removed from the treadle H; the box or plunger E, bars *h*, platforms I, J, and mold N, descending to their original position by their own gravity. The lever M is then moved back to its original position, the cross head (*o*) being consequently moved back to the back end of the platform I, and an empty mold is placed upon the platform I, the lever M, again moved forward, and the empty mold forces out the filled mold from underneath the box or plunger E, to the front end of the platform J, the empty mold remaining underneath the box or plunger E. The filled mold is then removed from the platform J, and the operation repeated. In forcing the clay into the molds, stones, gravel and other foreign substances, which the clay may contain, are frequently embedded in the clay at the upper parts of the boxes of the mold and project above its surface. These impediments will prevent the molds from being forced out from underneath the plunger unless some provision is made for the purpose. To effect this the platform J is pivoted to the bars (*h*), as previously shown, and if the free passage of a mold from underneath the plunger is prevented by the cause above-stated, the frame K is turned down, as shown in red dotted lines and the eccentrics (*l*) allow the front end of the platform to fall sufficiently to permit the mold to pass out, the platform J being again elevated to a horizontal position when the mold is removed from underneath the plunger.

The above machine has been practically tested and operates well. The working parts are very compact and but small expenditure of power is required to operate it. Many parts required in other machines are dispensed with in this, and the construction of the whole is rendered extremely simple.

I do not claim the mud mill, for that is well known and generally used; but,

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is:

Forcing the clay into the molds and compressing it therein by means of a hollow plunger E, fitted and working within the box C, and connected with the platforms I, J, on which the molds are placed, so that the plunger and mold to be filled, rise and fall together, substantially as shown and described.

SAMUEL LILLIE, JUN.

Witnesses:
W. B. BEACH,
N. C. MILLER.