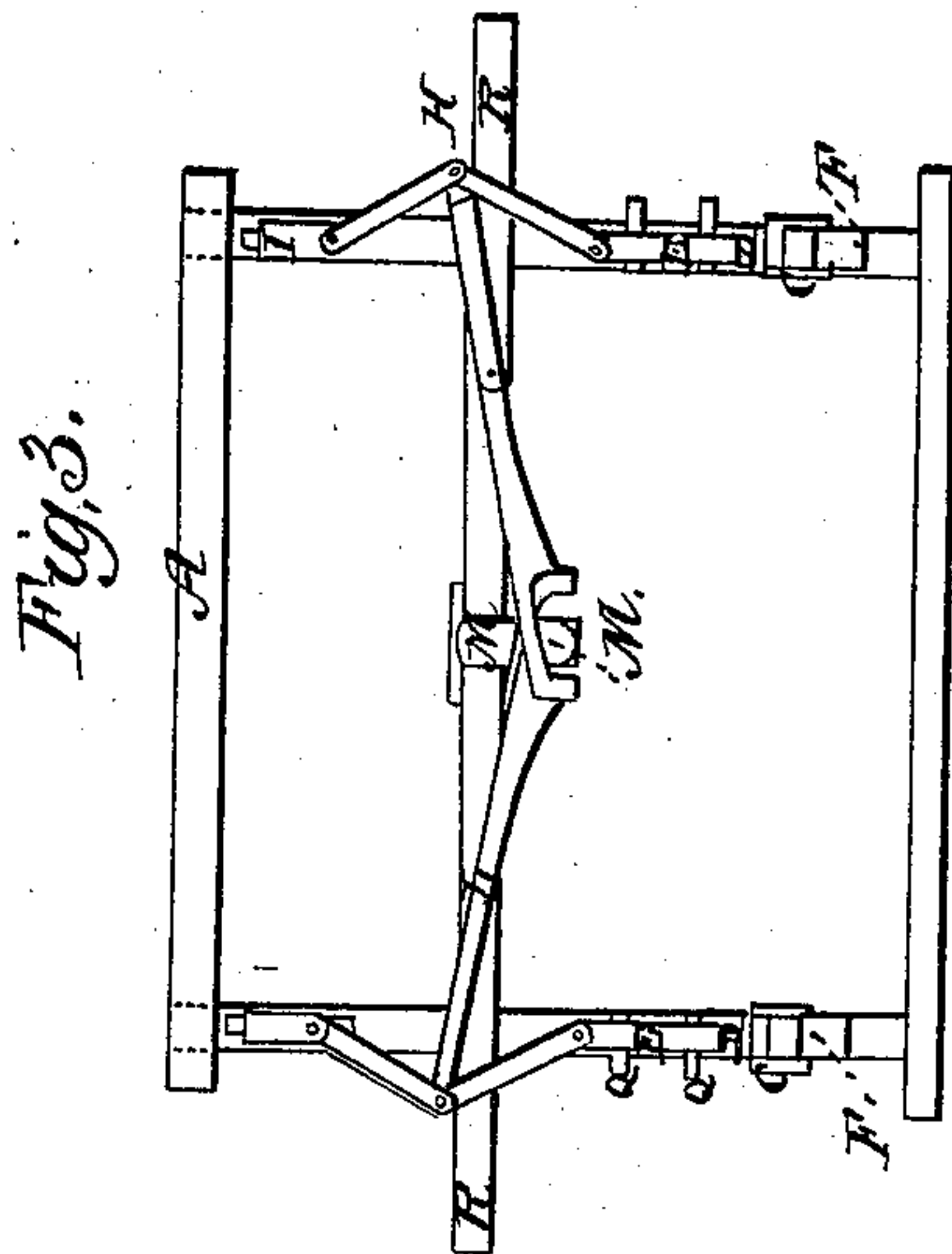
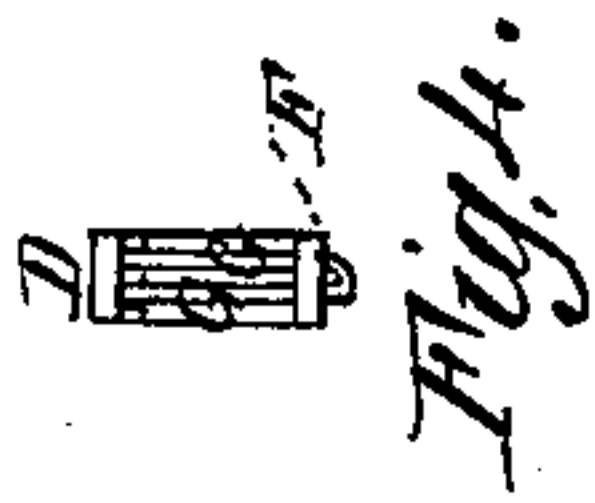
