

W^m H Coombs

Brick Pressing Machine.

73079

Fig. 1

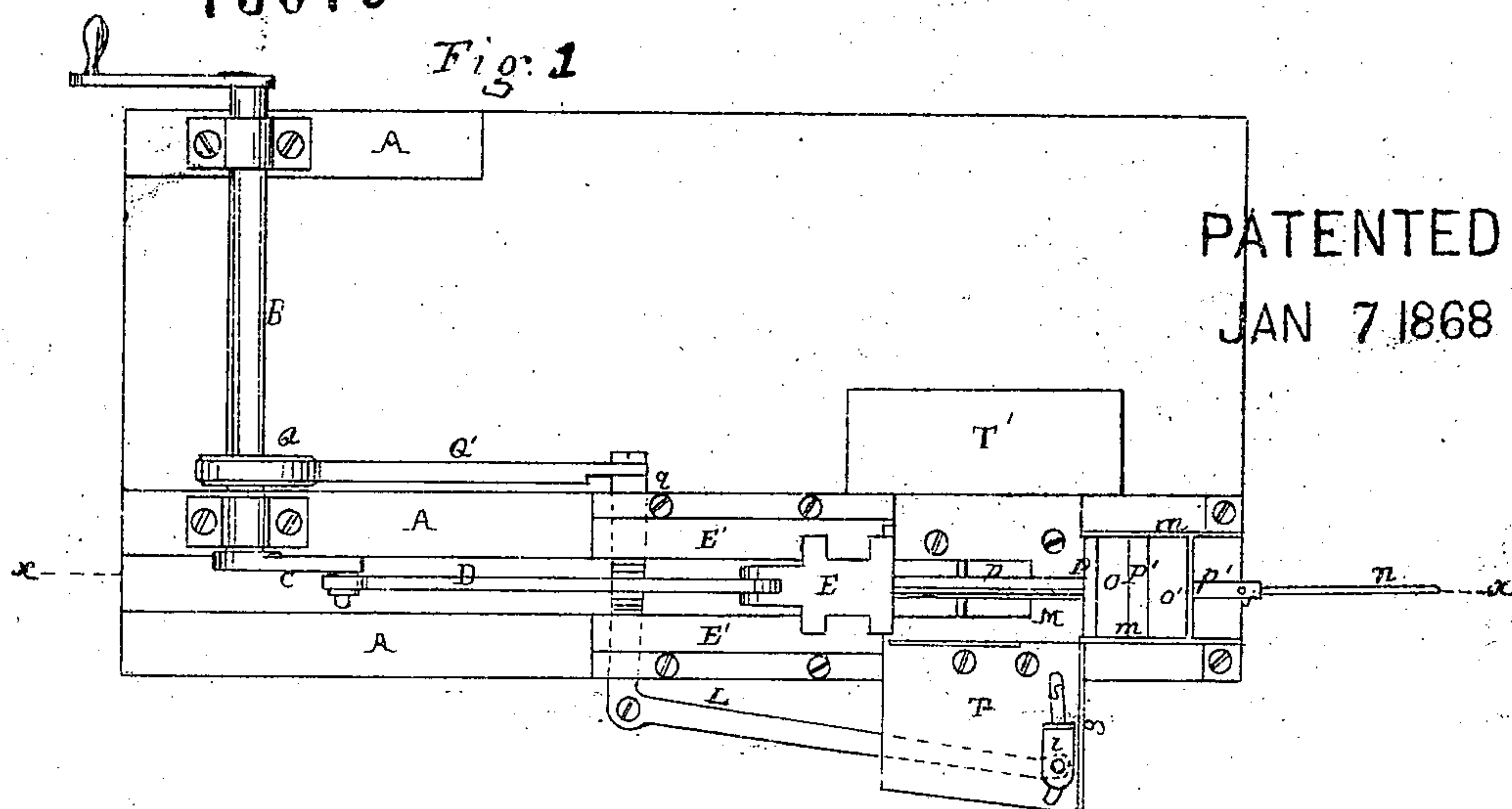
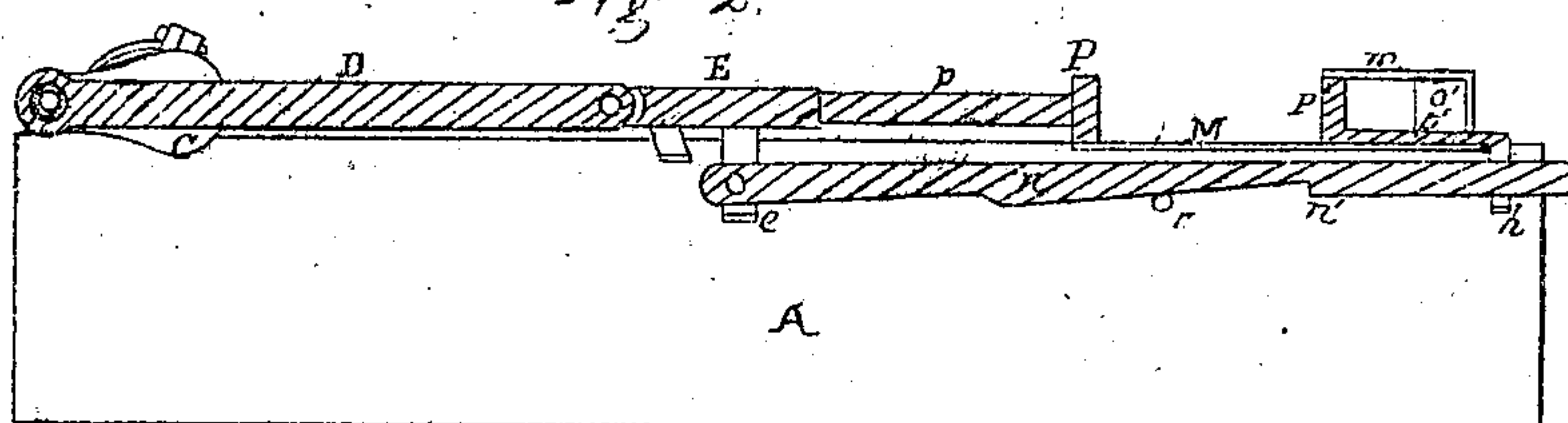


