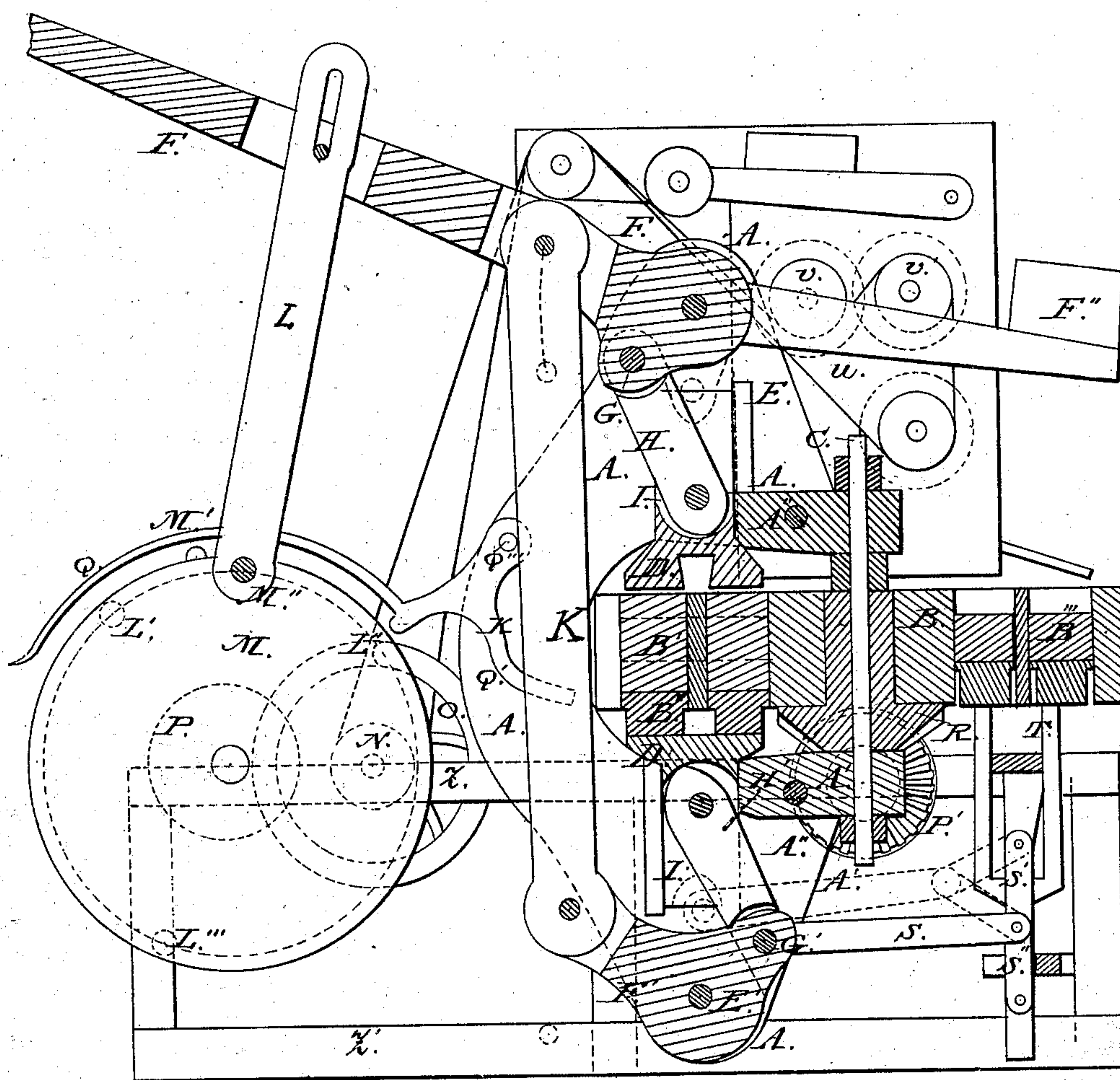


L. B. KENNEDY.
Brick Machine.

No. 239,611.

