No. 646,027. Patented Mar. 27, 1900.

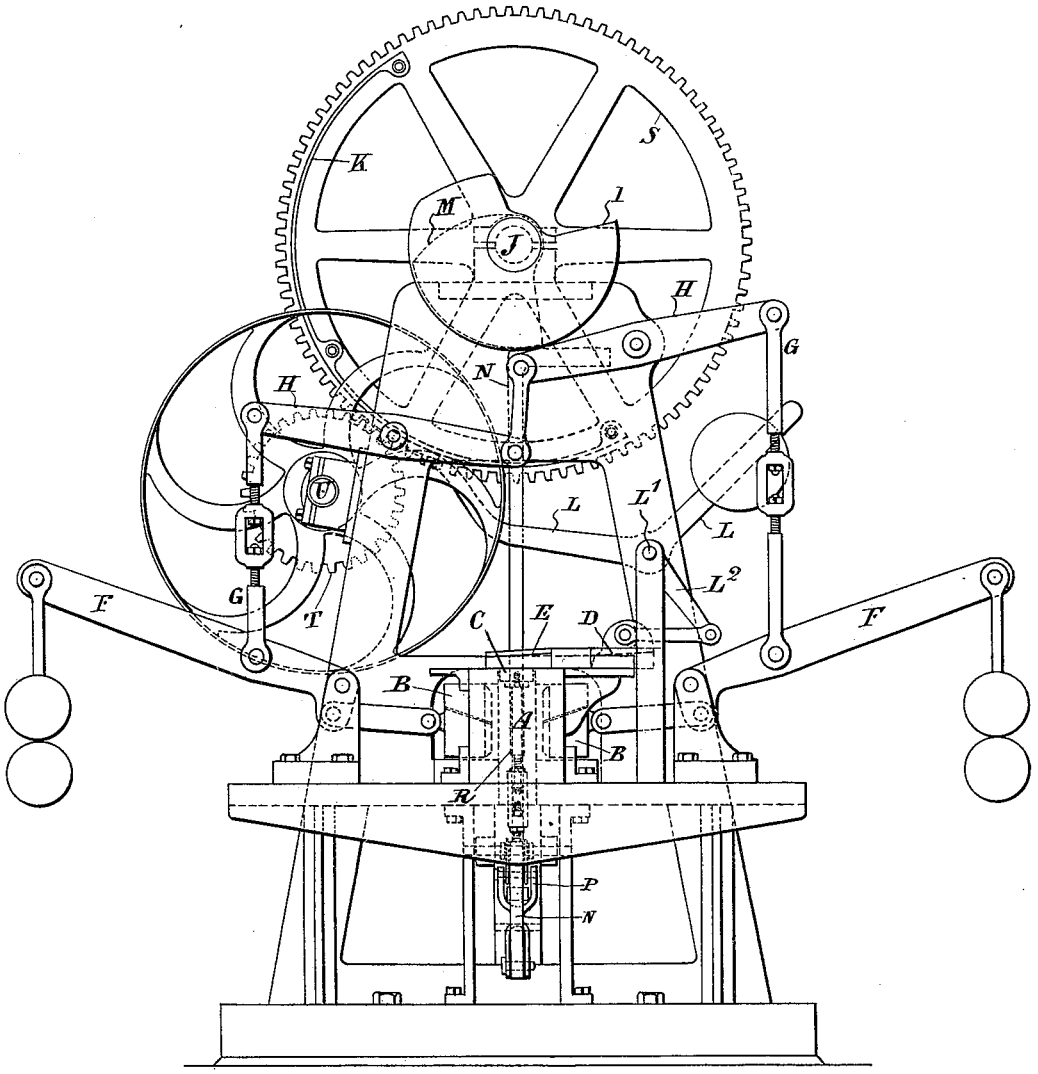
R. T. HUGHES.

MACHINERY FOR PRESSING BRICKS OR THE LIKE.

(Application filed Nov. 6, 1899.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1.



Witnesses.
E. A. Balloch
Walter P. Tabbs.

Inventor.
Ralph Townsend Hughes
By his Attorneys
Baldwin Davidson & Wright.

No. 646,027. Patented Mar. 27, 1900.

