

J. K. CALDWELL.

Machines for Repressing Bricks.

No. 139,113

Patented May 20, 1873.

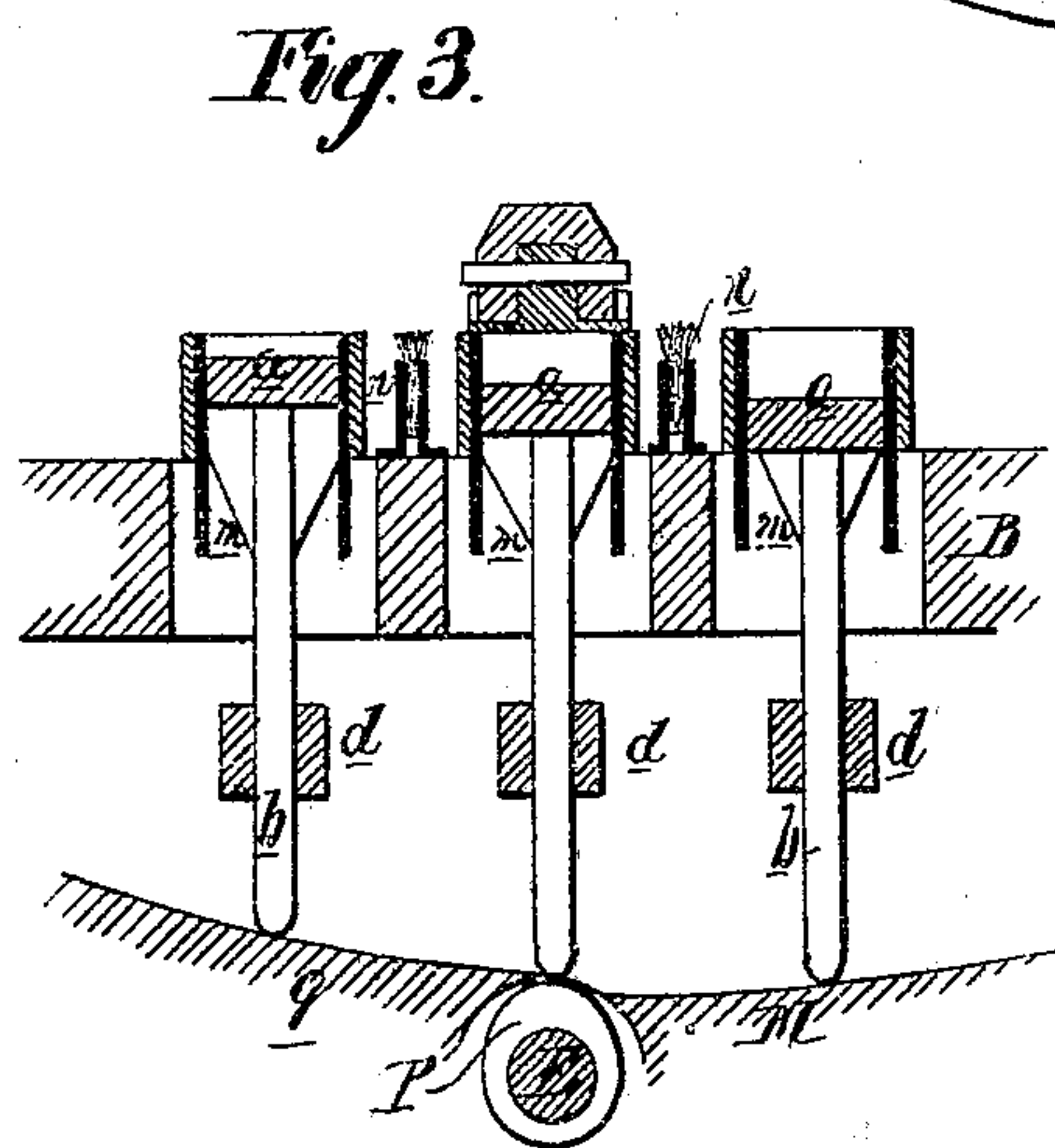