Patented April 5, 1881.



Witnesses:
Edw. W. Down
Elemer Jones

Inventor:
Lewis B. Kennedy
By J. N. Kall atty

UNITED STATES PATENT OFFICE.

LEWIS B. KENNEDY, OF KEOKUK, IOWA.

BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 239,611, dated April 5, 1881.

Application filed June 21, 1880. (Model.)

To all whom it may concern:

Be it known that I, LEWIS B. KENNEDY, a citizen of the United States, residing at Keokuk, Lee county, Iowa, have invented a new and useful Improvement in Brick-Machines, of which the following is a specification.

My invention relates to improvements in that class of brick-machines in which moist but nearly dry clay is made into brick by great pressure, so as to be hacked up directly from the machine, being improvements additional to those shown in my patent of July 23, 1878, which I do not claim herein; and the objects of my present improvements are, first, to strengthen and improve various parts of the machine for practical use; and, second, to provide for operating the machine by power as well as by hand. I attain these objects by the mechanism made substantially as set forth hereinafter, and illustrated in the accompanying drawing, in which the figure is a vertical section of the entire machine.

The machine has an iron frame, A, formed of two side parts united by bolts E E' and A'' A'', and bearings A' A', and additional wood or metal portions Z, Z', and u, connected to it. These bear all the working parts, as shown.

The apparatus is arranged to be operated by hand by long lever F, and also when desired by power, by driving-wheel M, connected with lever F by pitman L and crank M''.

The frame A bears a horizontal table, B. This is arranged to turn around a shaft, C, passing through the center of the table. This shaft acts as a bolt, connecting the top and bottom parts of frame A, so as to strengthen it where it bends around the edge of the table. The table B is round, and bears four sets of molds, B' B'', one in each of its four quarters. It has a gearing-wheel, R, below, by which it is turned by bevel-wheel P', which engages with it.

The partly-dry clay, in lumps, is put into a hopper in frame u, where it is broken and pulverized by rollers v, v', and W, with or without teeth, driven by belt from wheel N, connected with wheel M. The clay then falls onto a riddle, which removes for regrinding the parts too coarse, and permits the portion fine enough to fall into two molds in table B under it. When these molds are full the table B is turned

one-quarter around by wheel B'. This levels off the clay in the molds by passing under the edge of frame u, and brings them under plungers D. The grinders act continuously, and the clay falls into the molds loosely and in uniform mass, so that it will be compacted into a solid brick, tough and homogeneous throughout. When the filled molds reach position under plungers D they stop, and the plungers descend and compress the clay into brick, while the plungers below rise, making a like compression on the under part of the brick. The upper plungers then rise and permit the table to turn one-quarter, again bringing another set of filled molds into place and removing the molds with the compressed brick. When the molds with brick reach position B'' plungers T from below force the brick out on top, to be removed, by hand, in condition to be hacked up or set into kiln. The empty molds then turn into position under frame u to receive a new supply of clay.

The lever F is moved by hand, or by bar L from a drive-wheel, M, and is pivoted on bolt E. It connects with lever F' below, pivoted at E' by bar K, pivoted to each so they will move alike. Bars H H' are pivoted to levers F F' at G G', and into plunger-stocks I I', as shown, so as to move them in guideways in frame A, the one down and the other up, by the action of lever F. These parts are arranged so the pivots of bars H H' hold the parts together, and so that when they approach a line with the central pivots of levers F F' they allow the parts to rest against each other as the pressure is nearly complete, to relieve the pivots of the great strain of pressure. The pivots of levers F F' are placed in frame A above and below the molds to be acted on. The plungers, with their bearing stockways, are arranged to move in line between these pivots. The pivots of bars H H' to these stocks and to levers F F' are also arranged to be brought into this line at the point of greatest pressure on the brick, so as to gain the greatest purchase of power to bear on the brick. This enables the parts also to bear the greatest strain by direct end-thrust. The pivots of levers F F' are held, against this pressure, apart by frame A, which connects above and below around edge of table B, and by part C, acting

as a bolt through the table, and secured in frame A above and below by nuts. These features are of great advantage in giving the greatest possible solidity to the brick.

