

A. Gans, Brick Machine.

N^o 66,700.

Patented July 16, 1867.

Fig. 5.

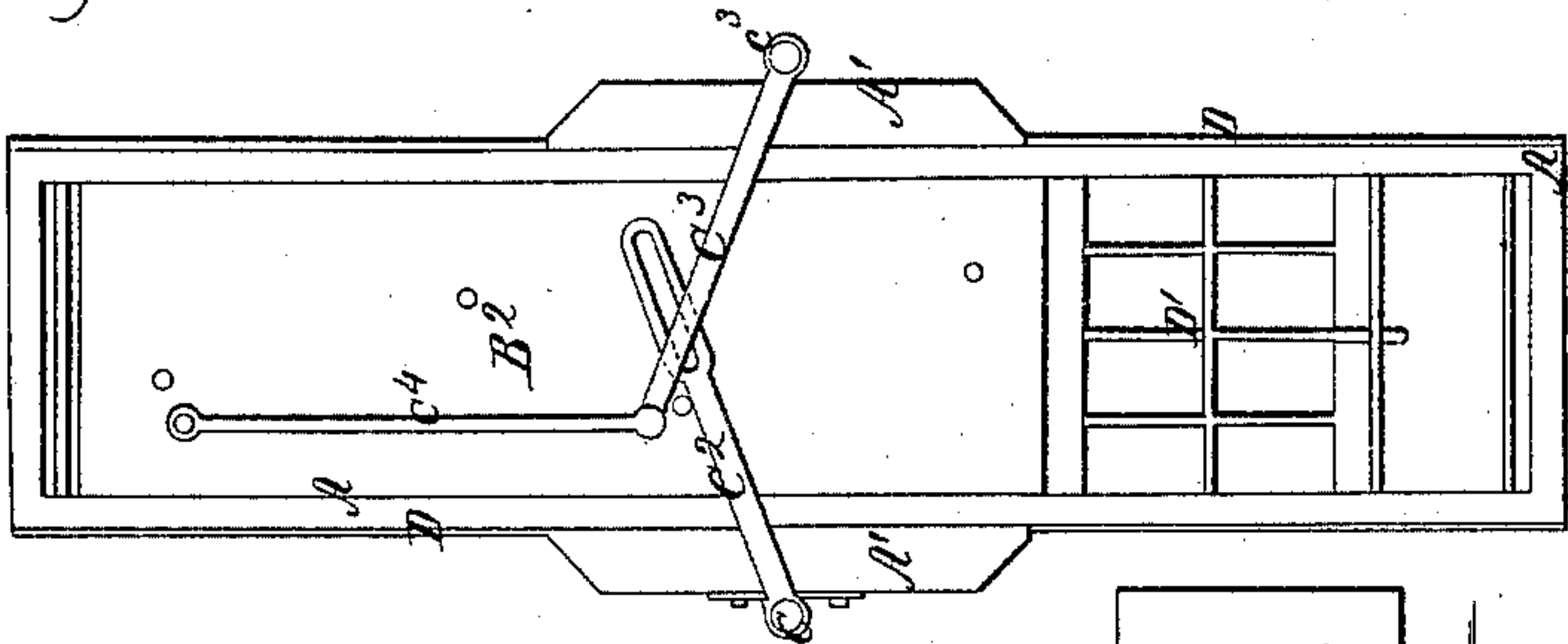


Fig. 6.

