

Machen's.

Rotary Brick Machine.

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PATENTED AUG 1 1871

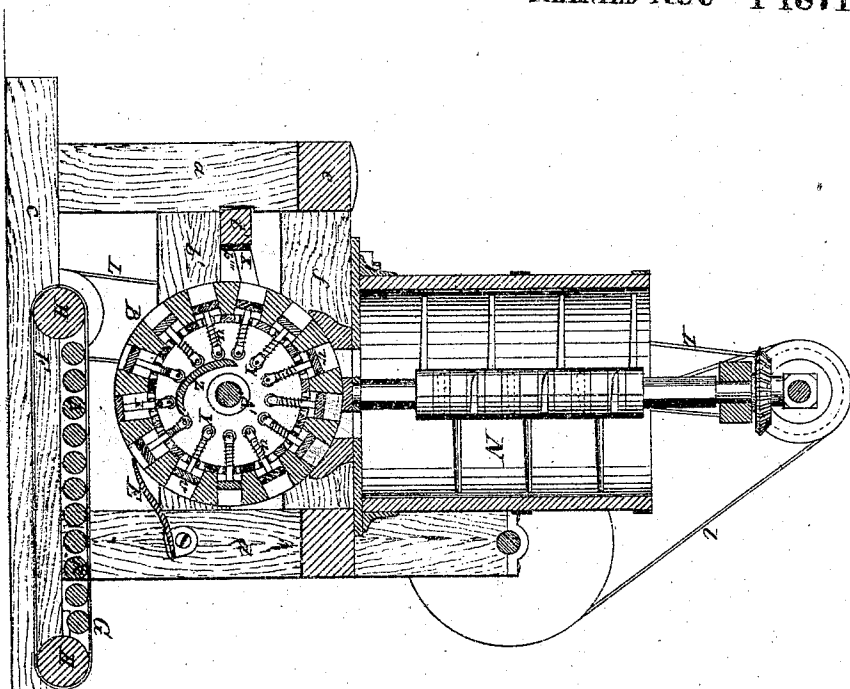


Fig. 1.

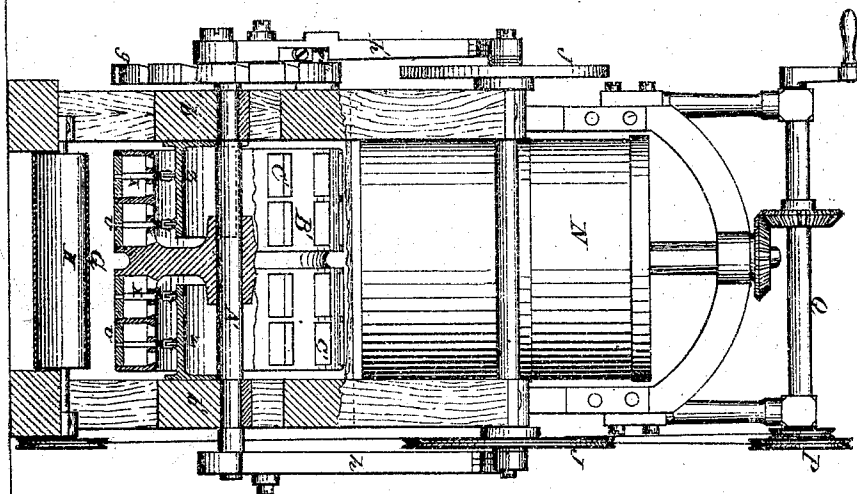


Fig. 2.

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John R. Young

Inventors

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Henry P. L. Machen
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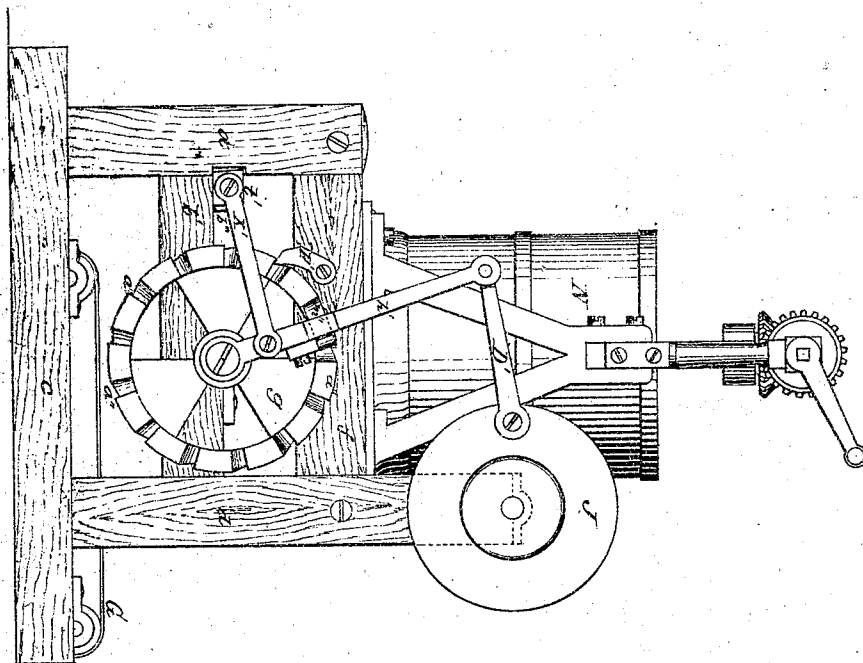


Fig. 3.