5 The plunger-stocks I I' move in guideways in frame A, and have each two side parts fitting them. The upper stock, I, bears two plungers, D, fitting the molds. The lower head, D', receives the movable mold-bottoms B'', which
10 hang below so far as to serve as plungers from below. Each set of these plungers D B'' moves toward the other when the levers F F' move with their free ends downward, and compress the clay between them in the mold from each
15 side into a solid brick. The upper plungers, D, are then withdrawn, while the lower, B'', remain until the plungers T force them up to remove the brick, when they descend again.

The wheel M turns continuously. The bar
20 L from crank M'' has a slot at its other end by which it connects with lever F above by a pivot, so as to allow the lever to be idle a part of each turn of wheel M, and so as to move it during the other part of the turn. When crank
25 M'' reaches point L' the counter-balance F'' raises lever F partly, as shown, by means of the slot in bar L. Then the lever remains stationary while the table B revolves one-quarter to change the molds, till the crank M'' reaches
30 point L'', going down again, when it draws down on lever F, to compress the brick, till it reaches L'''. Then it moves up again to point L', to raise plungers D. When crank M'' reaches point L' a knob or projection, M', on
35 wheel M, strikes an arm, Q, pivoted at Q''', and raises it so as to draw a catch, Q', from a notch in table B. This releases the table at the time the plungers are raised, and lets it be turned to bring another set of molds under
40 the plungers. When projection M' strikes projection Q'' it drives catch Q' against the table B, so as to enter a notch in its rim and hold and lock it true during the descent of the plungers into the molds. The weight of arm
45 Q holds this in place till again withdrawn in like manner. This lock can be operated by hand or foot, if desired.

A pulley, P, on shaft of wheel M, drives, by a belt or equivalent, a pulley on shaft of wheel
50 P', which engages with bevel-wheel R to turn

table B when the table is released. Pulley P is a little eccentric, and set to let the belt slip when the table is locked by catch Q'.

The devices for turning and locking the table may be variously modified, or it may be
55 turned by hand by a crank from wheel P'.

The bar S connects with lever F' by pivot G', so as to move with it into position shown by dotted lines. This bar pivots to two parts, S' S'', which pivot together and to it, and at
60 their other ends pivot, the upper to a fixed part and the lower to the lower part of a bar set in guides to move upward. When lever F' moves to draw bar S into position of the dotted lines it draws this vertical bar upward
65 and forces plungers T, borne by it, up against the mold-bottoms, to discharge the brick, and by reversal withdraws the plungers.

Various parts of the apparatus admit of various modifications.
70

I claim—

1. The combination of revolving table B, bearing brick-molds, with bent frame A and connecting-bolt C through the table B, substantially as set forth.
75

2. The combination, in a brick-machine, of levers F F', connected with upper and lower plungers, and counter-weight F'', with a driving shaft or wheel so connected and adapted
80 to drive the plungers and permit them to be idle alternately by continuous motion, substantially as set forth.

3. In combination with upper and lower plungers and a horizontally-revolving table, levers F F', drive-wheel M, and slotted connecting-bar L, substantially as set forth.
85

4. The combination of a drive-wheel and connecting-bar with connected levers F F', having pivots connected with frame A, and with bars connected with plungers above and
90 below, arranged so the molds and series of pivots and parts will come into a direct line between the pivots in frame A at the point of greatest pressure upon the brick, substantially as set forth.

LEWIS B. KENNEDY.

Witnesses:

SAML. J. WALLACE,
WM. J. COCHRAN.