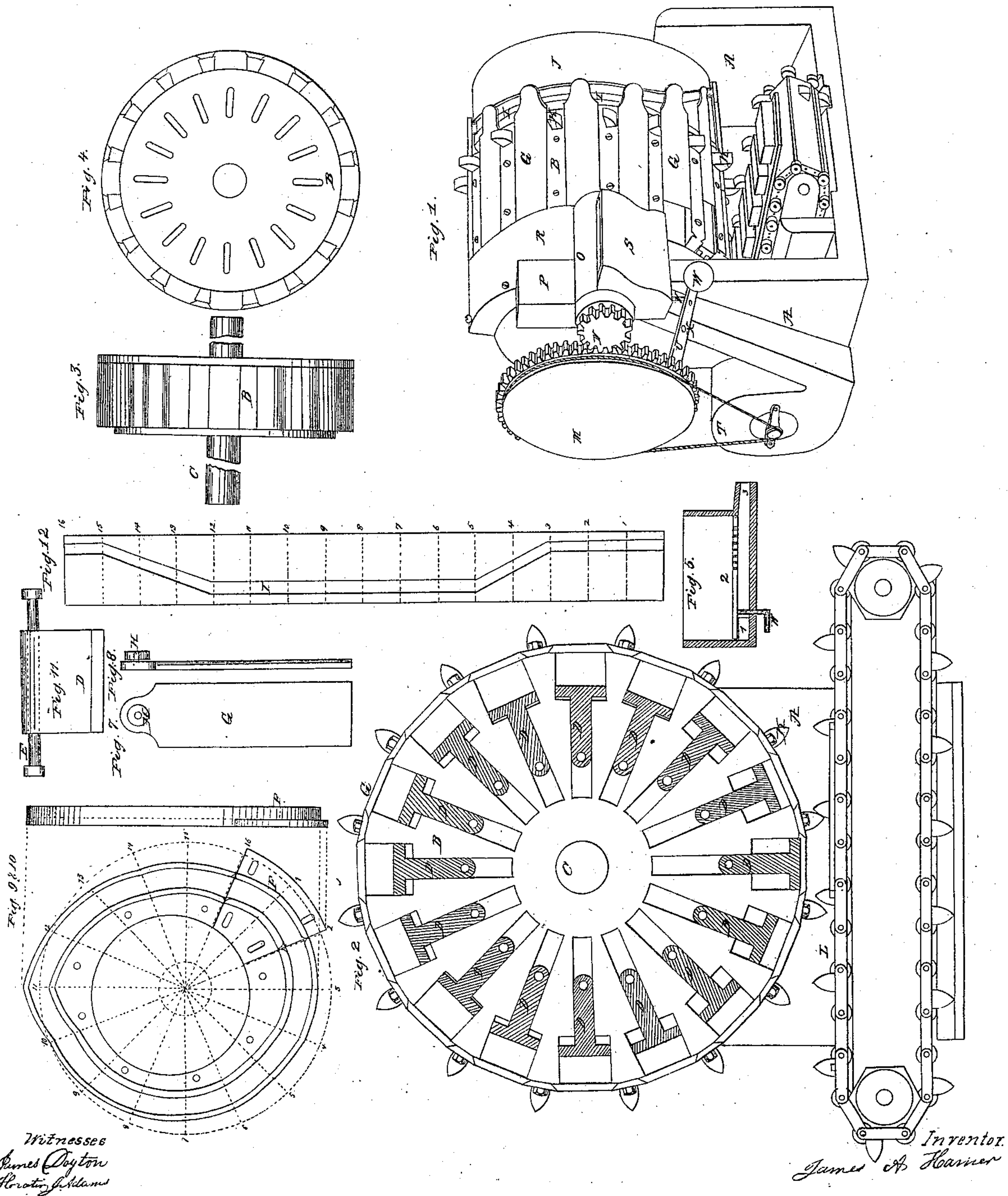


J. A. Hamer,
Brick Machine.

N^o 15,293.

Patented July 8, 1856.



Witnesses
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JAMES A. HAMER, OF READING, PENNSYLVANIA.

BRICK-MACHINE.

Specification of Letters Patent No. 15,293, dated July 8, 1856.

To all whom it may concern:

Be it known that I, JAMES A. HAMER, of the city of Reading, in the county of Berks and State of Pennsylvania, have invented
5 a new and Improved Machine for Making Brick; and I do hereby declare that the following is a full, clear, and exact description of the same, its operation and construction, reference being had to the accompanying
10 drawings, making part of this specification, in which—

Figure 1 is a perspective view; Fig. 2, a longitudinal section; Figs. 3 and 4, a side and end view of the mold wheel; Fig. 5, a
15 sectional view of the sand box and shaker; Figs. 7 and 8, a view of one of the slide gates; Figs. 9 and 10, a view of the stationary guide plates for working the plungers; Fig. 11, a view of a plunger. Fig. 12 shows
20 the guide groove at the end of the mold wheel used for operating the gates.