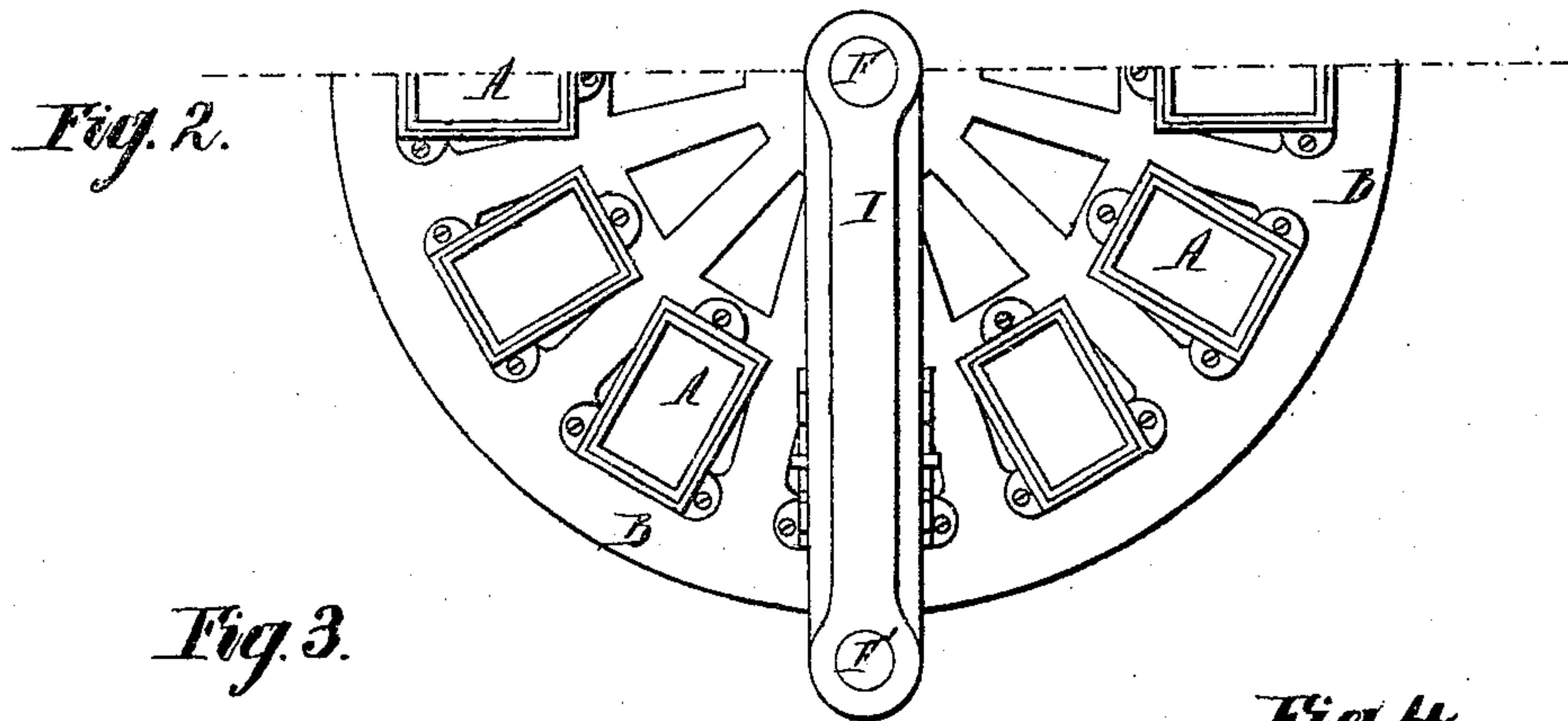