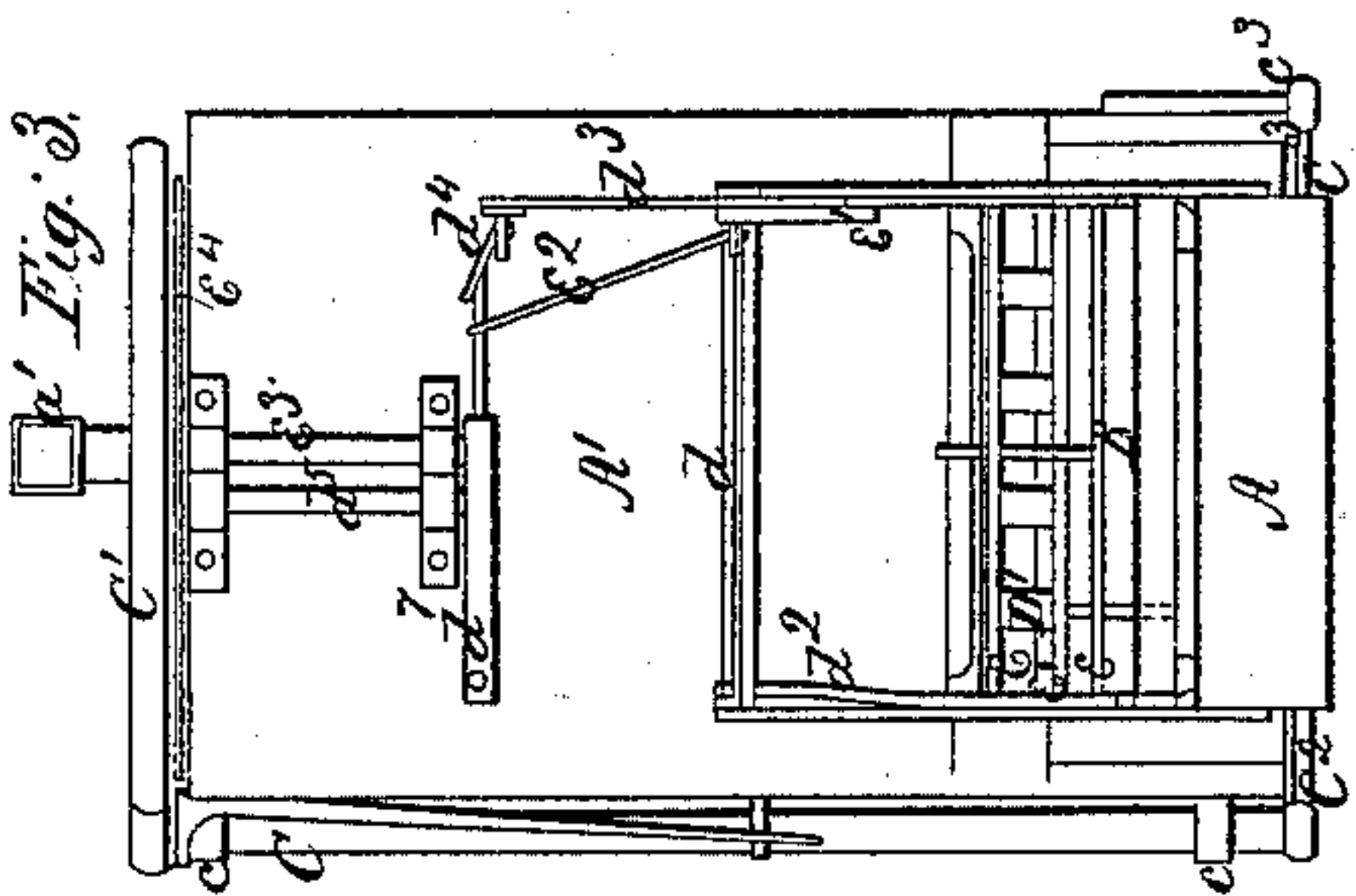
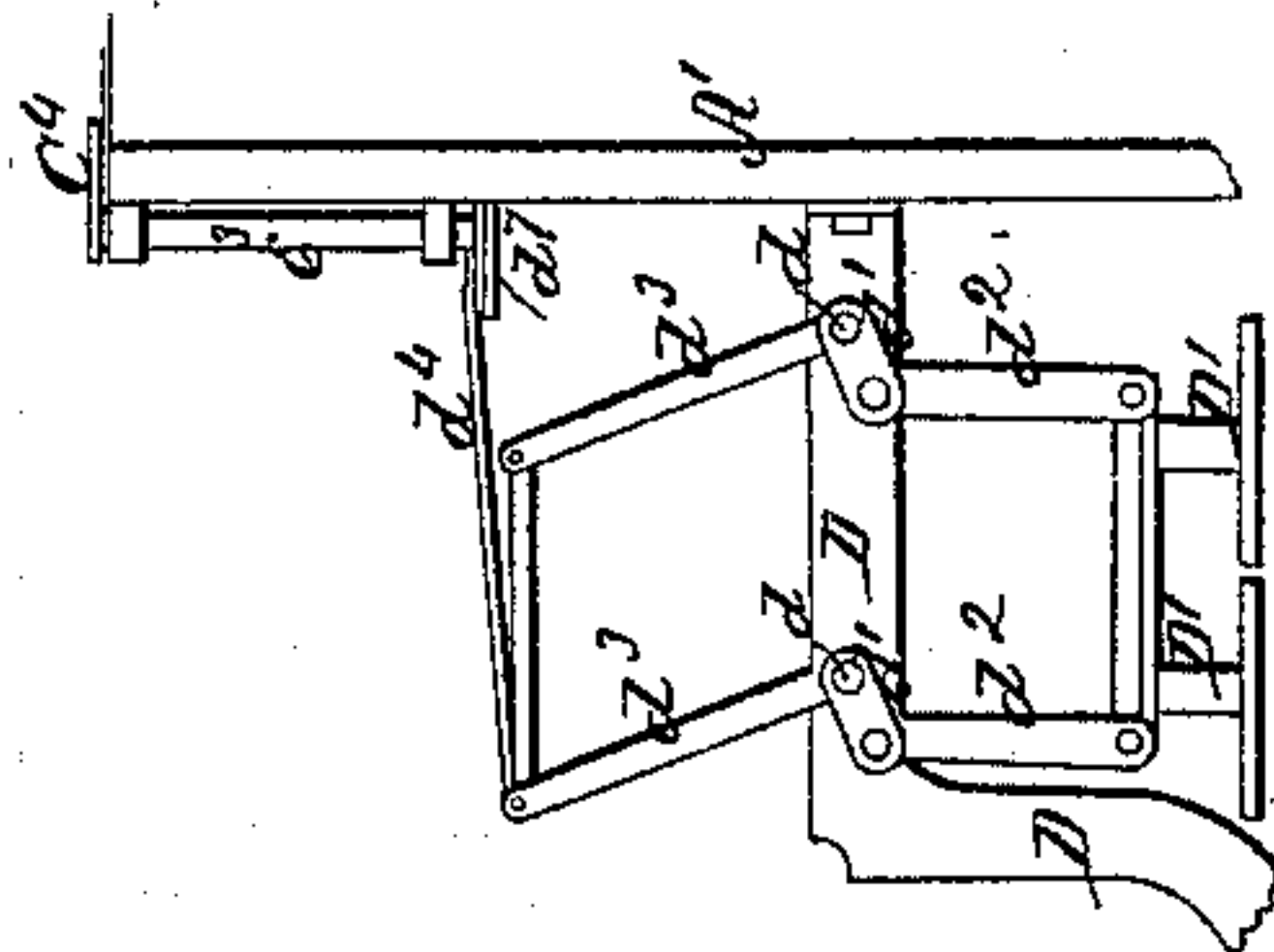
