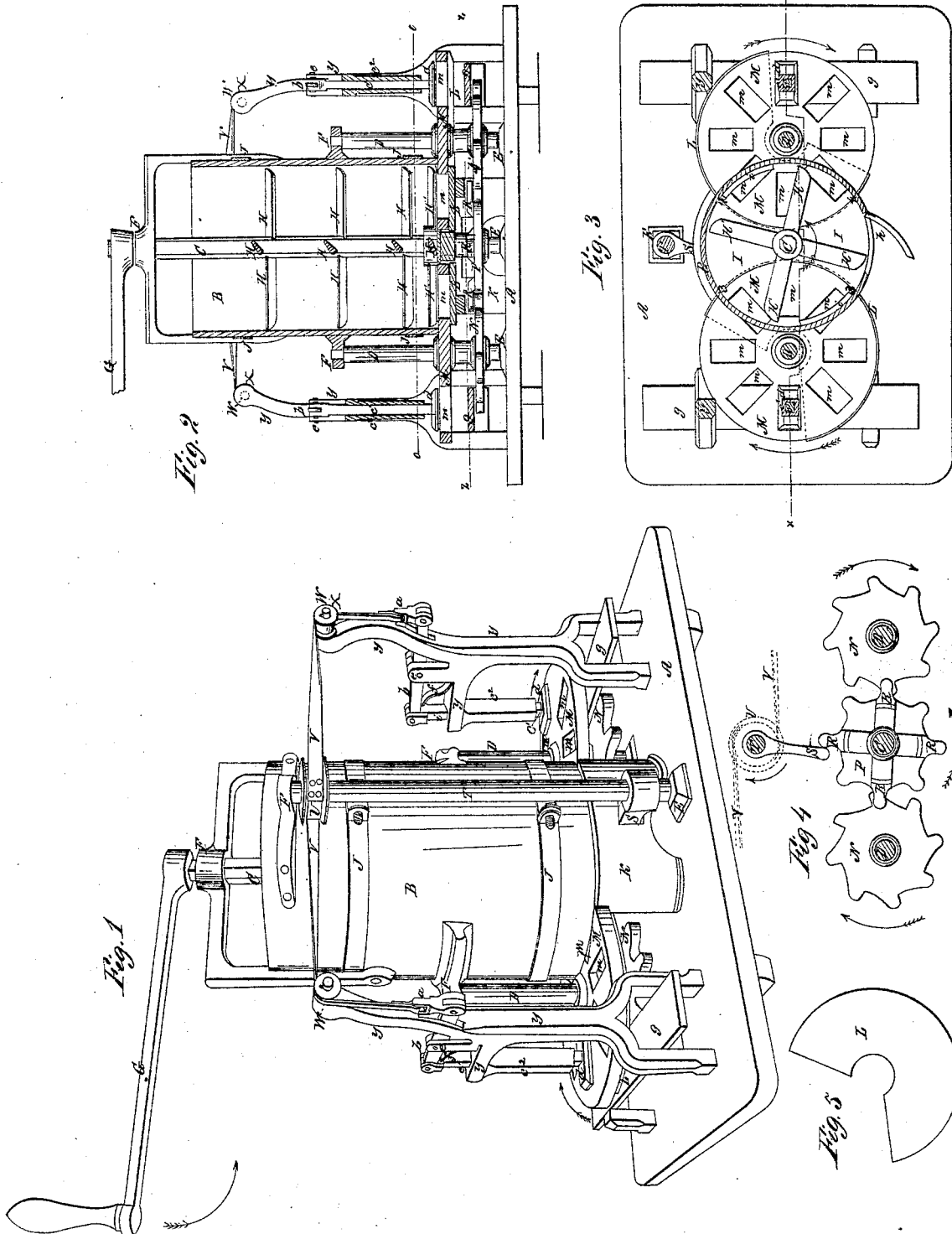


V. Roth,
Brick Machine,

No 6,127

Patented Feb. 20, 1849.



UNITED STATES PATENT OFFICE.

VALENTINE ROTH, OF EVANSVILLE, INDIANA.

BRICK-PRESS.

Specification of Letters Patent No. 6,127, dated February 20, 1849.

To all whom it may concern:

Be it known that I, VALENTINE ROTH, of Evansville, county of Vanderburg, and State of Indiana, have invented a new and useful
5 Machine for Making Brick, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1, is a perspective view of the machine as arranged for operation. Fig. 2 is a vertical section on the line *x x* of Fig. 3. Fig. 3, is a horizontal section on the line *o o* of Fig. 2. Fig. 4, is a horizontal section on the line *z z* of Fig. 2. Fig. 5, is a plan of
15 one of the stationary segment tables that prevents the descent of the clay through the molds.

The same letters in the several figures refer to like parts.

20 The arrows will indicate the direction of the turning of the several shafts, wheels, and plates.

A, is a horizontal platform upon which the machine is erected.

25 B, is the tub in which the clay is mixed.

C is the central, or main shaft, to which the propelling power is applied and into which the mixing knives are inserted, and on which the central toothed plate and
30 radial arms are fixed.

D D are two short vertical shafts on which the horizontal circular mold plates and propelling toothed plates are fixed.

35 E E E E are the lower bearings of the shafts C and D D and T secured to the platform A.

F F F F are the upper bearings of said shafts affixed to the tub B, or to suitable frame work.

