2 Sheets--Sheet 1.

J. D. BUSH.

Brick-Machines.

No. 143,806. Patented Oct. 21, 1873.

Fig 1

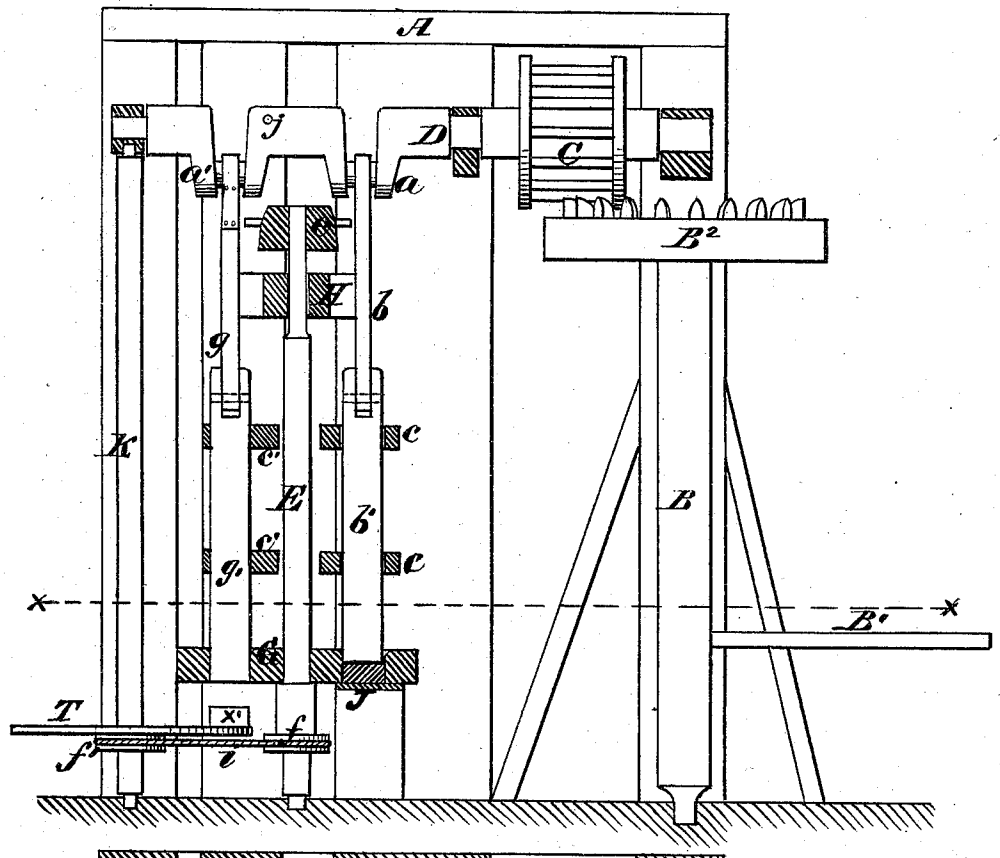
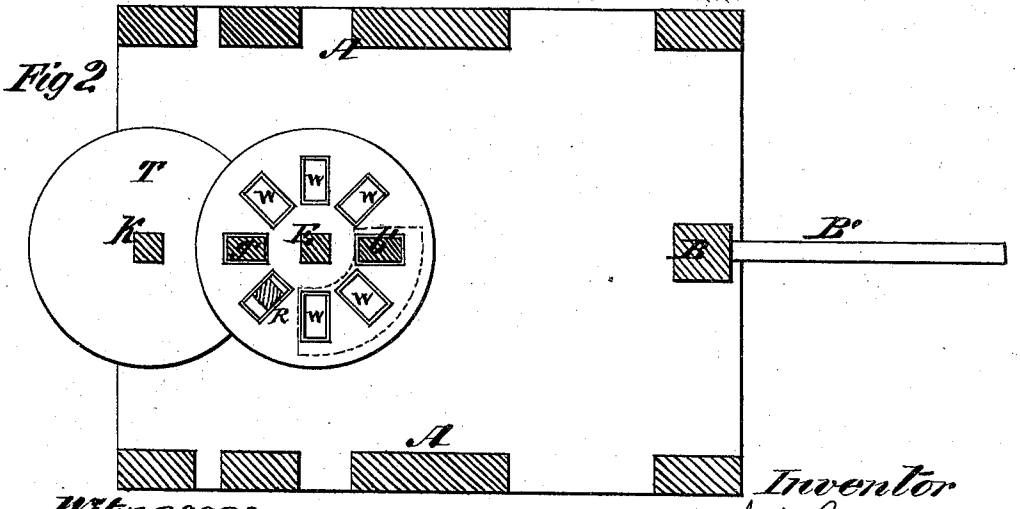