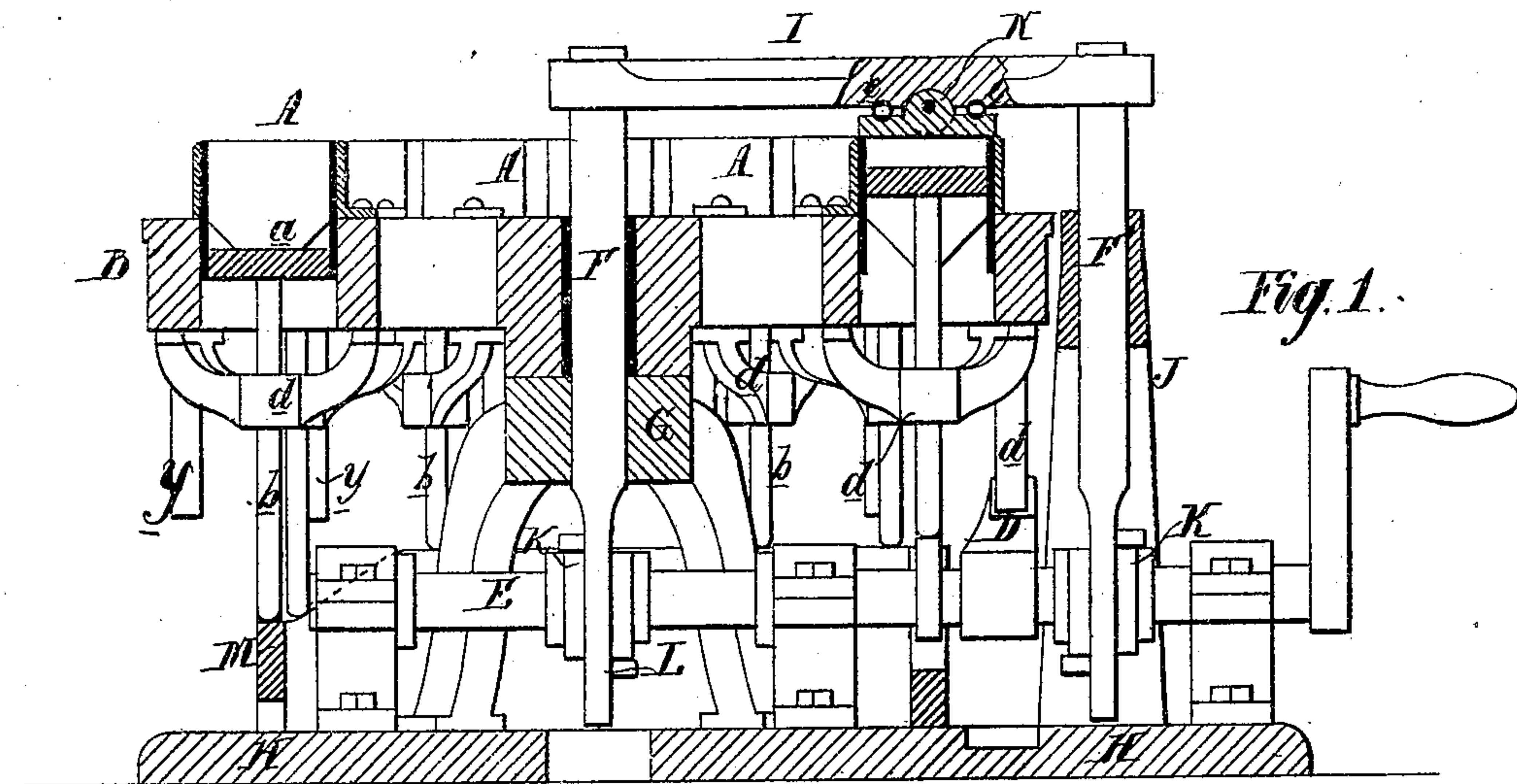
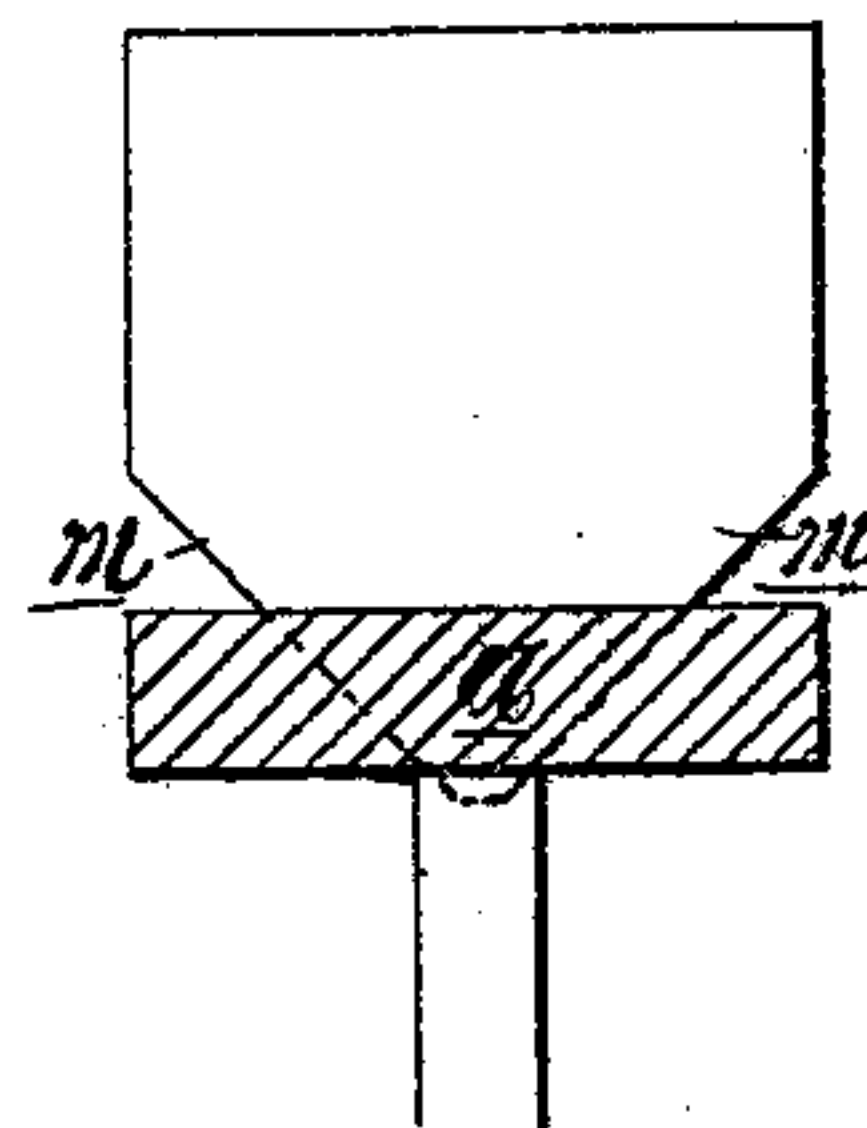