Fig 2.



Witnesses,

Witnesses,
M. Morley
A. W. Hubbard

$I_{77} \in \overline{77(87)}$.

Invention.
Wm A Coombs
By J. J. Coombs atty

United States Patent Office.

WILLIAM H. COOMBS, OF FORT WAYNE, INDIANA.

Letters Patent No. 73,079, dated January 7, 1868.

IMPROVED MACHINE FOR PRESSING BRICKS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM H. COOMBS, of Fort Wayne, in the county of Allen, and State of Indiana, have invented a new and useful Machine for Pressing Bricks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a plan view of my machine, the operative parts being shown in the position they occupy when the machine completes its pressure on the brick, and

Figure 2 is a longitudinal section through line *x x*, fig. 1, the operative parts being in the position they occupy just as the pressed brick has been removed from the mould.

This machine is designed and adapted to press bricks which have been previously moulded, and which have become partially dried.

A is the frame which supports the operative parts of the machine. B is the main shaft, by the rotary motion of which all the operative parts of the machine are moved. C is a crank on the end of said main shaft, connected to a pitman, D. E is a cross-head, sliding between guide-ways, E', and operating a plunger or piston, P, being connected thereto by piston-rod, *p*. P' is a piston, which moves back to remove the pressed brick from the mould, but which remains stationary in the position shown in fig. 1, while the brick is receiving the pressure. M is the bed-plate, which forms the bottom of the mould-box *m*, and on which the bricks are fed to and delivered from the mould. From the back side of said piston P' an arm, *p'*, projects through the mould-box, moving in a slot or groove in the backing-block O', and terminating in a depending rigid stirrup, *h*. Under the mould, and passing through said stirrup, is a thin latch-shaft, *n*, which is connected to the cross-head at *e*, and is moved back and forth by said cross-head. A tooth, *n'*, on the lower side of said latch-shaft, engages with the lower part of the stirrup *h* as the piston P makes its back movement, and carries back piston P' to the position shown in fig. 2, thus removing the pressed brick from the mould; at which point its further motion is checked by a stop, *j*, and the inclined lower side of the latch-shaft *n* riding on a cross-bar, *r*, raises said shaft so as to release the tooth *n'*, and allow the shaft to slide in the stirrup until the cross-head has completed its back stroke. O represents a brick in the machine after it has completed the pressure, and O' a block of rubber or other slightly elastic substance, which forms a backing to piston P' during the pressure upon the brick. This backing should be sufficiently yielding to allow the machine to accommodate itself to slight variations in the thickness of the bricks, and being removable, the machine may be adjusted to press bricks of different thicknesses by substituting a thicker or thinner block. Q is an eccentric on the main shaft B connected to a pitman, Q', by a cam-yoke, but which I prefer to connect by a square cam-frame, so as to give the pitman a reciprocating motion in the same plane. Said pitman Q' operates a vertical vibrating lever, the upper end of which is shown at *q*, and a slot in the vibrating end of this lever embraces the end of a bent lever, L, and imparts to it an oscillating motion, turning on its fulcrum *l*. T is a table on which the bricks are fed to the machine, and T' the table upon which the pressed bricks are delivered. These tables should be on a level with the bed-plate M, or mere lateral extensions thereof. On the table T is a sliding feeder, *i*, which is moved back and forth in the direction of the slot *s*, by the movement of the bent lever L under the table, and a connecting-pin moving in said slot. Instead, however, of said slot being curved, as shown in the drawings, it should be perfectly straight, the connecting-pin having the necessary play in a slot in the lever L. The feeder *i* completes its back motion about the time that piston P is completing its forward stroke, and remains stationary until said piston has travelled back some distance, thus allowing time to place a brick in front of it. This intermittent motion of the feeder is effected by a slotted connection of the bent lever L with the vibrating lever *q*.

The bricks to be pressed are deposited on the feed-table T. A tender places them, one at a time, on their edges, in front of the feeder *i*, and against a guide, *g*. A little before the piston P begins its forward movement, the feeder *i* moves towards the mould, and shoves the brick immediately in front of said piston before it reaches the mould. The piston P pushes the brick into the mould, both pistons and the brick moving together until piston P' reaches the backing O', where it stops, while the piston P moves on till it completes the pressure of the brick. As piston P reverses its motion, P', by means heretofore described, is carried back far enough to remove the brick fairly out of the mould, and there stops. Another brick is then placed before feeder *i* by

the tender, and as this brick is pushed forward, in front of the piston, it pushes the brick last previously pressed on to the table T', whence it is immediately removed by a tender on that side, who deposits it on a barrow.

The machine may be operated by a hand-crank, or by any suitable power. If operated by hand, however, there should be a fly-wheel on the main shaft, with one side weighted, to give additional power at the time the piston is making its pressure.

I do not claim a plunger or piston operated by a crank to press the brick in the mould, as this, in and of itself, is not new, having been used in machines otherwise constructed and operating very differently from mine; but

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

1. The improved brick-pressing machine, constructed and operating substantially as herein described.
2. In combination with the mould in which the bricks are pressed, and a plunger or piston operated by a crank and pitman to press the brick in the mould, I claim the movable back piston P', moved by the means and in the manner substantially as herein described, to remove the pressed bricks from the mould.
3. In combination with a plunger or piston, operated by a crank and pitman to press the bricks in the mould, I claim the feeder z, operating in the manner and by the means substantially as herein described, and for the purpose set forth.
4. In combination with the mould, and a pressing-plunger or piston, I claim the elastic backing O', substantially as and for the purpose set forth.

WM. H. COOMBS.

Witnesses:

JOHN HOUGH,
D. C. FISHER.