Fig 2



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AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS)

2 Sheets--Sheet 2.

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Fig. 3

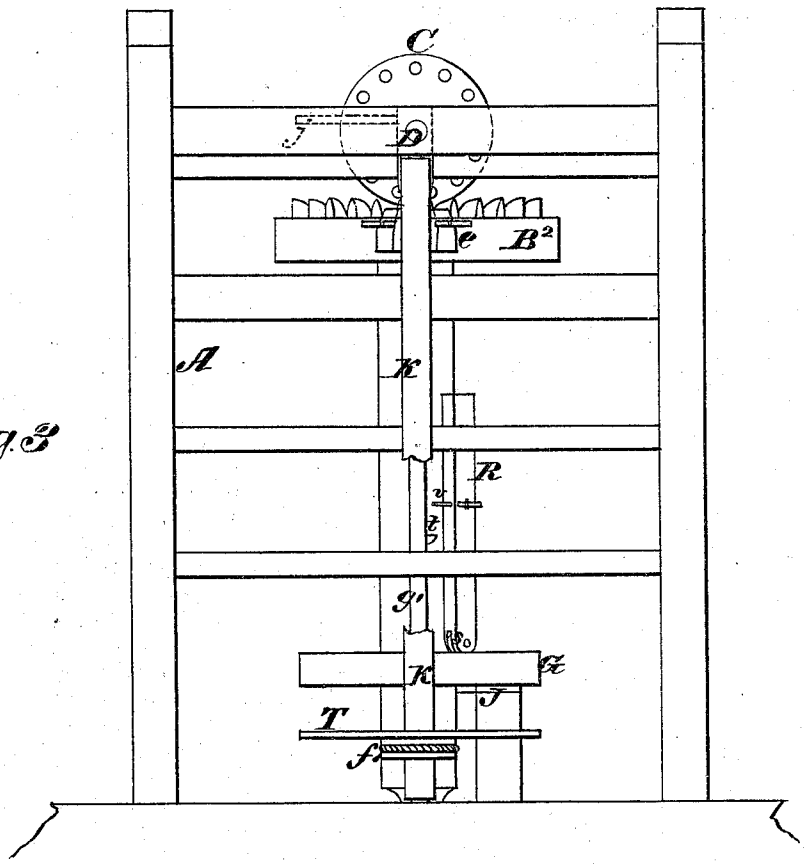
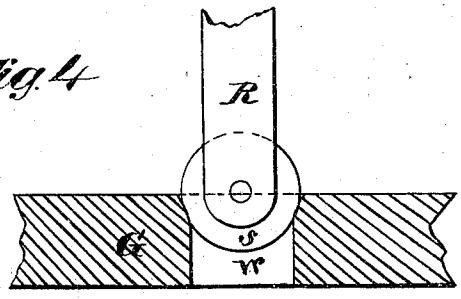


Fig. 4



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UNITED STATES PATENT OFFICE.

JOHN D. BUSH, OF ELYTON, ALABAMA.

IMPROVEMENT IN BRICK-MACHINES.

Specification forming part of Letters Patent No. **143,806**, dated October 21, 1873; application filed April 21, 1873.