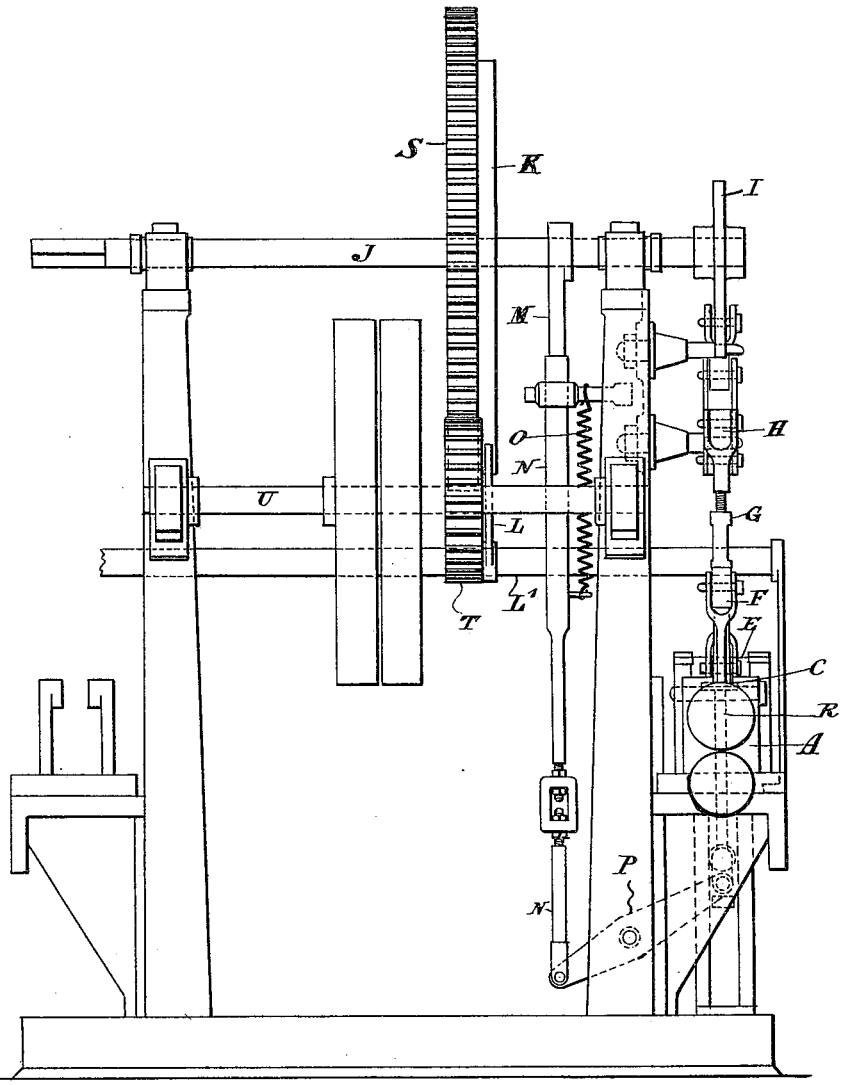
R. T. HUGHES.

MACHINERY FOR PRESSING BRICKS OR THE LIKE.

(Application filed Nov. 6, 1899.)

(No Model.) 3 Sheets—Sheet 2.

Fig. 2.



Witnesses.
Ed Bullock
Walter R. Dabbs.

Inventor.
Ralph Townsend Hughes
By his Attorneys
Redroin, Davidson & Wyld

No. 646,027. Patented Mar. 27, 1900.

R. T. HUGHES.

MACHINERY FOR PRESSING BRICKS OR THE LIKE.

(Application filed Nov. 6, 1899.)

(No Model.) 3 Sheets—Sheet 3.

Fig. 3.

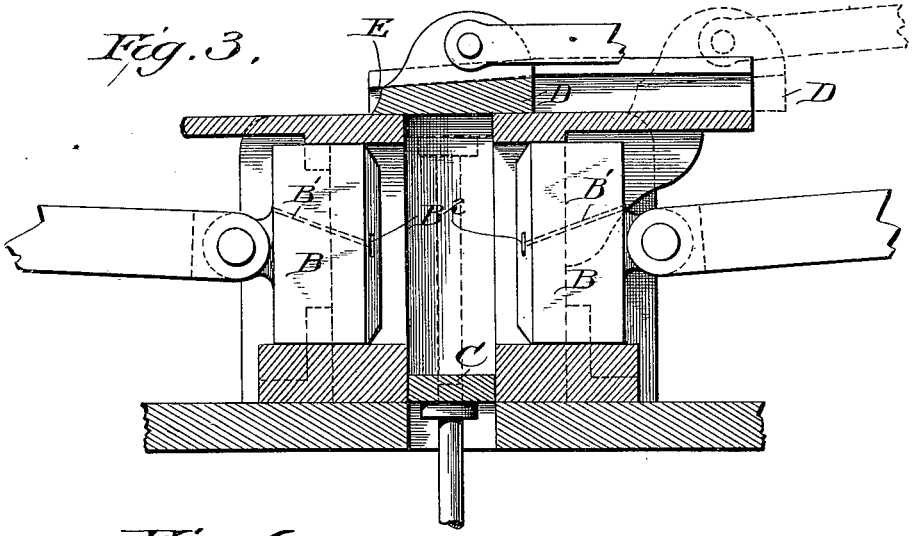


Fig. 4.

