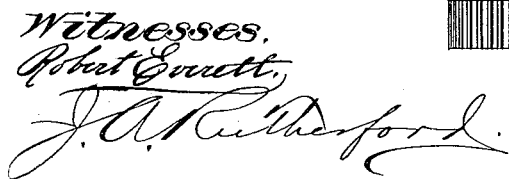



2 Sheets—Sheet 1.

No. 386,333.

Patented July 17, 1888.



 *Inventor:*
Henry W. Mead,
By James L. Norris,
Att'y.

(No Model.)

2 Sheets—Sheet 2

H. W. MEAD.
BRICK MACHINE.

No. 386,333.

Patented July 17, 1888.

Fig. 3.

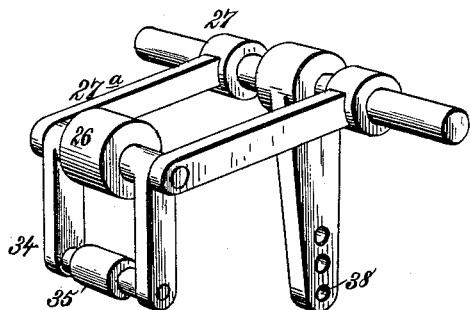


Fig. 8.

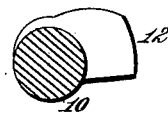


Fig. 4.

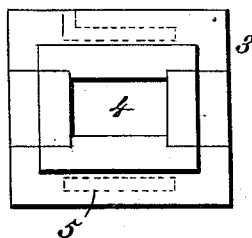


Fig. 9.

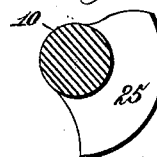


Fig. 6.

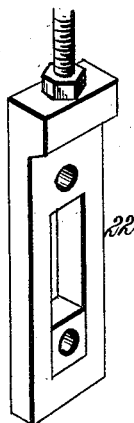


Fig. 7.

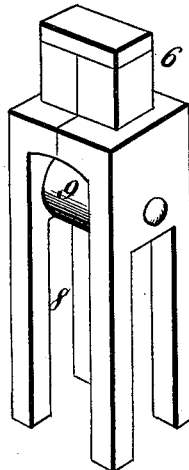


Fig. 5.

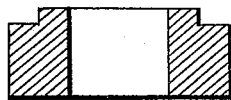


Fig. 10.

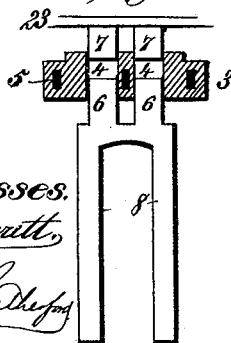
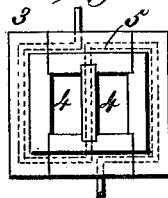


Fig. 11.



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UNITED STATES PATENT OFFICE.

HENRY W. MEAD, OF QUINCY, ILLINOIS.

BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 386,333, dated July 17, 1888.

Application filed March 21, 1888. Serial No. 268,006. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. MEAD, a citizen of the United States, residing at Quincy, in the county of Adams and State of Illinois, have invented new and useful Improvements in Brick-Machines, of which the following is a specification.

My invention relates to brick-machines; and the purpose thereof is to provide a novel and simple mechanism whereby the molded brick is subjected to positive pressure upon opposite sides, and whereby, also, double the amount of brick may be produced with the same expenditure of power by the actuating-shaft.

It is my purpose, also, to provide a steam-heated mold for brick-machines of this type; and in carrying my invention into practical operation I employ the several novel features of construction and new combinations of parts hereinafter fully set forth, and then definitely pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation of the machine, certain parts being broken away. Fig. 2 is a vertical section on the line *x x*, Fig. 1. Fig. 3 is a detail perspective of the bell-crank lever operating the feed-box and the stirrup by which the latter is operated. Fig. 4 is a detail plan view of one of the molds. Fig. 5 is a vertical section of Fig. 4. Fig. 6 is a detail perspective of one of the arms carrying the upper plunger. Fig. 7 is a detail perspective of the four-armed lower plunger. Fig. 8 is a detail of the cam operating the lower plunger. Fig. 9 is a detail of the cam operating the upper plunger. Fig. 10 is a detail section of the double mold, with its plungers and heating passages, and Fig. 11 is a plan view of the same.

In the said drawings, the reference-numeral 1 designates the frame of the machine in which the operative parts are supported. Upon said frame is mounted a table, 2, having an opening within which lies the orifice of the brick-mold 3, having a mold-chamber, 4, and heated steam-passages 5. These passages are supplied by steam-pipes 6^a, leading from any suitable steam-supply.

Lying within the mold-chamber 4 are plungers 6 and 7, the former working from below and having a fork, 8, in which is journaled a friction-roll, 9. Within the depending forked arms of the plunger 6 lies the actuating-shaft

10, having a cam, 12, which at each revolution of the shaft acts upon the friction-roll 9 and raises the lower plunger, 6, the lower extremities of the forked portion moving between guide plates or brackets 13 and 14, mounted upon the frame 1 on opposite sides of the forked portion of the plunger.