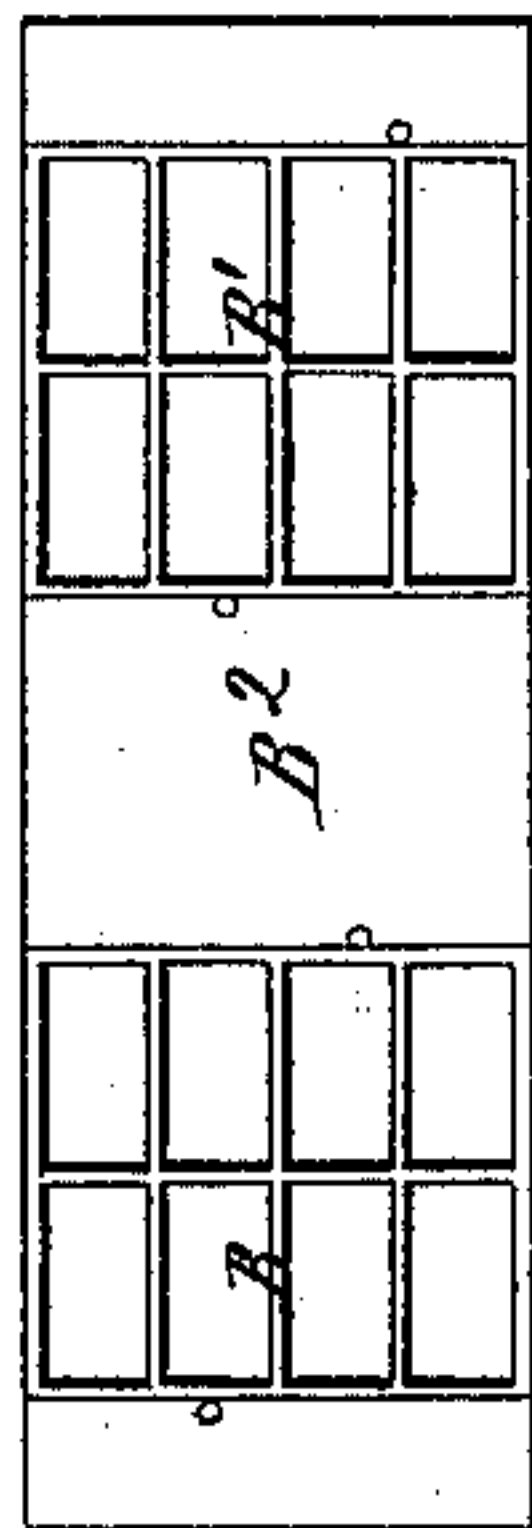


