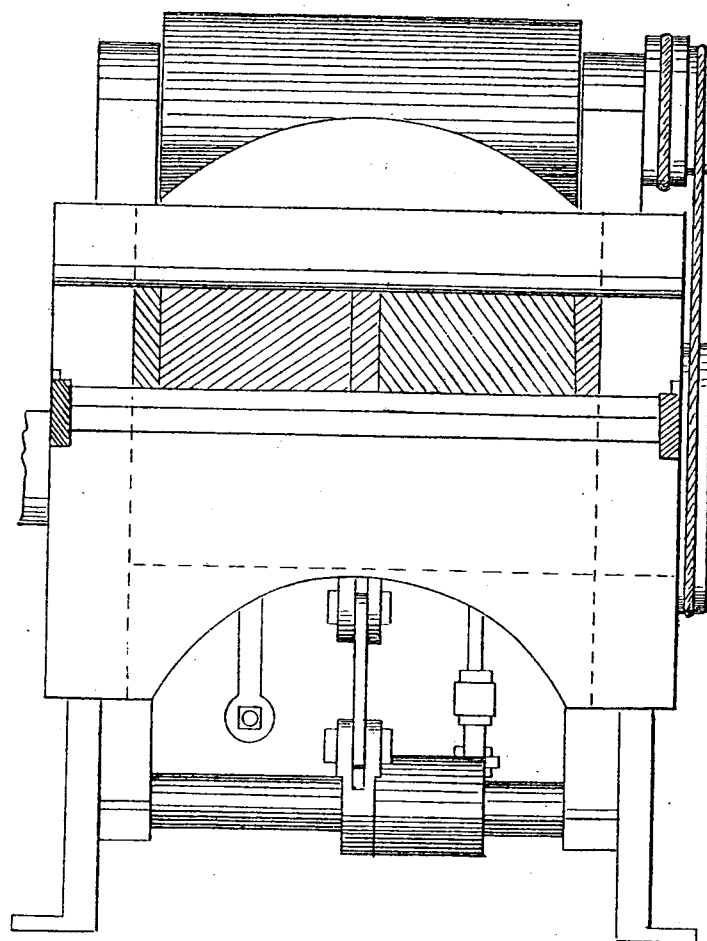


Sheet No. 2.

Edwin H. Andrews Brick Machine

Patented Jan'y 28 1868

Fig. 3



Witnesses

Samuel L. &
L. M. Sims

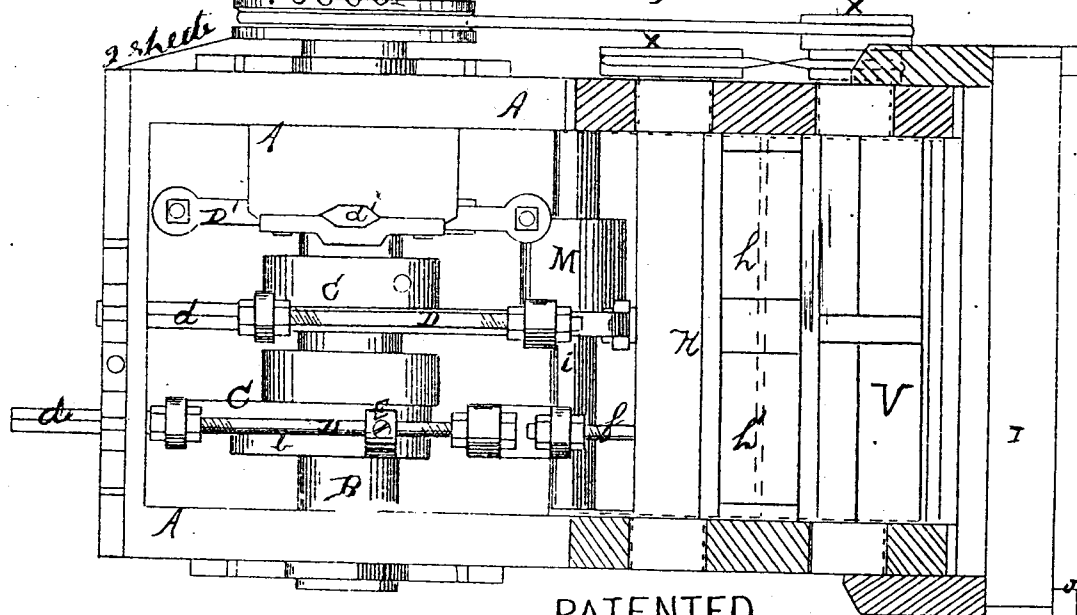
Inventor

Edwin H. Andrews
per
Alfred H. Mason
Atty.