A is the frame.

B is the mold wheel on the shaft C. This wheel is shown in section at Fig. 2, in which
25 D are the plungers working in the molds on the wheel D and operated so as to move to the required points, as shown at Fig. 9, by means of a shaft E passing through the end of the plunger. Said shaft carries on its
30 end small wheels which run in the groove of the guide plate, Figs. 9 and 10. This plate is stationary—that is, it does not revolve, but with the exception of the segment F is fastened immovable on the frame of the
35 machine, and the mold wheel in its revolution causes the plungers to travel backward and forward in the molds by means of the aforementioned shaft and wheels E, Fig. 11. It will be observed that a segment of
40 the guide plate Figs. 9 and 10, marked F, is so arranged that it can be set up at the pressing point in order that the brick may be gaged to any thickness. Let it be understood that the greatest variation this movable
45 segment will be subject to will be but from one-half to one eighth of an inch. Should greater variation be required it is designed using other segments with greater or less curvature as the case may need. In
50 order to accommodate any displacement that may arise in the groove from shifting the segment, the corners of the segment as well as of the groove are rounded off as shown at these points, Figs. 9 and 10, thus
55 allowing the small wheels a free passage

through the groove of the plate no matter whether the segment F is set in or out one fourth of an inch.

G is the slide gate. On the end of this gate there is a small roller H, which roller
60 works in the groove I, Fig. 12, and so operates that the gate is closed at the filling and pressing points and fully open at the discharge points.

Fig. 12 shows a plane of the circumference of the guide groove marked J in Fig.
1. The gates G move in V guides as shown at G, Fig. 2.

K are tappets on the mold wheel for moving the endless chain, L for carrying off the
70 finished brick.

M is a large gear wheel on the end of the mold shaft C. This gear drives a screw in the shell O by means of the small gear N.

P is the hopper into which the clay is
75 thrown.

R is a scraper fixed stationary on the frame and running part of the way around the machine to the commencing of the discharge point (see Fig. 9).
80

S is a sand box shown in section at Fig. 5, in which 1 is the blast hole; 2, a shaker or sieve board; 3, the discharge opening for passing the blast of fine sand into the molds previous to their coming to the filling point.
85

T is the fan.

U is an arm hung on the point X. To one end of this arm is attached the weight ball V and the shaker rod W. The other end of the rod is operated by means of
90 spikes or projections fastened on the inside face of the large gear M. This in its revolution gives the shaker a series of taps.

Let it be understood that in the above description the letters of reference of the different figures all correspond.
95

The operation of my machine is as follows. The mold wheel is set in motion and clay thrown into the hopper P. The screw receives this clay and fills the molds as they
100 revolve. At the same time the dust box S is filled with fine sand and the fan set in motion, when each mold will be dusted previous to its being filled with clay. This dusting has a tendency and does prevent the
105 brick from adhering to the mold. As the wheel revolves (see Fig. 9) the brick are first pressed, then the plunger backs a short distance in order to free from the brick, after which the plunger again comes for-
110

- ward and gradually forces the brick from the mold onto the endless chain or belt. During this process the gates G are operated in such a manner that they are closed when the mold is filling, and open as soon as the brick begins to discharge. The scraper R closes the end of the mold at the pressing point. During the remainder of the revolution the end is open.
- In brick machines one great defect heretofore has been that the clay so adheres to the mold that the brick is always defaced in its discharge from the machine. In my machine the mold is dusted before being filled with clay which prevents this adhesion, and causes the brick to leave the machine perfect. When the plunger of my machine withdraws for the purpose of freeing itself from the brick preparatory to its discharge, it meets with no resistance (as some other machines do) from the air as the end of the mold is open, thus giving no opportunity for a vacuum being formed between the brick and plunger.
- Having thus fully described the nature of my invention I wish it to be distinctly understood, that I do not claim the mold wheel, or the manner in which the plungers are

operated viz. by means of the stationary guide-plate Figs. 9 and 10, but 30

What I do claim as my invention and desire to secure by Letters Patent is—

1. The adjustable segment F of the guide-plate Figs. 9 and 10 in combination with the plungers D arranged as described and set forth. 35

2. I also claim dusting the molds of the mold-wheel with fine dry sand preparatory to their being filled with clay, by means of the arrangement and combination of the blower or fan T the sand box S the shaker-board 2 (Fig. 5) the arm U weight-ball V and shaker-rod W operated in the manner as fully herein described and specified. 40

3. I also claim the sliding gate G, Figs. 7 and 8 so constructed and operated by means of a small roller H running in the guide-plate I, that the mold is filled at the end by means of the screw in the shell O while the wheel is in operation, said gate being closed while the mold is filling and open during the discharge of the brick. 45 50

JAMES A. HAMER.

Witnesses present:

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