Fig. 4.



Detail
of
Device

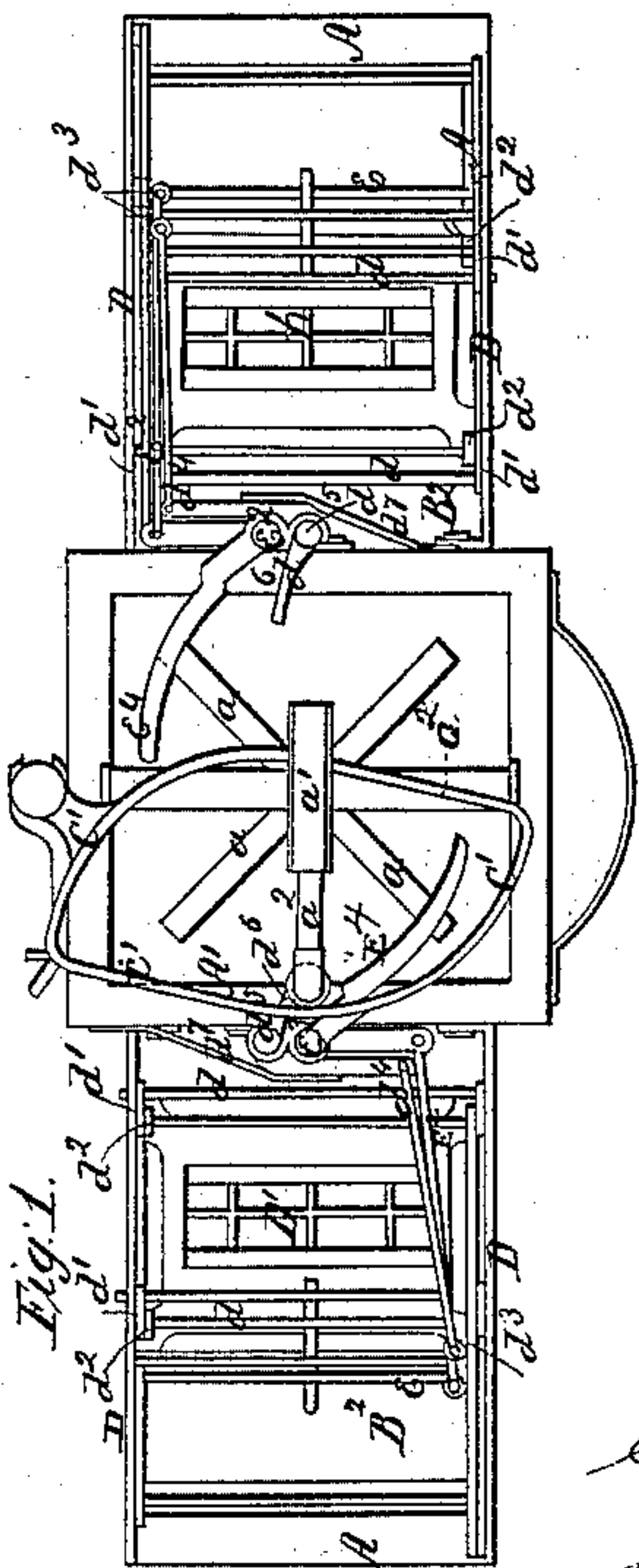