Edmund F. Andrews's Brick Machine.

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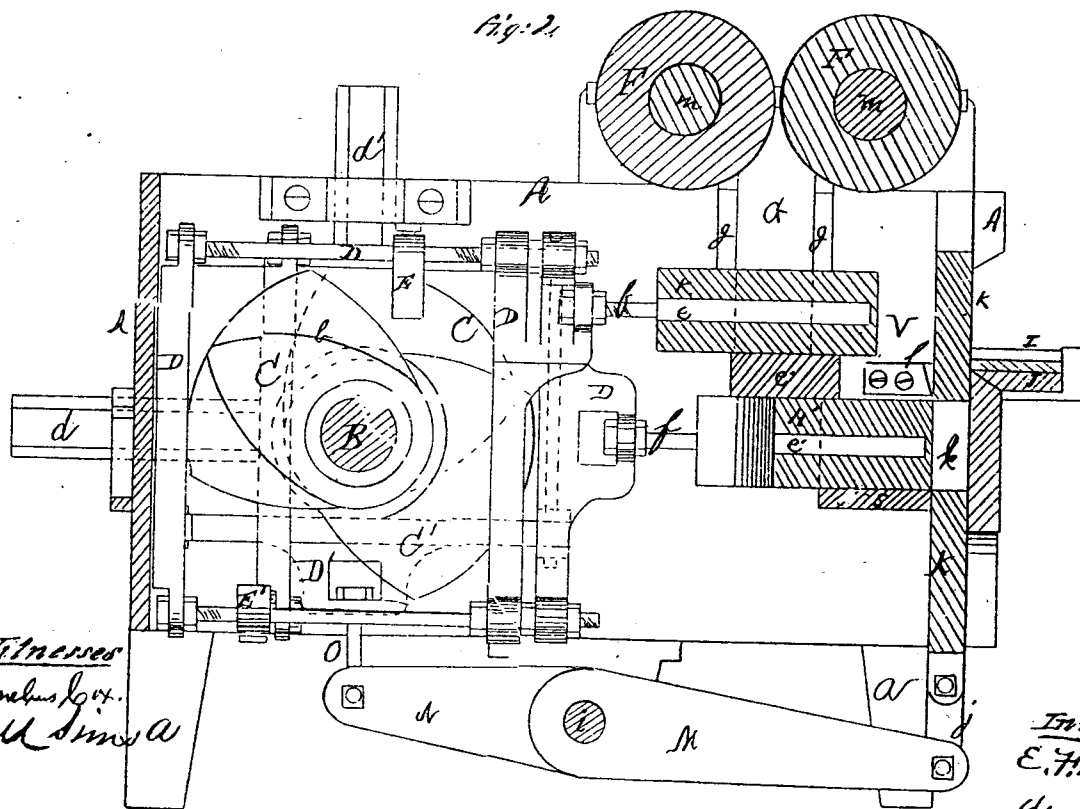
Fig. 1



PATENTED

JAN 28 1868

Fig. 2



Witnesses
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Inventor
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atty

United States Patent Office.

EDWIN F. ANDREWS, OF GLASGOW, MISSOURI.

Letters Patent No. 73,863, dated January 28, 1868.

IMPROVED BRICK-MACHINE.

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

ALL WHOM IT MAY CONCERN:

Be it known that I, EDWIN F. ANDREWS, of Glasgow, in the county of Howard, and in the State of Missouri, invented certain new and useful Improvements in Brick-Machines; and 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, making a part of this specification.

Figure 1 represents a plan view with the rollers taken off.

Figure 2 represents a horizontal section.

Figure 3 represents an end view.