To all whom it may concern:

Be it known that I, JOHN D. BUSH, of Elyton, in the county of Jefferson and State of Alabama, have invented a new and Improved Brick-Press; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1, Plate 1, is a section taken vertically and longitudinally through the center of my improved press. Fig. 2, Plate 1, is a horizontal section through the press taken in the plane *x x*, Fig. 1. Fig. 3, Plate 2, is a front view of the press with a portion of the table-shaft broken away. Fig. 4 is a view in detail and section, showing the stop-roller in one of the mold-cells.

Similar letters of reference indicate corresponding parts in the several figures.

This invention has for its object the employment of a horizontal intermittently-rotating mold-table and an intermittently-rotating receiving-table, with pressing and discharging plungers, and a stop-roller for holding the mold-table stationary during the pressing and discharging operations, as will be hereinafter explained.

The following description of my invention will enable others skilled in the art to understand it.

In the accompanying drawings, A represents the frame of the press, which is properly strengthened for sustaining the strain to which it is subjected. B represents a vertical shaft, to which a sweep, B^1, is applied, by which manual or other power is applied for operating the press. On the upper end of the shaft B is a crown-wheel, B^2, the teeth of which engage with a trundle-wheel, C, on a crank-shaft, D, and rotate this shaft. There are two cranks, *a a'*, and a tappet, *j*, on the crank-shaft D. The cranks are connected by rods *b g* to plungers *b' g'*, and give these plungers vertical movements through their horizontal guides *c c'*. Beneath the plungers *b' g'* is a horizontal mold-table, G, through which are a number of vertical brick-molds, *w*, arranged equidistant from each other, and from the center of the table G. The upper edges of these molds or cells *w* are beveled outward for a purpose hereinafter explained. The table G is secured to a vertical shaft, E, which is stepped below upon the foundation of the press, and guided above by a horizontal beam, H, shown in Fig. 1. On the upper end of the shaft E is a tappet-wheel, *e*, which has pins around it, corresponding in number to the number of mold-cells *m*; which pins are successively struck by the tappet *j* at each revolution of the crank-shaft D, thus moving the mold-cells beneath their plungers. Beneath the mold-table is a curved table, J, and a circular table, T. The curved table J underlies three of the mold-cells, and forms the bottoms for the mold-cell beneath the pressing-plunger *b'*, and also the two cells succeeding it on the right-hand side of the shaft E. The pressed bricks are thus prevented by said table J from dropping out of their cells until they are moved over and discharged upon the receiving-table T. The plunger *g'* is designed for discharging the bricks from their mold-cells upon the table T, from which latter the bricks are carried off to dry. The two plungers *b'* and *g'* rise and descend simultaneously. Consequently, when a brick is pressed on one side of the mold-table a pressed brick will be expelled on the opposite side of the table. The receiving-table T is applied to a vertical shaft, K, and receives intermittent rotary movements from the shaft E by means of pulleys *f f'* and a belt, *i*. This table moves the bricks from beneath the mold-table to a position from which they can be conveniently taken off by boys. During the pressing and discharging operations it is necessary to hold the table G stationary, for which purpose I employ a stop-roller, *s*, which is applied on the lower end of a vertical bar, R, as shown in Figs. 3 and 4. This bar is arranged so as to drop into the mold-cells as they are successively moved around and hold the table G while pressing and expelling the bricks. A spring-finger *v* is applied to the bar R, and a lifting-toe, *t*, is applied to the discharging-plunger, as shown in Fig. 3. When the plunger *g'* rises the toe *t* strikes the spring-finger *v* and lifts the bar

R free from the table G, and when the plunger descends the bar R is allowed to drop into a mold-cell and hold the table G.

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

1. The pressing-plunger b' and discharging-plunger g', in combination with the intermittently-rotating mold-table G, stationary table or bed J, and receiving-table T, all arranged and operating substantially as described.

2. The double cam-shaft D, tappet j, and tappet-wheel e, combined with the pressing and discharging plungers b' g' and mold-table G, substantially as described.

3. The stop-bar R, provided with an anti-friction-roller, s, and operated by means of the toe t on the plunger g', and the spring-finger v on the said bar R, substantially as described.

JOHN DANIEL BUSH.

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