(No Model.) 2 Sheets—Sheet 1.

A. BROOKER.

BRICK MACHINE.

No. 455,160. Patented June 30, 1891.

Fig. 1.

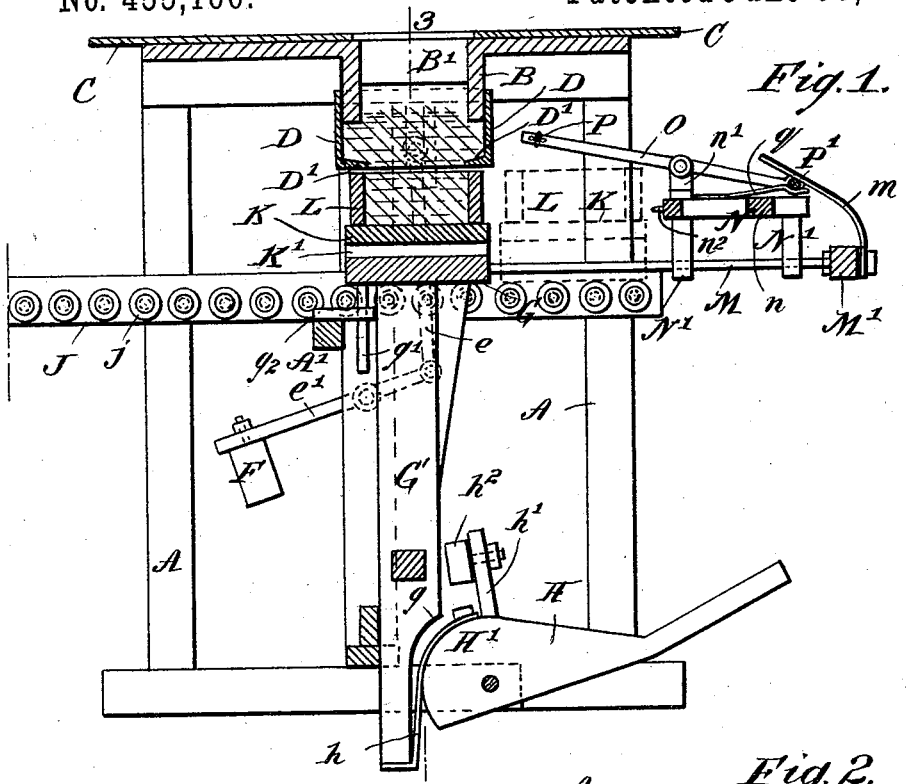
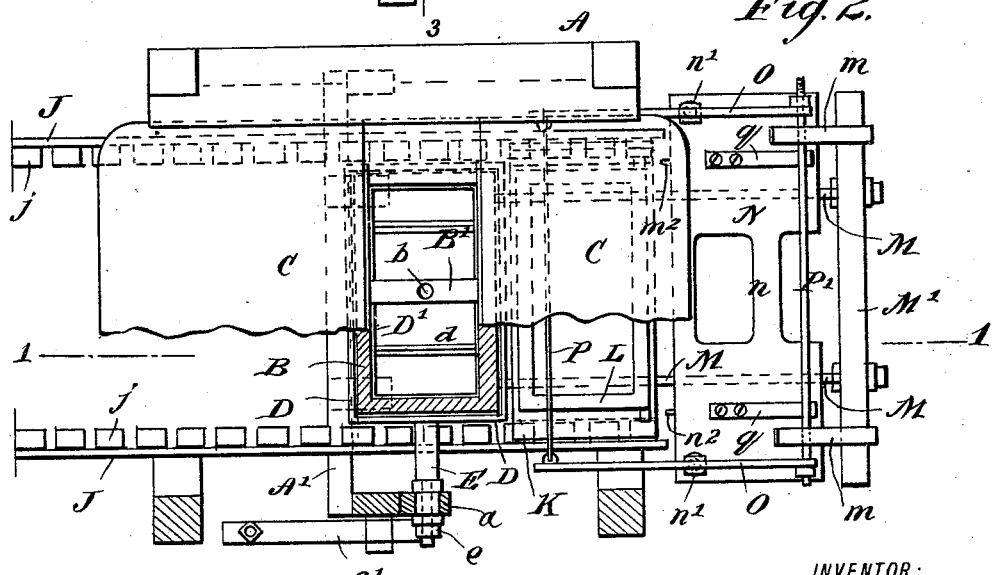


Fig. 2.



WITNESSES:

Donn Twitchell

C. Sedgwick

INVENTOR:

A. Brooker

BY Munn & Co

ATTORNEYS

(No Model.) 2 Sheets—Sheet 2.

