T. McNICHOLAS.

BRICK-MACHINE.

No. 190,505. Patented May 8, 1877.

Fig. 2.

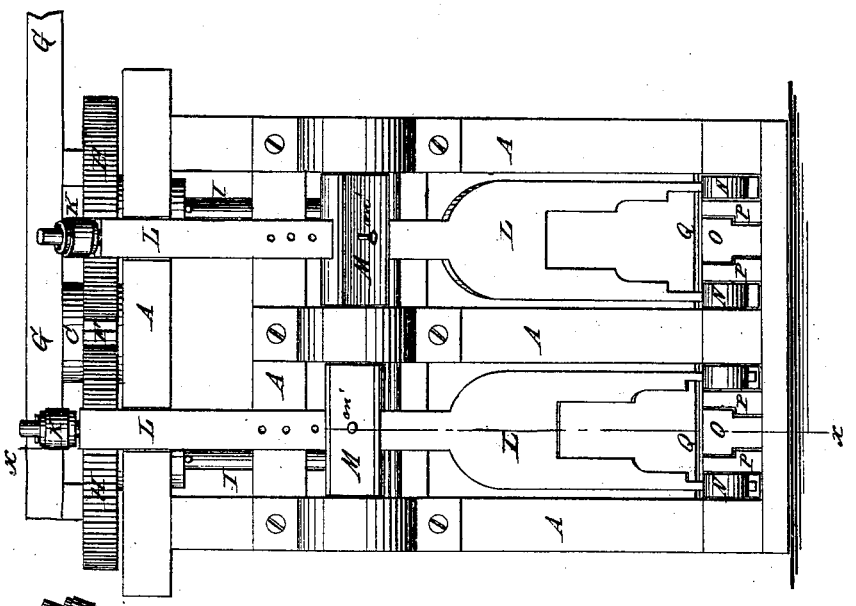
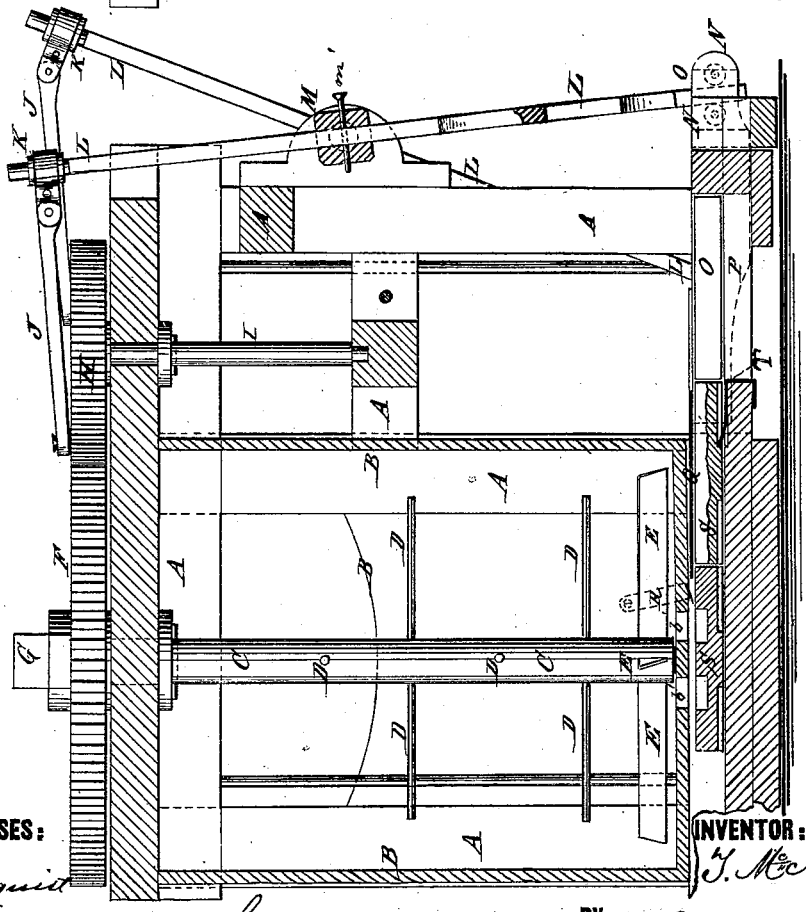


Fig. 1.



WITNESSES:

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UNITED STATES PATENT OFFICE.

THOMAS McNICHOLAS, OF MEMPHIS, MISSOURI, ASSIGNOR TO HIMSELF AND THOMPSON WALKER, OF SAME PLACE.

IMPROVEMENT IN BRICK-MACHINES.