In the annexed drawings, A represents a rectangular frame or casing for the machine, which is supported on suitable feet, *a a*. Near the centre, and at one end of this frame, is a cross-shaft, B, upon which are fixed eccentric cams C C C'. These cams are made in the form substantially as represented, and placed upon a shaft so that their striking-parts will operate at different times. Encircling each cam is a quadrilateral frame, D D D', the frames D D being composed of two vertical bars of wood, connected at the top and bottom by horizontal metal rods or shafts, as seen. The frame D' being intended to operate with its cam in a different manner, as will be more fully illustrated, is constructed so that its wooden bars are at the top and bottom, and metallic rods are at its sides. Connected to the rear end of the frames D D, near their centres, are guides which have their bearings in the end of the frame A, and work in a horizontal manner, as their respective cams are operated. The frame D' has a similar guide, *d'*, upon its top, which works vertically in its opening in the frame. It will be seen that one of the cams, C, has a semi-elliptical shaped flange on its face *b*, and that the frame D, is provided with an upper and lower projecting bar, E E', secured by means of set-screws to the metal rods, so that the surface of this flange *b* strikes each of these bars alternately as it revolves. The bars and flanges may be formed on each cam and frame for assisting the operation thereof. Upon the front portion of the frame A, at the end opposite the shaft B, are two cross-rollers, F F, which are supposed to be beneath a hopper, and are provided with suitable bearings, and provided with a cog or band-wheel, *x x'*, upon one end. Beneath the inner periphery of these rollers, in the body of the box A, is a throat, G, formed by the stable walls *g g*, into which the clay falls after being crushed between the rollers F F. Directly under this throat is the upper plunger, H. This plunger is connected to the first frame, D, by means of a rod, *f*, and is mounted upon a small partition, *t*, which separates the two plungers. There are small ways on the sides of the box, and small grooves, *e*, on the sides of the plunger, so that it readily slides back and forth, and is kept in place. The plunger has two or more suitable-shaped openings, *h h'*, into which the clay falls after passing through the throat G. Forward of this plunger H is a receptacle, V, left in the box, and into which the clay is carried and falls through the recesses *h h'*, as the plunger goes forward. Directly under the partition *t*, and resting upon a board, S, is the lower plunger, H', which is provided with grooves, *e'*, on its sides, which fit into the box similar to the plunger H, and is connected by a rod, *f*, to the second frame, D. This plunger acts as a presser, and forces the clay into the mould-frame after it has fallen from the upper plunger into the receptacle V. K represents the mould-frame, which is vertically secured in the front end of the case A. This frame has two or more brick-shaped openings, *k*, and is operated up and down in front of the ends of the plungers H H'. The lower end of this mould-frame is provided with a pivoted bar, *j*, which said bar is pivoted at its outer end of an arm, M, which is secured upon a shaft, *i*, and lies horizontally under the body of the machine. The short end, N, of this arm is connected to the under part of the frame D', by means of a rod, O, so that whenever this end N is forced down by the operation of the frame D', the outer end, M, is carried upwards, forcing the mould-frame past the plungers; and when the end N is carried upwards, the end M will be forced down, bringing the mould-frame with it.

I do not wish to be understood as confining myself to any particular number of cams, frames, or plungers, or any particular number of brick-shaped openings in frame K, as I may use any number of each, and operate with any number of frames and plungers with their respective devices at each end of the frame. It will be seen that each of the rollers F F have wheels *x x'* upon one end, and that the shaft B has a wheel, P, at its outer end, which operates the roller-wheels by a band or other device, by which the machine is operated.

The operation of the machine is not material, as any of the known devices may be applied therefor. By

the revolution of shaft B the frames D D are caused to work laterally within their places, by the faces of cams C striking the inside of the frames, and the bars E E' striking against the flange b. These cams b are arranged to act alternately, the clay is first carried into the receptacle V by the first plunger, and as this plunger is drawn back, the second plunger, H', forces the clay into the mould-frame K. The cam C' being arranged in a different manner from the cams C, and the frame D' likewise, it will be seen that as the mould-frame is turned and pressed into the spaces k, the frame is then forced upwards, as heretofore described, and that the end of the first plunger is then again thrown out so that it will bear against the formed brick in the space, and push it out upon the movable brick-board I, which lies upon a platform, J, at the end of the case. As the mould-frame is coming up, the loose clay is cut from it by a knife, L, which is secured crosswise within the space of the frame, between the two plungers, thus smoothing the brick before it is forced out.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is

1. The vertical mould-frame K, constructed and operating substantially as and for the purposes specified.
2. The combination of the plunger H' with the mould-frame K, when constructed and operating substantially as set forth.

3. In combination with the cams C and frames D, the adjustable bars E E' and flanges b, for assisting the operation of the plungers to carry the clay, substantially as set forth.

4. The frame A, with rollers F F, secured upon shafts m m, above the throat -G, frames D, plungers H H', receptacle V, knife L, platform J, with board I and frame K, all constructed, arranged, and operating with their respective parts, as and for the purposes herein fully described.

In testimony that I claim the foregoing, I have hereunto set my hand, this 7th day of November, 186

EDWIN F. ANDREWS.

Witnesses:

ALFRED W. ROPER,
JOSEPHUS ROPER.