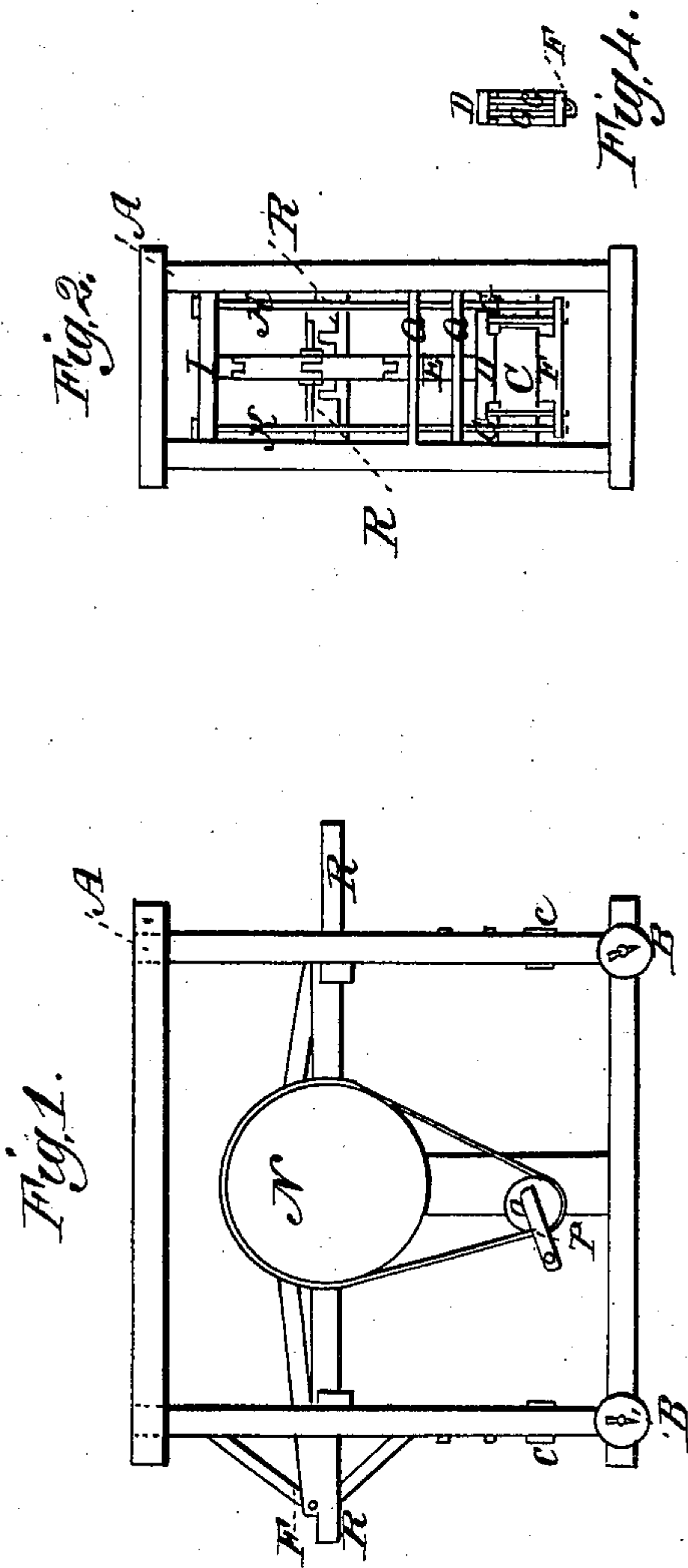