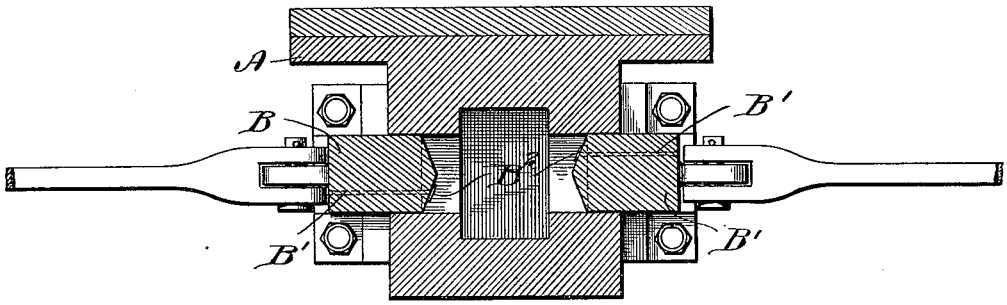
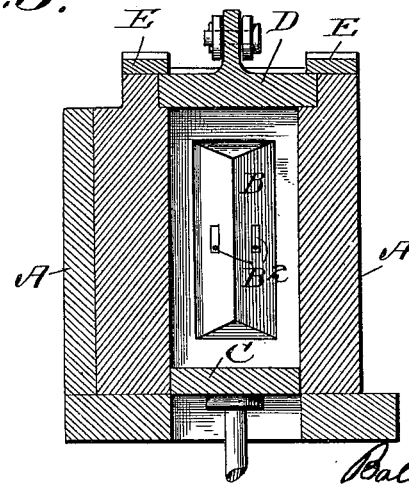


Fig. 5.



Witnesses
W. F. Gaudens.
A. M. Parkins.

Inventor
Ralph T. Hughes,
By his Attorneys,
Baldwin, Davidson & Wright.

UNITED STATES PATENT OFFICE.

RALPH TOWNSEND HUGHES, OF SALTBURN, ENGLAND.

MACHINERY FOR PRESSING BRICKS OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 646,027, dated March 27, 1900.

Application filed November 6, 1899. Serial No. 735,984. (No model.)

To all whom it may concern:

Be it known that I, RALPH TOWNSEND HUGHES, brick manufacturer, a subject of the Queen of Great Britain, residing at 3 Roslyn Villas, Saltburn, in the county of York, England, have invented certain new and useful Improvements in Machinery for Pressing Bricks or the Like, of which the following is a specification.

The mold in which bricks are to be pressed I form, as described in the specification of a former British patent granted to me, No. 6,239 of 1895, of a tube rectangular and oblong in cross-section, corresponding with the cross-section of the bricks to be pressed and with plungers working through openings in the two opposite wider sides of the tube to form the indents or panels in these sides of the brick. Such a mold I now fix in a vertical position and employ a discharging-plunger, which can be raised and lowered to close its lower end, and a block which can be slid to and fro horizontally to close its upper end, the ends of the block, which are inclined on their upper faces, being then caused to come below corresponding fixed inclines, which hold the block down against the upper face of the mold. The two plungers which are to form the indents or panels I cause to be thrust forward at the proper time by the action of weights or springs, the action being controlled by a cam on a continuously-revolving cam-shaft, or the cam might itself give motion to levers coupled to the plungers to cause them to advance at the proper time. Other cams on the cam-shaft control the movement of the discharging-plunger and of the slide used for closing the top of the mold. The shaft I also arrange to operate two presses, one operated from one end of the shaft and the other from the other, and so that when one brick is being pressed in one press a compressed brick is being discharged from the other, and thus two bricks are pressed at each revolution.

The action of each press is as follows: A brick to be pressed is placed onto the top of the discharging-plunger, which is then in its raised position level with the top of the mold. Then the plunger descends and the brick passes down along with it into the mold. When it has completed its descent, the block used for closing the upper end of the mold moves forward and thereby closes the top of the mold. The plungers for forming the indents or panels then advance and compress the brick and form the indents or panels in its sides. The block closing the top of the mold is afterward drawn back, and when the plungers have been drawn back sufficiently to be clear of the brick the discharging-plunger is raised and the compressed brick discharged from the mold.