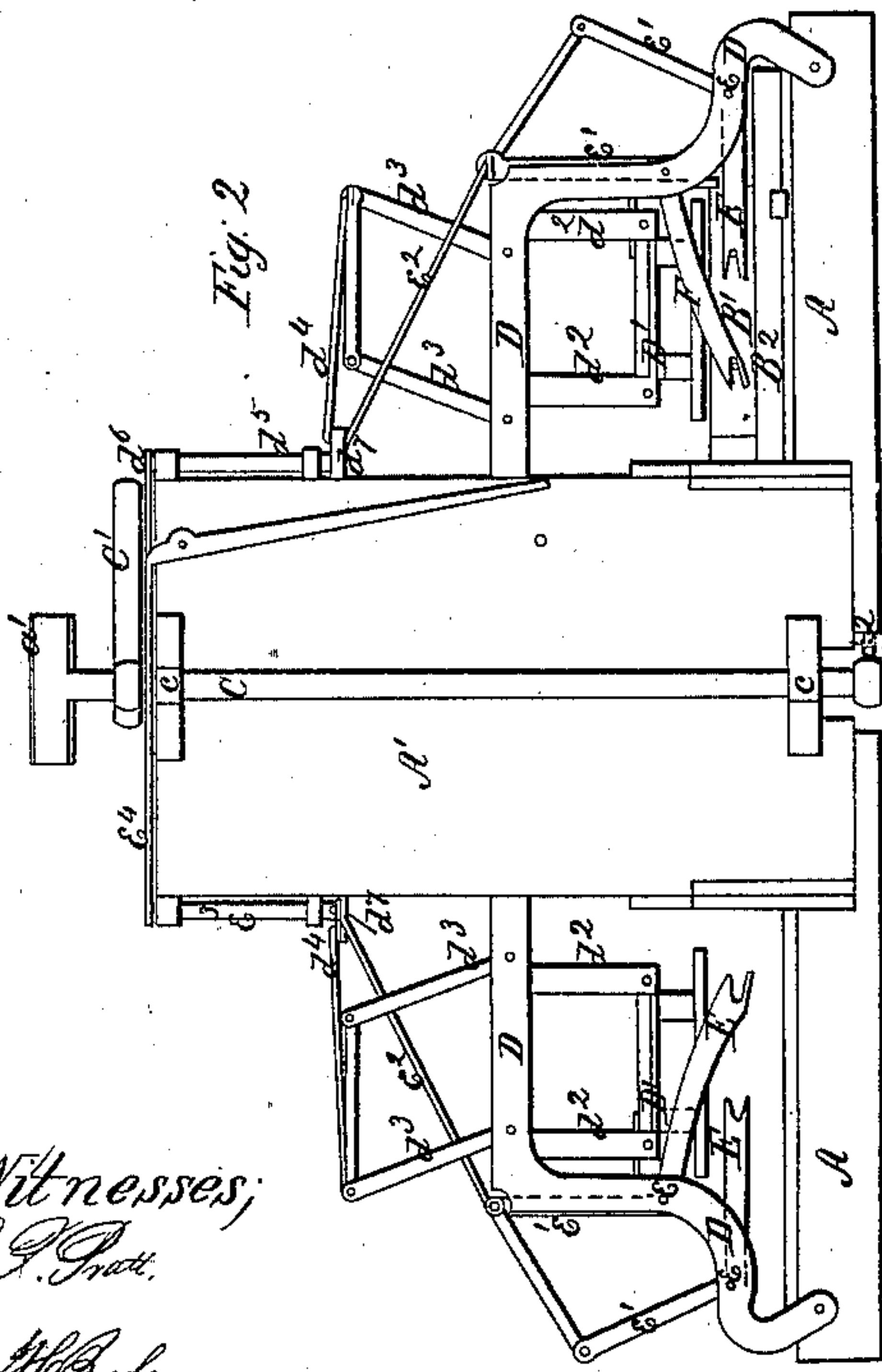