H. Waterman,
Brick Machine,
No. 469, Patented Nov. 20, 1837.



UNITED STATES PATENT OFFICE.

HENRY WATERMAN, OF BATH, MAINE.

IMPROVEMENT IN BRICK-PRESSES.

Specification forming part of Letters Patent No. 469, dated November 20, 1887.

To all whom it may concern:

Be it known that I, HENRY WATERMAN, of the town of Bath, in the county of Lincoln and State of Maine, have invented a new and useful Improvement in the Machine for Pressing Bricks called "Waterman's Toggle-Joint Brick-Press," which is described as follows, reference being had to the annexed drawings, of the same, making part of this specification.

In Figures 1, 2, and 3, A represents a rectangular frame, which may be made of any convenient size and strength required for the purpose intended.

In Fig. 1, B represents the wheels on which the frame is moved from place to place.

In Figs. 1, 2, and 3, C is the brick-mold let in and permanently secured between two of the posts of the frame.

In Figs. 2, 3, and 4, D is the piston attached to the toggle-joint for pressing the brick on the upper side.

In Figs. 2 and 3, E is the piston-rod cast with the piston and attached by a joint to the toggle-joint.

In Figs. 2, 3, and 4, F is the follower for pressing the brick on the under side, as well as for discharging the brick placed at the under side of the mold. This follower also answers as a discharger, and is connected to the piston by four rods, which move loosely in apertures in the piston and have flat heads resting on the top of the piston.

In Figs. 2 and 4, G represents the rods just mentioned.

In Figs. 1 and 3, H is the toggle-joint for pressing the brick and for discharging it.

In Figs. 2 and 3, I is the cross-head of the toggle-joint moving up and down within the corner-posts of the frame.

In Fig. 2, K represents hanging rods, which suspend the follower from the movable cross-head to allow of a simultaneous pressure from below as well as from above by the follower and piston.

In Fig. 3, L is the connecting-rod leading from the toggle-joint to the crank-shaft for extending and contracting the toggle-joint. M is the crank-shaft for working the machine.

In Fig. 1, N is the band-wheel on the crank-shaft. O represents pulley and band for turning the band-wheel. P is the crank for

turning the pulley. Cogged gearing may be substituted for said pulley and band.

In Figs. 2 and 3, Q represents guides of the piston-rod let into the posts of the frame and through which the piston-rod passes.

In Figs. 1, 2, and 3, R represents extended pieces of the frame, which serve as ways or guides, over which move projecting ends of a rod or pin passing through the toggle-joint. These ways are for guiding said toggle-joint. At the other end of the frame is a similar arrangement of parts forming a double press.

Operation: The bricks, being molded and nearly dry, are taken and put into the molds one at a time by a boy stationed at each end of the machine. A man at the center turns the crank. This turns the pulley or pinion, which turns the band or cog wheel, and this turns the crank-shaft, which moves the connecting-rod horizontally and extends or straightens the toggle-joint, which forces down the piston upon the top of the brick and thus presses it on top. At the same time the follower is brought up against the under side of the brick by means of the hanging rods, to the ends of which it is suspended, attached to the movable cross-head of the toggle-joint, which has a simultaneous movement upward with the follower and in a contrary direction to that of the piston, and thus it presses it on the under side. The crank-shaft being revolved another quarter-revolution, contracts or bends the toggle-joint again, which causes the piston to rise suddenly, and with it the follower or discharger F, connected to the piston by the four loose rods, thus discharging the brick from the mold. The boy then removes it and puts in another brick, which is pressed in a similar manner. A similar operation is performed at the other end of the machine, but not at the same time, the movements of the several parts being alternate.

The invention claimed by me, the said HENRY WATERMAN, and which I desire to secure by Letters Patent, consists—

In attaching the follower to the piston by loose rods, (with heads,) which slide upward through apertures in the piston while the latter is in the act of pressing the brick on the top, and when said piston is again raised the

top of said piston coming in contact with the heads on the ends of said rods and raising the follower suspended thereto with the brick which it thus discharges from the mold, at the same time said follower or discharger sliding loosely over the hanging arms by which the follower is suspended from the cross-head for pressing the brick on the under side, in

combination with the before-described mode of pressing the upper and lower sides of the brick simultaneously, as herein set forth.

HENRY WATERMAN.

Witnesses:

S. J. TALLMAN,
M. ULSHOOFFER.