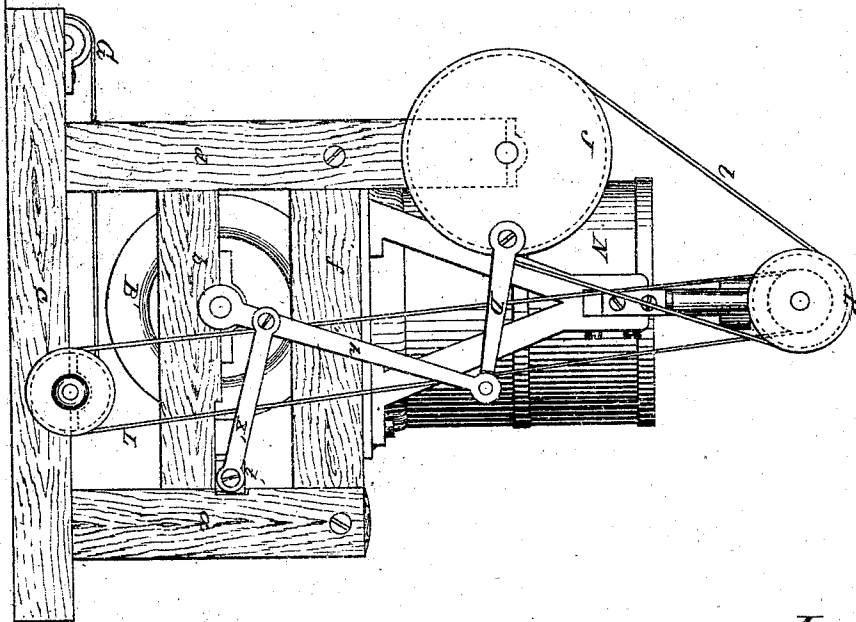


Fig. 4.

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Fig. 5.

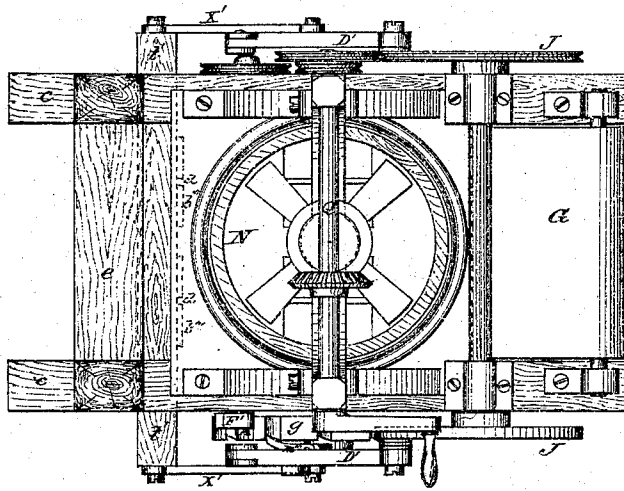


Fig. 6^a

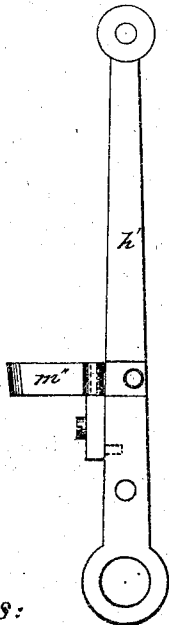


Fig. 6^b

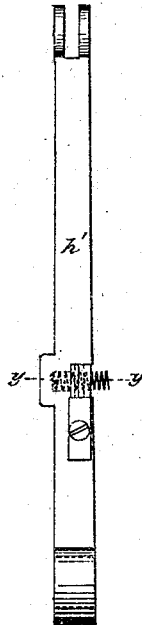


Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM H. MACHEN AND HENRY P. L. MACHEN, JR., OF TOLEDO, OHIO.

IMPROVEMENT IN BRICK-MACHINES.

Specification forming part of Letters Patent No. 117,551, dated August 1, 1871.