Fig. 1.

Fig. 2.



Witnesses;
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Inventor;
A. Gans.
By his Atty.
W. Randolph & Co.

United States Patent Office.

ALOIS GANS, OF LINCOLN, ILLINOIS, ASSIGNOR TO HIMSELF AND JOHN MOOS, OF SAME PLACE.

Letters Patent No. 66,700, dated July 16, 1867.

IMPROVED BRICK MACHINE.

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, ALOIS GANS, of Lincoln, in the county of Logan, and State of Illinois, have invented a new and useful Improvement in Brick Machines; and I do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of this invention consists in an arrangement of moulds, actuated in a reciprocating manner, in a horizontal plane, and in combination with a pug or other clay-mill, from which the tempered clay is forced into the said moulds, and also in combination with a press for reducing the bulk of the clay in the moulds to the proper size, form, and consistency, the whole being combined and arranged with the operating parts of the machinery in such a manner as to form one single perfect machine.

To enable those skilled in the art to make and use my improved brick machine, I will proceed to describe its construction and operation.

Figure 1 of the drawings is a plan of the improved machine.

Figure 2 is a side elevation of it.

Figure 3 is a front elevation.

Figure 4 is a plan of the moulds and of the sliding carriage on which they rest.

Figure 5 is a bottom plan of the machine, showing the device for operating the sliding carriage on which the moulds rest.