Pivotally mounted upon the machine-frame 1 at the point 15^a is a yoke-frame, 15, having a central eye, 16, which rides upon a depending bar, 17, the latter having upon its lower threaded end a turn-nut, 18, provided with a hand-wheel, 19, a spring, 20, being interposed between said nut and the eye 16 on the yoke-frame. Laterally-projecting pins 21 on the plunger rest upon the parallel arms of the yoke-frame 15 and serve to support the plunger at such point as to enable the mold to receive the proper quantity of clay from the feed-box.

The plunger 7, working from above, is connected with the actuating-shaft 10 by means of arms 22, depending from the yoke 23, carrying said plunger, the lower ends of said arms being connected by a shaft, 23, carrying friction-rolls 24, which are acted upon by cams 25 upon the actuating shaft 10.

The cams 25 are so timed relatively to the central cam, 12, that, whereas the pressure shall be exerted by the upper and lower plungers simultaneously, the central cam, 12, shall continue its action, after the active pressure by the upper plunger has ceased, until the face of the lower plunger has been raised to the surface of the table 2. This result is effected by the cams 25, which are not only so timed as to coact with the central cam, 12, but are provided with an extended cam-surface, 26, which acts upon the rolls 24, holding the upper plunger down during a portion of the upward throw of the central cam, 12, as shown in Fig. 2, and then release the said rolls 24, and with them the upper plunger to permit the central cam to lift the lower plunger and raise the brick formed by the joint pressure of both plungers to the surface of the table, the said cam holding the lower plunger up until the cams 25 have engaged with friction-rolls 26^a, journaled in the ends of a bell-crank lever, 27, fulcrumed at a point, 28, upon the frame 1. This lever is connected to a lever, 29, fulcrumed at 30, and having its upper end connected by a link-rod, 31, to a feed-box, 32.

This box slides upon the table 2 beneath a hopper, 33, in which the prepared clay is placed, and as the feed-box is thrown forward by the action described it not only removes
5 the previously-formed brick from off the lower plunger, but projects the feed-box over the open mold, supplying the latter with sufficient clay to form the next brick.

Connected to the extremity 27^a of the arm
10 of the bell-crank lever 27 is a stirrup-bearing, 34, in which are mounted friction-rolls 35, guided in vertical channels 36 in guide-plates 37. After the cams 24 leave the rolls 26 they engage with the said rolls 35 and draw the
15 same down in the channels 36, restoring the feed-box to its normal position beneath the hopper 33.

The brick-molds may be duplicated, and a double plunger may be mounted upon the
20 forked bearing, with a corresponding double plunger above, if required. I may also provide for a varying throw of the lever 29 by forming a series of attaching-openings, 38, in the arm of the bell-crank lever 27, to which
25 the connecting-bar 39, as shown in Fig. 2, is attached. The upper plunger, carried by a yoke, 23, which is thrown down by the arms 22, carrying the rolls 24, is raised by the same cams, 25, by which its downward movement
30 is effected, the only difference being that on the upstroke said cams engage friction-rolls 26^a. The actuating-shaft 10 is driven from a power-shaft, 40, having a small pinion, 41, which meshes with a large gear, 42, on the
35 actuating-shaft 10, the driving and idle pulleys 43 and 44 being mounted on the power-shaft.

What I claim is—

1. A brick-machine comprising a table hav-
40 ing a suitable mold or molds, an upper plunger carried by a yoke having friction-rolls at its lower part, a lower plunger supported by a frame having a fork within which is jour-
45 naled a friction-roll, cams acting on the friction-rolls of the upper plunger to depress and hold the same, a central cam on the single

cam-shaft raising the lower plunger and co-
operating with the cams actuating and hold-
ing the upper plunger to lift and eject the
molded brick, and a frame having elastic sup- 50
port at one end and pivotal support at the other end and supporting the lower plunger between its ends, substantially as described.

2. A brick-machine comprising a table hav-
ing suitable molds, a lower plunger having a
55 forked branch provided with a friction-roll, an actuating-shaft having a cam acting on said friction-roll, a yoke pivotally attached to the machine-frame at one end and within which
60 the forked branch of the lower plunger is supported, a threaded rod which engages an aperture in the free end of the yoke, a nut turned on said rod, a spring between said rod and nut,
an upper plunger, and means for operating the latter, substantially as described. 65

3. A brick-machine comprising a table hav-
ing steam-heated molds, a lower plunger hav-
ing a forked branch provided with a friction-
roll, an actuating-shaft having a cam acting
70 upon said roll, a bell-crank lever having a stirrup at one end provided with a vertically-guided roll, a feed-lever connected to the other arm of said bell-crank and carrying a feed-
box over said table, and cams upon the actu-
75 ating-shaft operating both the plunger above and the feed-lever, substantially as described.

4. A brick-machine comprising a table hav-
ing molds supported therein, plungers operat-
ing above and below in said mold, a yoke piv-
otally mounted on the machine-frame and sup-
80 porting the lower plunger, a screw-threaded stud with which the movable end of said yoke engages, a spring supporting said yoke, and a set-nut on the stud supporting the spring, sub-
stantially as described. 85

In testimony whereof I affix my signature in
presence of two witnesses.

HENRY W. MEAD.

Witnesses:

M. T. GREENLEAF,
MICHAEL PIGGOTT.