To all whom it may concern:

Be it known that we, WILLIAM H. MACHEN and HENRY P. L. MACHEN, Jr., of Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Improvement in Brick-Making Machines; and we do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a vertical central section of our device; Fig. 2, an end view, partly in section, of the same; Fig. 3, a side elevation of the same; Fig. 4, the opposite side elevation of the same; Fig. 5, a top plan view of the same; Fig. 6, two views of the lever for operating the ratchet-wheel; and Fig. 7, a cross-section on line *y y* of Fig. 6.

Like letters refer to like parts in each figure.

The nature of this invention relates to an improvement in that class of brick-making machines where the bricks are molded in recesses or molds in the periphery of a rotating wheel, receiving the clay directly into said molds from a suitable pug-mill secured above the wheel. The invention consists: First, in the peculiar mechanism by means of which the wheel is secured an intermittent rotary motion. Second, in the novel mechanism employed to press the clay after it has been received into said molds. Third, in the new combination, construction, and arrangement of the various parts, to form a complete machine, as hereinafter more fully described.

In the accompanying drawing, *a, b, c, d, e,* and *f* represent the frame, constructed of any suitable material, which carries the operating parts of the machine, and upon the top of which is secured the pug-mill *N*, which grinds the clay previous to its being delivered into the molds. The shaft *A'* is properly journaled in suitable boxes on the beams or timbers *b b'*, and upon this shaft is secured the wheel or hollow cylinder *B'*. Outside the beam or timber *b'* is secured upon this shaft the ratchet-wheel *g*, both cylinder and wheel being so secured to the axle that they rotate with it. The periphery of the wheel is provided with a series of recesses, *C'*, which is of suitable size and shape for molds. These recesses are provided with accurately-fitting plungers *v*, which are secured to stems or pistons *x x*, around which are coiled the springs *u u*. The inner ends of the stems are provided with small wheels *Y Y*, which

are journaled properly to the stems. The cylinder is placed immediately below the pug-mill, which latter is so arranged as to allow the clay in the same to fall into the recesses or molds as they are presented to the mouth of the mill. The clay having been received into the molds, with the plungers withdrawn to the bottom of the same by means of the springs *u*, the wheel or cylinder is caused to rotate forward by the mechanism hereinafter described. Two levers, *h h'*, of equal length, are secured, one at each end of the axle or shaft *A'*, in such a manner that they have a free movement on said shaft. The upper ends of these levers are connected by proper joints to other levers, *D'*, the outer ends of which are secured to proper wrist-pins in the crank-wheels *J*, which receive a rotary motion from the pulley on the main driving-shaft *P Q* by means of the belt *l*. The inner face of the lever *h'* is provided with a spring-pawl, *m''*, properly hinged or otherwise secured to the lever, so that it will engage, when desired, with the ratchets of the wheel *g*, and thereby give a forward rotation to the shaft *A'* and its attachments. Another pawl, *F'*, engaging with notches *a''* on the periphery of the ratchet-wheel, prevents any backward rotation of the shaft. Arms *x'* connect, by being pivoted there-to just above the axle, the arms *h h'* with a horizontal bar or press, *t'*, and in their operation draw said bar or press against the clay in the series of molds presented to it. The inner face of this press-bar is provided with a pressure-plate, *b'''*, the face of which is provided with grooves *d''* to correspond with the vertical partitions of the molds. *F G* is an endless belt, which runs over the drums *H* and a series of small rollers, *R*, to prevent the belt from sagging, and it is driven by the belt *L* from the main shaft *P Q*.

The clay is delivered from the pug-mill into the molds while the cylinder is stationary, and at the same instant, by means of the mechanism hereinbefore described, the press-bar operates upon the clay in another set of molds, the cam- or ratchet-wheel with its spring-pawl compelling a forward movement or rotation of the cylinder, thereby presenting another set of molds to the mouth of the pug-mill as soon as the press-bar is drawn back from the face of the bricks. In the continued forward motion of the cylinder, and after the bricks in the molds have been subjected to the action of the press-bar, as above

described, the small wheels Y roll upon the outer face of the fixed cam Z and force the bricks out of the molds by throwing outward the plungers, so that when the first mold filled has reached a point directly vertical under its first position the point of the knife E in Fig. 2 will pass between the brick and face of the plunger and compel the brick to fall upon the endless belt, which may be of any desired length. As soon as the bricks are out of the molds the springs *u* withdraw the plungers to the bottom of the molds again.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In rotary brick-machines, the levers D *h h'*,

spring-pawl *m''*, in combination with the wheels J, ratchet-wheel *j*, axle A', and hollow cylinder B', when the parts are constructed, arranged, and operated substantially in the manner and for the purposes set forth.

2. In combination with the foregoing-named parts, the arms *x'* and press-bar *t'*, when arranged to operate substantially as and for the purposes herein set forth.

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Witnesses:

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