A is the foundation framework upon which the other portions of the machine rest. On top of this frame, and in the central portion of it, is erected a hopper, A', which forms a portion of the pug or other tempering-mill, and in fig. 1 are seen the knife-blades α by means of which the clay is mixed to the proper consistency to be forced down into the moulds B B'. The said blades α are attached to and are radiated from a central vertical shaft, co-axial with the hopper A'. As this machine is intended to be principally operated by means of horse-power, the top end of the said vertical shaft may be provided with a lever-head, α^1 , into which the lever may be inserted. A vertical shaft, C, having its bearings c c attached to the sides of the hopper A', receives its motion from its cam-head C', and this cam-head is actuated by an arm, α^2 , extending outwardly from the aforesaid vertical shaft. At every revolution of the arm α^2 it strikes both the side c^1 and c^2 of the said cam, and thus communicates to the said cam a kind of oscillating movement, which, communicated to the shaft C, gives it a rocking motion. To the bottom end of the shaft C is attached a horizontal arm, C', and a slot in the forward end of this arm embraces a pin protruding from the face of the opposite lever C', the latter lever being pivoted at c^3 to the frame A, and having its other end coupled, by means of the connecting-rod c^4 , with the sliding carriage B', on which the moulds B B' rest. The whole of these last-described devices are clearly shown in fig. 5. At each oscillation of the shaft C the carriage B' is driven backward and forward, under the pug-mill A', and there the moulds are filled with clay from the mill at each revolution. That part of the carriage B' between the two moulds is to be filled up with wood or other material to the exact thickness of the moulds, so as to confine the clay either to the hopper or to the moulds. The frames D D at each end of the machine furnish bearings for certain devices for pressing the bricks, and for forcing them out of the moulds, the construction of which parts is as follows: There are two rock-shafts d d at each end of the machine, which find their bearings in the frames D D, and short horizontal arms d^1 , affixed to the said shafts, are connected by means of the follower-rods d^2 with the plungers D' that press the clay down into the moulds so as to form the bricks perfectly. The plungers are to be arranged in sets, so as to fit perfectly into the separate moulds. The rock-shafts are actuated by the levers d^3 , the upper ends of which are connected by means of the connecting-links d^4 with the vertical rock-shafts d^5 , the latter shafts having their bearings affixed to the sides of the hopper A'. The links d^4 are attached to arms projecting from the bottom ends of the shafts d^5 , similar to the arms that project from the shafts d , and there are short arms, d^6 , affixed to the top ends of the shafts d^5 , in such positions as to be struck by a pin (not shown) projecting from the bottom of the arm α^2 at each revolution of the said arm. The plungers D' then are forced down on the clay within the moulds by means of the arm α^2 , the said arm acting upon the said plungers at regular and stated intervals at each revolution of the machine, and transmitting the required motion thereto through the medium of the shafts d and d^5 , the links d^4 , the

follower-rods d^2 and the levers d^3 . After the pressure has been completed the parts are restored to their normal condition by the action of the spring d^7 affixed to the hopper A^1 , and acting upon the arm at the bottom of the shaft d^5 . This pressing machinery will be most readily understood by reference to the enlarged detail drawing of it. After the pressing shall have been completed the moulds are to be raised up on the plungers by means of the clutches $E E$, so as to force the bricks through and out at the bottoms of the moulds, or rather the moulds are raised up off of the bricks which are left lying on the table, whence they may be removed by the attendant. The clutches $E E$ are affixed to the rock-shafts $e e$, that find their bearings in the frames $D D$, the said rock-shafts being actuated by the levers e^1 , links e^2 , rock-shafts e^3 , horizontal arms e^4 , and the arm a^2 , in the same manner as has already been described for the operation of the shafts d .

Having described my invention, what I claim is—

1. The hopper A' , the moulds $B B^1$ and the carriage B^2 , when combined with the actuating devices a^2 , C , C^1 , C^2 , and C^3 , substantially as described and set forth.
 2. The combination and arrangement of the plungers D^1 and the moulds $B B^1$, as described and shown.
 3. The plungers D' , when arranged as described, in combination with the operating device $a^2 d d^1 d^2 d^3 d^4 d^5 d^6 d^7$.
 4. I claim the clutches E , in combination with the moulds $B B^1$, as and for the purpose described and shown.
 5. I claim the clutches E , when arranged as described, in combination with the operating devices $a^2 e e^1 e^2 e^3 e^4$.
- In testimony of which invention I hereunto set my hand and seal in presence of—

ALOIS GANS. [SEAL.]

Witnesses:

M. RANDOLPH,
GEO. P. HERTHEL, Jr.