Fig. 4.



Witnesses.

Harry Smith  
John K. Rupertus

J. K. Caldwell  
By *Thos. M. Allen*  
Attorney



# UNITED STATES PATENT OFFICE.

JOHN K. CALDWELL, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN MACHINES FOR RE-PRESSING BRICKS.

Specification forming part of Letters Patent No. **139,113**, dated May 20, 1873; application filed August 3, 1872.

*To all whom it may concern:*

Be it known that I, JOHN K. CALDWELL, of the city and county of Philadelphia and State of Pennsylvania, have invented Improvements in Machine for Re-Pressing Brick, of which the following is a specification:

The object of my invention is the rapid and effective pressing of bricks by machinery, and this object I attain by the machine which I will now proceed to describe.

The molds A are arranged radially on a wheel, B, to which an intermittent rotating motion is imparted by any suitable mechanism. In the present instance the desired motion is imparted by a cam or arm, D, on the driving-shaft E, the arm, as it rotates, striking in succession as many pendent pins *y* on the disk as there are molds. The mold wheel or disk turns on a central shaft or rod, F, which can slide vertically, but cannot turn in a stand, G, secured to the base H. This rod F is connected at the top by a cross-bar, I, to a rod, F', which is guided within a stand, J, secured to the base H. The lower ends of both rods F and F' are slotted, so that the horizontal driving-shaft can pass freely through them, and both rods are simultaneously raised by cams K on the said driving-shafts, and simultaneously depressed by cams L on the same shaft. Each mold A consists of a box lined with steel plates, and open above and below, and contains a sliding follower, *a*, attached to a rod, *b*, which is guided by a hanger, *d*, secured to the under side of the mold-wheel, the lower end of the rod resting on an annular rib, M, secured to the base H, and arranged, by inclinations on its upper edge, to control the vertical position of the rods and followers. To the under side of the cross-bar I is hung a platen, N, between which and the cross-bar intervene two or more springs, *e e*. There are in the present instance twelve molds on the wheel, and the inclinations of the annular rib M are such that never less than four of the molds are in a condition, owing to the depression of the followers, to receive the crude bricks to be pressed, and never less than four molds, with their followers, elevated, so as to permit the withdrawal of the pressed bricks. By this arrangement ample time is afforded to the attendants for feeding the molds and re-

moving the bricks after they are pressed. At one point the continuity of the stationary rib M is interrupted for the reception and movement of a cam, P, on the driving-shaft, as shown in Figure 3; or the rib may be slotted for the reception of the cam without interrupting its continuity. The moment one of the molds, containing a crude, impressed brick, is brought above this driving-shaft, it becomes stationary, owing to the discontinuation of the movement of the mold-wheel, and no sooner has the mold become stationary than the cross-bar I descends, and with it the platen N, which adjusts itself to the top of the mold, after which the cam P, acting on the lower end of the rod, raises the latter, and with it the follower, which compresses the crude brick against the platen N. After the desired pressure has been completed, the platen is at once elevated by the action of the cams L L, and remains elevated until its services are again required for resisting the pressure in another mold, which, by another movement of the mold-wheel, has been brought beneath the platen, during which movement the follower of the mold in which the brick was pressed is elevated, owing to the lower end of the rod *b* of its follower traversing an inclined plane of the annular rib M, and this elevation of the follower necessarily forces the pressed brick from the mold. The follower remains elevated during about one-fourth of the revolution of the mold-wheel, so as to afford time for the removal of the pressed brick, after which, owing to another inclination of the annular rib M, the follower descends much lower than the point necessary for the mold to receive a crude brick, and remains in this depressed condition during one of the intervals which elapse between the movements of the wheel, after which the follower descends again to a position in the mold requisite for determining the proper depth of the same, and the proper thickness of the pressed brick. The mold is now ready to receive a crude brick, and remains in this condition during one-third or more of a revolution of the mold-wheel, so that ample time is afforded to the attendant to introduce crude bricks into the mold. The object of this abrupt depression and elevation of each mold at one point during



one revolution of the mold-wheel will be best understood by reference to the view, Fig. 4, which illustrates one end of the steel lining of the mold, and shows the follower depressed to its lowest point. Both side and end plates of the molds are beveled at the lower ends, so that when the follower is depressed, as shown, there is an opening, *m*, at each corner of the mold, through which any refuse matter may be quickly discharged during the delay in the movement of the wheel which occurs while the follower is thus depressed. In each space between the molds I propose to place a brush or wiper, *n*, Fig. 3, which, as the mold-wheel traverses, will come in contact with the under side of the platen *N*, and wipe or brush therefrom any foreign matter which may adhere to the said platen.

*Claims.*

1. The combination, with the horizontal mold-wheel, of the cross-bar and platen, the followers carried by said wheel, and the driv-

ing-shaft or equivalent mechanism, such shaft operating the disk, bar, and followers, all as set forth.

2. The combination, with the horizontal mold-wheel, of the reciprocating cross-bar, secured to vertical arms *F F'*, one of which extends through the center of the disk and forms the axis thereof, as described.

3. The combination, with the reciprocating platen, of stationary brushes *n*, arranged upon the wheel so as to pass beneath and in contact with the platen as the wheel revolves.

4. The combination of the followers with molds the sides of which are reduced in width, as described, so as to present openings when the followers are depressed.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN K. CALDWELL.

Witnesses:

WM. A. STEEL,

HARRY W. DOUTY.