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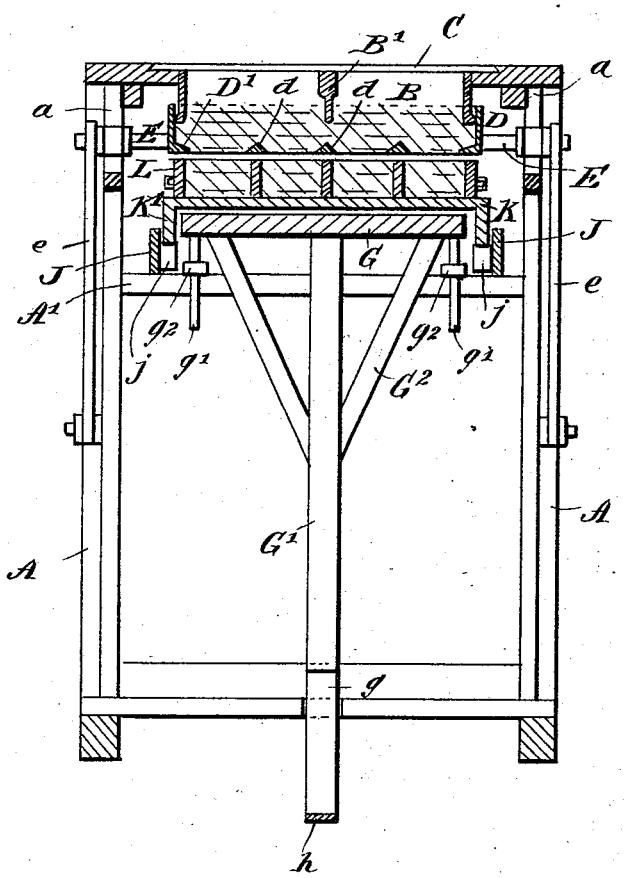
Fig. 3.



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ATTORNEYS

UNITED STATES PATENT OFFICE.

ALBERT BROOKER, OF LANCASTER, WISCONSIN.

BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 455,160, dated June 30, 1891.

Application filed August 27, 1890. Serial No. 363,173. (No model.)

To all whom it may concern:

Be it known that I, ALBERT BROOKER, of Lancaster, in the county of Grant and State of Wisconsin, have invented a new and Improved Brick-Machine, of which the following is a full, clear, and exact description.

My invention relates to improvements in brick-machines; and the object of my invention is to produce a machine of simple construction in which the ordinary bottomless mold may be used, and which will deliver the molded bricks directly upon movable pads, and which is also provided with a wire cut-off for smoothing the tops of the bricks and separating them from the mud-die.

To this end my invention consists in certain features of construction and combinations of parts, which will be hereinafter fully described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical longitudinal section of the machine on the line 1 1 of Fig. 2. Fig. 2 is a broken plan view, partly in horizontal section; and Fig. 3 is a vertical cross-section on the line 3 3 of Fig. 1.

The machine is provided with a vertical rectangular frame A, which has a mud-box B, extending transversely across the top, and mounted on top of the machine are the horizontally-movable slides C, which are adapted to close over the opening to the mud-box and thus regulate the flow of mud into the same. The mud-box is adapted to be arranged below an ordinary pug-mill, and extending across the mud-box is a partition B′, having a vertical perforation *b* therein adapted to receive a mast connecting with the pug-mill in the ordinary way.

A die D is arranged to slide vertically on the mud-box B, which is open at the bottom, and the die is provided with inwardly-turned flanges or shoulders D′, and is provided with transverse strips *d*, which divide the bottom opening of the die into spaces, each space corresponding in size to the size of the bricks to be pressed. The die D is provided at the ends with outwardly-extending bars E, adapted to move vertically in the slideways *a*, and the outer ends of the bars are connected by the links *e* with the levers *e′*, which are mounted on opposite sides of the machine and have their free ends provided with weights F, which thus serve as counter-balances to the die D and tend to press the die upwardly against the mud which flows into it from the box B.

A plunger G is arranged horizontally below the die D, from which on its under side projects a vertically-movable piston-rod G′, the piston-rod and plunger being also provided with suitable braces G^2, and the lower portion of the piston-rod at the point *g* is cut away to make room for the convex head of a treadle-lever H, as described below. Depending from each end of the plunger G are the guide-rods *g′*, which move vertically through the perforated guides g^2, which are attached to the cross-bar A′ of the frame A, and the plunger is thereby held so that it moves vertically and with the necessary precision.

The treadle-lever H is pivoted in the frame in front of the piston-rod G′, the said lever having a convex head H′, which is received by the cut-away portion of the piston-rod, as described, and the lever is connected with the lower end of the piston-rod by a metallic strap *h*, which is fixed to the upper portion of the lever and extends around the convex head thereof. The lever H is also provided with an upwardly-extending arm *h′*, having at the end a weight h^2, which, when the lever is depressed and the piston-rod and plunger raised, acts as a counter-balance to the plunger and serves to prevent it from falling.