Specification forming part of Letters Patent No. **190,505**, dated May 8, 1877; application filed February 26, 1877.

To all whom it may concern:

Be it known that I, THOMAS McNICHOLAS, of Memphis, in the county of Scotland and State of Missouri, have invented a new and useful Improvement in Brick-Machines, of which the following is a specification:

Figure 1 is a vertical longitudinal section of my improved machine, taken through the line *x x*, Fig. 2. Fig. 2 is an end view of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved machine for molding brick, which shall be simple in construction and effective in operation, molding the bricks rapidly and perfectly, and which shall be convenient in use.

The invention will first be described in connection with the drawing, and then pointed out in the claims.

A is the frame of the machine, in one end of which is formed the mud-box B. The mud-box B has an opening formed in the upper part of one or more of its sides, through which the clay is thrown in. In bearings in the top and bottom of the mud-box B revolves a vertical shaft, C, to which are attached a number of radial arms, D. To the lower part of the shaft C, close to the bottom of the mud-box B, are attached radial scrapers E, by which the mud is forced down, through the holes *b'* in the bottom of the mud-box B, into molds. The holes *b'* are cast in iron frames which are secured in the bottom of the mud-box B. The holes *b'* are made about half an inch smaller than the molds, so that the clay may pass down into the center of the molds, and may be passed out to its sides and ends, so as to leave the sand upon the sides of the mold undisturbed, and cause the molds to shed the bricks as readily as when filled by hand.

Stationary arms may be attached to the sides of the mud-box B to assist in working the clay more thoroughly. To the upper end of the shaft C is attached the main drive-wheel F, to which is attached the sweep G. The teeth of the wheel F mesh into the teeth of two wheels H, which are made exactly half the size of the main wheel F, and are attached to the upper ends of short shafts I, revolving in bearings in the frame A.

To crank-pins attached to the gear-wheels H are pivoted the ends of the connecting-rods J, to the other ends of which are hinged sockets K, to fit upon tenons formed upon the upper ends of the levers L. The levers L pass through mortises in short rock-shafts M, which work in bearings attached to the frame A. The levers L are secured in place in the rock-shafts M by pins *m'*, as shown in Figs. 1 and 2. Several holes are formed in the levers L to receive the pins *m'*, so that the said levers may be adjusted to have a longer or shorter stroke, as may be required. The lower parts of the levers L are forked, and their ends are inserted between pairs of friction-rollers N, which are pivoted to the rear ends of the side bars of the pushers O, the central bars of which slide upon shoulders formed in the inner sides of the pairs of parallel bars P, attached to the base-bars of the frame A, and which form ways or channels for the molds to slide upon. To the forward part of the pushers O are attached plates Q, which cover the molds until they have been pushed forward beneath the discharge-holes of the mud-box B, so that the said molds may receive the clay continuously until they are filled, to prevent the formation of seams in the bricks.

R is a scraper, attached to the bottom of the mud-box B, to scrape off any clay that may adhere to the plates Q as they are drawn back.

S are the molds, which are similar to hand-molds, except that they have notches or grooves formed in their bottoms to receive the springs T, attached to the bottoms of the channels in which said molds slide, to hold them in place exactly beneath the discharge-holes in the bottom of the mud-box B, and prevent them from being drawn back by the withdrawal of the pushers O.

The drive-wheel F, being exactly twice the size of the wheels H, causes the pushers O to bring the molds S beneath the discharge-holes *b'* of the mud-box B, when the scrapers E are in proper position to force out the clay, so that there may be no loss of time, and so that there may be no break in the passage of

clay into said molds to form imperfect or seamed brick.

The machine is adjusted by throwing the wheels H out of gear, turning the wheels F until the scrapers E and pushers O are in proper relative position, and then throwing the wheels H again into gear. The machine may be placed upon a track or rollers and moved around the yard from one soak-pit to another to avoid carrying the clay. The filled molds are received, as they are pushed out by the advance of the empty molds, by the off-bearers.

The machine is represented as being made double; but one side can be used alone, if desired.

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

1. The combination of the shaft C, provided with the arms and scrapers D E, the gear-wheels F H, the connecting-rods and sockets J K, the levers and rock-shafts L M, and the pushers O, with the mud-box B, the frame A, and the way-bars P, substantially as herein shown and described.

2. The combination, with brick-machine mold-covers, of the stationary scraper R, arranged to keep the top of mold-covers clean, and prevent adhering clay from being pushed over into the molds.

3. The combination of the rollers N with the pushers O and the levers L, substantially as herein shown and described.

THOMAS McNICHOLAS.

Witnesses:

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