J. CASWELL.

Brick Machine.

No. 32,046. Patented April 16, 1861.

Fig. 1.

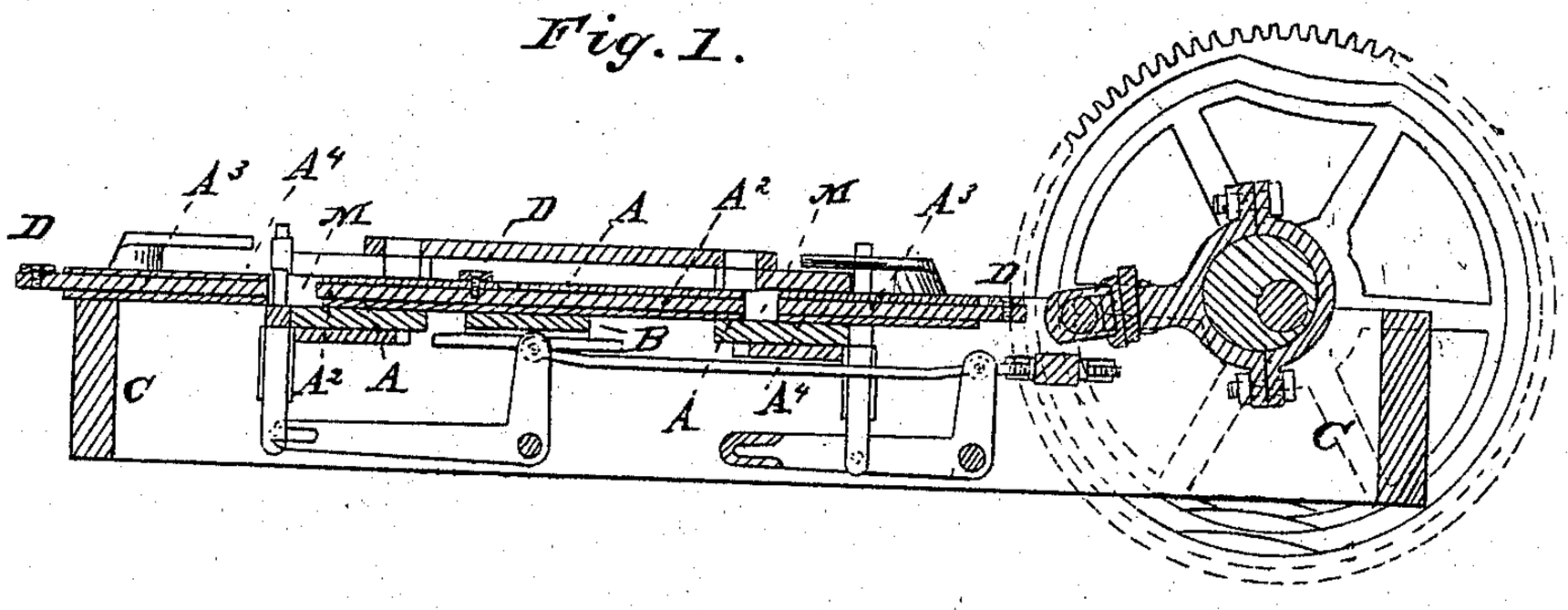


Fig. 2.

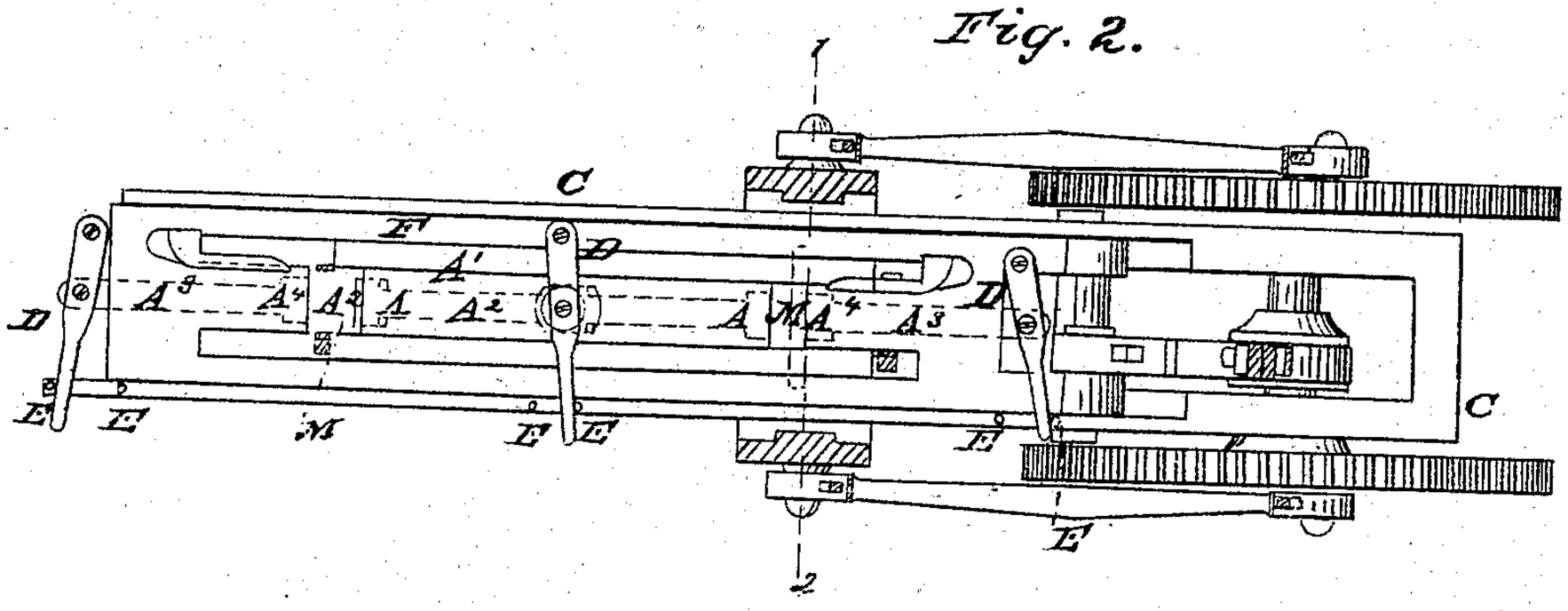
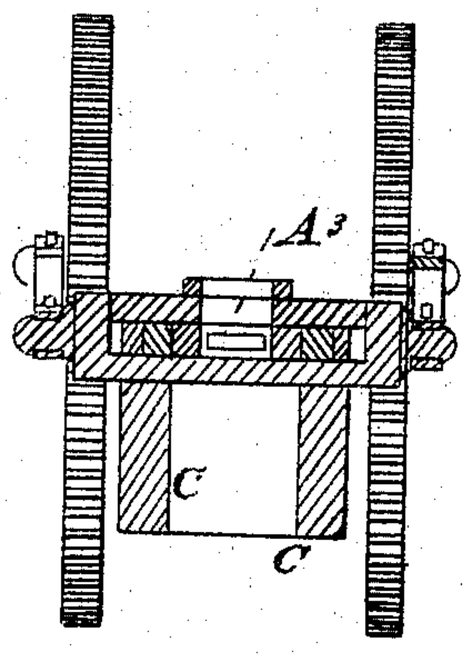