Extending horizontally through the machine on each side thereof are strips J, which are fixed to the machine-frame and which are provided with rolls *j*, which are pivoted thereon and which serve as tracks, and the strips are arranged in such a manner that there will be just room between the tops of the rolls and the lower portions of the die D for the insertion of a pad K and a mold L, which is placed thereon. The pads K used in connection with this machine are flat, and are adapted to carry the molds L. The length of the pads corresponds to the distance between the two roller-tracks extending through the machine, and the pads have depending flanges K′ at

the ends, which ride upon the rolls *j*. The molds L are the ordinary bottomless molds and need no detailed description.

Extending forwardly from the plunger G are the horizontal and parallel rods M, which are connected at the ends by a cross-bar M′, and mounted on the rod so as to slide thereon is a slide N, having depending flanges N′, which slide upon the rods M. The central portion of the slide is cut away, as best shown in Fig. 2, to form the handle *n*, and on each end of the slide near the rear portion thereof are vertical studs *n*′, to the top of which are pivoted the arms O. The slide N has lugs n^2 projecting from its rear edge and adapted to impinge upon the molds L when the slide is pushed rearwardly and hold the molds in place.

The arms O are connected at their rear ends by a wire P, adapted to cut the mud, as described below, and the front ends of the arms are connected by a rod P′, having suitable nuts at each end, and by turning the nuts the arms O may be actuated and the wire P tightened or loosened. When the slide N is in the front portion of the machine, as shown in Fig. 2, the rod P′ is depressed and the wire P raised by means of the springs *m*, which are fixed to the cross-bar M′ and which extends rearwardly above the slide N, so as to automatically engage the rod P′ when the slide is moved forward. When the slide is pushed into the machine, the springs *q*, which are attached to the slide and normally press upward, engage the rod P′ as it passes from beneath the springs *m* and push the rod upward, so that the wire P will be forced downward and will press upon the top of a mold, the position of the mold being indicated by dotted lines in Fig. 1.

The machine is operated as follows: The mud is fed into the mud-box B from the pug-mill. The lever H is raised so as to throw the plunger G down. A pad K is placed upon the rolls *j*. A mold L is placed upon the pad in the rear of the slide N, as indicated by the dotted lines in Fig. 1, and the slide is pushed rearwardly, thus forcing the pad and mold beneath the die D; and it will be observed that the wire P will press upon the top of the mold and will be forced through between the top of the mold and the bottom of the die D. The lever H is then actuated so as to raise the plunger G, thus raising the mold and forcing the mud firmly into it. The slide N is withdrawn, and the wire P, passing between the mold and the die, cuts the mud smoothly, and the counter-weight F holds the die from dropping back upon the mold. Another pad is then placed behind the slide N in the manner already described, and the operation is repeated, the last pad pushing the first pad and mold from beneath the die to the rear of the machine, and from thence the mold may be taken and the brick formed therein tiered up in the usual manner.

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

1. In a brick-machine, the combination, with the supporting-frame and a mud-box, of a die provided with outwardly-extending bars working in guideways in the frame, weighted levers pivoted to the frame, and links connecting the levers with the bars of the die, substantially as herein shown and described.

2. A brick-machine having a mud-box in the upper part thereof, a die arranged to move vertically upon the mud-box, roller-tracks extending horizontally through the machine, and a vertically-movable plunger arranged between the tracks and aligning with the mud-box and die, substantially as described.

3. In a brick-machine, the combination, with the die, the roller-tracks, and the mold-receiving pad mounted thereon, of a slide arranged to move with the pad and mold and a spring-pressed frame mounted on the slide and provided with a wire adapted to press upon the top of a mold, substantially as described.

4. In a brick-machine, the mold-carrying pad having a flat base and depending end flanges, substantially as described.

5. In a brick-machine, the combination, with the die, the horizontally-movable mold-carrying pad thereon, of a slide arranged to move with the pad, arms pivoted on opposite ends of the slide, the said arms being connected at the rear end by a wire and at the front end by an adjustable rod, springs fixed to a support in the front of the machine and adapted to press downward upon the adjustable rod, and springs fixed to the top of the slide and adapted to press upward upon the said rod, substantially as described.

6. A brick-machine comprising a frame, a mud-box in the top thereof, a die adapted to move vertically on the mud-box and having an opening through the bottom thereof, a track extending horizontally through the frame, a vertically-movable plunger aligning with the mud-box and die, rods extending horizontally from the front of the plunger, a slide mounted on the rods, and a spring-pressed frame pivoted on the slides and carrying at its rear end a wire to pass beneath the die, substantially as described.

7. The combination, with the plunger and the piston-rod connected therewith, said rod being cut away at its lower portion, as shown, of a pivoted lever having a convex head contiguous to the cut-away portion of the piston-rod, a metallic strap fixed to the lever and extending over said convex head to the lower end of the piston-rod, and a weighted arm fixed to the lever and extending upwardly therefrom, substantially as described.

ALBERT BROOKER.

Witnesses:
HERMAN BUCHNER,
HARRY MUESSE.