The drawings annexed show a machine constructed according to my invention.

Figure 1 is an end elevation, and Fig. 2 a side elevation. Figs. 3, 4, and 5 are detail views in section of the mold, the plungers, and their operating mechanism.

A is the tubular mold, fixed in a vertical position and rectangular and oblong in cross-section, corresponding with the cross-section of the bricks to be pressed.

B B are two plungers working to and fro through openings in the two opposite wider vertical sides of the mold for forming the indents or panels in the sides of the bricks. An air-passage B′ is formed through each to allow air to escape out of mold A.

B^2 indicates thin steel blades, which cover the ends of the passages B′ and allow air to escape, but prevent clay from blocking the passages.

C is a discharging-plunger, which when lowered closes the bottom of the mold and when raised comes level with its upper end.

D is a block which can be slid to and fro horizontally. In one position it comes above and closes the upper end of the mold, and when drawn back it leaves the upper end of the mold open. The upper face of the block is inclined, and when the block is closing the upper end of the mold its ends come below fixed corresponding inclines E and are thereby held down firmly.

F F are weighted levers, by which the plungers B B can be simultaneously forced inward toward one another.

G G are connecting-rods passing from the weighted arms of these levers to other levers H H, both of which can be rocked simultaneously by the action of a cam I on a con-

tinuously-revolving shaft J and caused to simultaneously lift both of the weighted lever-arms F, and thereby draw back both of the plungers B or simultaneously release the levers H and allow the weighted lever-arms F to simultaneously thrust forward both plungers.

In place of the plungers being thrust forward by weighted levers and withdrawn by cams on the cam-shaft the action might be reversed and the plungers be thrust forward by the action of the cams and drawn back by weighted levers. In this case springs may be provided, which if the pressure put upon the brick by the plungers becomes too great will yield and stop the plungers from being thrust inward any farther. The shaft J also carries another cam K to act upon one arm of a weighted lever L. The axis L′ of this lever has upon it another arm L^2, which is coupled by a link to the sliding block D and gives to it its to-and-fro movement. In place of the sliding block being moved to and fro in a plane parallel with the end of the machine it might be arranged to be moved toward and away from the center of the machine.

M is a third cam, fixed upon the shaft J. It acts upon the upper end of a vertically-sliding rod N to depress it. A spring O tends always to raise the rod. The lower end of the rod is coupled to one arm of a lever P, the other arm of which is connected by a short link to the lower end of a rod R, which projects downward from the discharging-plunger C and serves to raise and lower this plunger.

The parts shown on the right-hand side of Fig. 2 are repeated on the left-hand side and are so set that when a brick is being pressed in one press a compressed brick is discharged from the other. The rocking axis L′ serves to give motion to the sliding blocks D of both presses, and the blocks are inclined in opposite directions, so that as one comes into acting position the other moves out.

S is a toothed wheel fixed upon the cam-shaft J. T is a pinion gearing with this wheel and fixed upon a driving-shaft U.

I claim—

1. The combination of the tubular mold A fixed vertically, the two plungers B working to and fro through openings in two opposite vertical sides of the mold, the inclined sliding block D, the fixed inclines E below which the ends of the block pass when the block is closing the top of the mold and the rising-and-falling discharging-plunger C which serves to close the bottom and to discharge the bricks after they have been compressed.

2. The combination of the tubular mold A, sliding block D, fixed inclines E, discharging-plunger C, plungers B, weighted levers F for thrusting the plungers toward one another and cams upon a continuously-revolving cam-shaft for controlling the movements of the block D, plunger C and plungers B.

3. The combination of the tubular mold A, plungers B, sliding block D, discharging-plunger C and cams upon a continuously-revolving cam-shaft to first lower the plunger C to the bottom of the mold, then move the block D into position to close the top of the mold, then cause the plungers B to be simultaneously thrust inward and make indents in the sides of a brick inclosed in the mold and finally withdraw the block D and plungers B and cause the discharging-plunger C to rise and discharge from the mold the now compressed brick.

4. The combination of a continuously-revolving cam-shaft J, a tubular mold A, plungers B, sliding block D, discharging-plunger C situated below each end of this shaft and cams upon the cam-shaft for controlling the movements of both sets of plungers and sliding blocks.

RALPH TOWNSEND HUGHES.

Witnesses:
LEON VINTON,
S. WILSON.