Fig. 3.



Witnesses:

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JOHN CASWELL, OF SYRACUSE, NEW YORK.

BRICK-MACHINE.

Specification of Letters Patent No. 32,046, dated April 16, 1861.

To all whom it may concern:

Be it known that I, JOHN CASWELL, of Syracuse, in the county of Onondaga and State of New York, have invented a new and useful Improvement in Brick-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification.

Figure 1, is a vertical longitudinal section of a brick machine, showing the movable molds and extension plate pistons combined. Fig. 2, is a top view of the same with the upper connected plates of the molds removed. Fig. 3, is a vertical transverse section of the same at the line 1, 2, of Fig. 2.

Similar letters in the several figures refer to corresponding parts.

This invention consists in combining with the extension plate pistons, patented by S. Ustick on the 27th day of April 1858, peculiarly formed movable molds (for which I have this day made application for Letters Patent of the United States) which molds are caused to move over, or past, and in such relation to the said pistons, as to draw off the air from the clay and prevent it from concentrating at the less dense central portion of the same, directly between the extension plates of the said pistons, as it would otherwise have a tendency to do.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The several parts of the brick machine represented in the drawings (with the exception of the extension plates in the pistons) are made and operated precisely similar to the corresponding parts represented and described in my application for a patent, before referred to, and need not therefore be further described.

This specification will be confined to a description of the construction and operation of Ustick's piston extension plates, and such extracts from the description of the operation of the movable molds contained in the specification of my other application as will be deemed necessary.

The stationary pistons A, are secured to the cross piece B, of the frame C, and consist simply of a hollow, smoothly planed oblong plate A′, exactly corresponding in cross section with the size and form of the flat surfaces of the bricks, and firmly secured at its central portion to the cross piece B, by suitable bolts. This oblong plate contains another movable plate A^2, a little longer than the piston plate proper, whose ends form the central portions of the faces of the pistons A, and are alternately extended a short distance beyond the same, during the process of filling the molds, so as to cause a greater quantity of clay to be deposited between the stationary portions of the ends of the stationary and movable pistons A than between the extension plates A^2, A^3, of the same, and thereby give greater solidity or density to the bricks around the edges than at the central portions. The extension plates A^3 contained in the movable pistons A^4, and the extension plates A^2, of the stationary pistons A, are extended or forced outward from the faces of their respective pistons by means of levers D attached by screws, which pass loosely through openings in the ends of the same, to the movable piston frame, and at their central portions by similar screws to the extension plates A^2, A^3, in such a manner as to cause their opposite ends, which extend over the side of the frame C, to come in contact with pins or studs E, rising from the upper surface of the side of the frame, at such stages in the movements of the movable piston frame F, as to force the said extension plates their allotted distance into the molds M, before the clay is filled in the same, and produce the before-mentioned result in the relative quantities at the center and around the edges of the molds. Such being the case, there will be during the pressure of the clay a strong tendency to concentrate the air contained in the same at the central portion, on account of the greater proportionate density around the edges. The movable molds M, prevent this by drawing the air from the clay during the whole closing or pressing movements of the pistons A, A^4, for during these movements of the pistons, the movements of the molds with them, and past the clay, at an increased speed, will cause the inner surfaces of the molds to draw upon, and flatten the particles of air forced toward and against the same, through the clay, during the gradual pressure of the same, and will thus, through the natural tendency of the flattened particles of air to adhere to, and move with the smooth mold surfaces sliding past the surfaces of the clay, cause the said air to be discharged therefrom.

It will thus be seen, that as soon as the pistons commence to press or close upon the clay, the movement of the molds will tend to open the pores of the same (to use an illustrative term) next the surfaces of the said molds, and will thus produce outlets through which the air from the center can be drawn, or admitted to escape.

What I claim as new and desire to secure by Letters Patent is—

Combining with the extension plate pistons, movable molds, continuously operating as described for expelling the air from the clay during the operation of pressing the same, and preventing it from concentrating in the central portion of the clay lying immediately between the extension plates of the stationary and movable pistons, as herein fully set forth.

JOHN CASWELL.

Witnesses:
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