40 G is a sweep affixed to the main shaft to which the propelling power is applied.

H are the radial mixing knives for mixing the clay and forcing it downward into the molds. The faces of the knives that first strike the clay are placed at an angle of about 45 degrees with a horizontal plane for the purpose of forcing the clay downward as the shaft is turned. The lowest set of knives marked H' are placed near the upper
45 surface of the molding plates and act as pressers for pressing the clay into the molds. These knives are inserted into the periphery of a round hub, through which the shaft C passes.

55 I I is a central segmental plate composing a part of the bottom of the tub fixed to its

lower end. The remaining segments are closed by the mold plates M which turn below the tub, while receiving the clay in filling the molds, as shown in Fig. 3.

J J are strong clasps, or hoops, for binding the staves of the tub together.

K is the cylindrical base of the tub.

L L are two horizontal segmental stationary tables arranged directly under the revolving mold plates and close to the same for the purpose of preventing the pieces of clay descending through the molds, until they arrive below the pistons *d d*, when they are discharged in the form of bricks, upon
65 movable tables *g g*, or off bearing boards, or endless conveyers, or any suitable receivers. These stationary segment tables are fixed to the base K of the tub and to standards Y that support the piston levers.

75 M M are the two horizontal circular molding plates for molding the bricks fixed to, and turning with, the shafts D. These plates are made of metal of any required diameter according to the number of oblong openings or molds desired to be formed therein, and as thick as the intended thickness of the bricks to be molded. Each plate is represented in Fig. 3, as containing 8 molds *m* radiating from the center and equidistant.
80 The number of molds, however, may be increased or diminished at pleasure.

N N are two cogged or toothed plates on the shafts of the circular mold plates designed to turn the mold plates with alternate
90 pauses in movement of sufficient duration to allow the pistons to perform their offices of discharging the brick from the molds without being interfered with by the movement of the molds, the rotary movements of
95 said mold plates being produced by a toothed plate P on the main or central shaft. This plate has only 4 teeth that engage with the teeth of plates N N. The plates N, on the shafts D of the mold plates have as
100 many teeth as there are molds in each plate, namely 8, in this arrangement. The plate P must therefore turn a quarter of a revolution to every eighth of a revolution of the mold plates which will give time enough for the
105 two pistons *d d* to discharge the bricks at each pause in the movement of the mold plate.

R R R R are four radial arms on the main shaft for operating the pistons. These arms
110 are arranged above and opposite the spaces between the teeth of the central plate P and

at right angles to each other and may be affixed to the upper surface of the central plate P or arranged in any convenient way so that in revolving they will not come in contact with the plates N but will extend beyond the periphery of the main shaft *c* far enough to strike and trip an arm *s* attached to a vertical shaft T on which there is a drum U to whose periphery is fastened the ends of two straps V V on opposite sides which lead over pulleys W W that turn on horizontal spindles X X supported in suitable standards Y said straps passing thence to links *a a* attached to the ends of levers *b b* connected to the upper ends of the vertical piston rods *c' c'* to which the pistons *d d* are attached for discharging the brick from the molds, said piston rods moving up and down through openings in horizontal guide arms *y y* and guide tubes *c'* projecting downward from the aforesaid arms *y*. The fulcras of said levers are horizontal bolts *e e* passed through ears cast on the standards. Springs *f f* are placed between the arms of the levers *b* and the arms *y* of the standard for the purpose of raising the said arms of the levers and pistons attached to them after the pistons have performed their offices of discharging the brick by the action of the before described combination of radial arms R, S, turning shaft T pulleys and straps V W and drum U and levers *b b*.

h is a door in the side of the tub at which the clay and water are introduced. See Fig. 3.

The molding plates may be made stationary at the commencement of the operation of mixing the clay if required by dropping the plate P and arms R on the shaft C until they are below the level of the plates N N.

The lower edge of the tub is provided with segment knives *i i* Fig. 3 of a triangular shape in their cross sections arranged on the inside of the tub which serve as strikers to shear off the surplus clay from the molds as they pass from the tub.

The operation of this machine is as follows:

A quantity of clay and water being put into the tub B, the main shaft C is put in motion by any convenient power, the knives H mix the clay and force it into the molds *m* and form it into bricks; these convey the bricks below the pistons *d*; the molds stand still for a few moments—the pistons descend and push the bricks from the mold upon the off bearing boards *g* or other conveyers; the pistons then ascend above the level of the mold plates which are again turned in like manner bringing other bricks beneath the pistons which are pushed from the molds in like manner; and in this way the operation is continued.

The simultaneous downward movement of the pistons is produced by the simultaneous winding of the straps V V on the drum U. The simultaneous ascent of the pistons and consequent unwinding of the straps and rotation of the shaft T is produced by the action of the springs *f f*, against the under sides of the levers *b b*.

I do not claim any of the component parts of this machine, individually considered; nor do I claim the mixing tub, and knives as used in making bricks or otherwise; but

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

The combination and arrangement of the two horizontal circular revolving mold plates M M for molding the brick, with the tub B, revolving shafts and pressers H' and conveying the brick to the discharging pistons *d d* simultaneously in opposite directions, the gearing being so arranged as to cause the rotating mold plates and reciprocating pistons to have the motions and pauses as herein set forth, for molding and discharging the brick.

In testimony whereof I have hereunto signed my name before two witnesses.

VALENTINE ROTH.

Witnesses:

WM. P. ELLIOT,

L. WASHINGTON, Jr.