J. T. Smith,

Brick Machine,

No. 46,399, Patented Feb. 14, 1865.

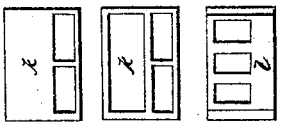

Fig. 4. Fig. 5. Fig. 6.

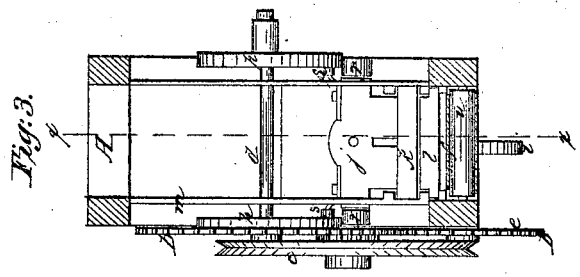

Fig. 3.

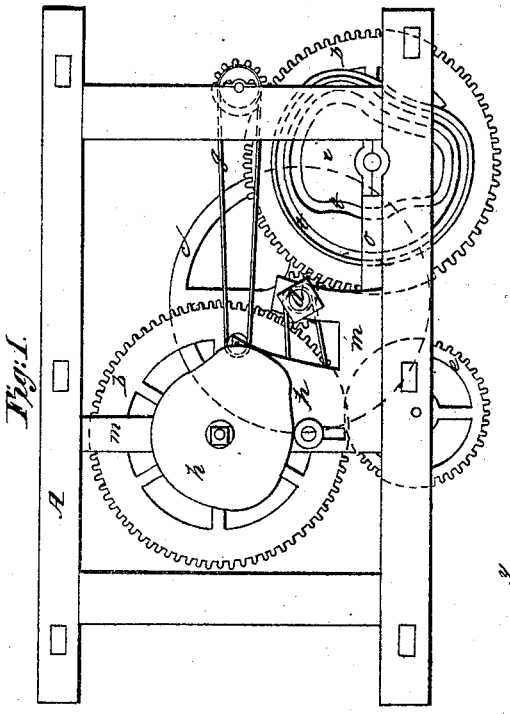

Fig. 1.

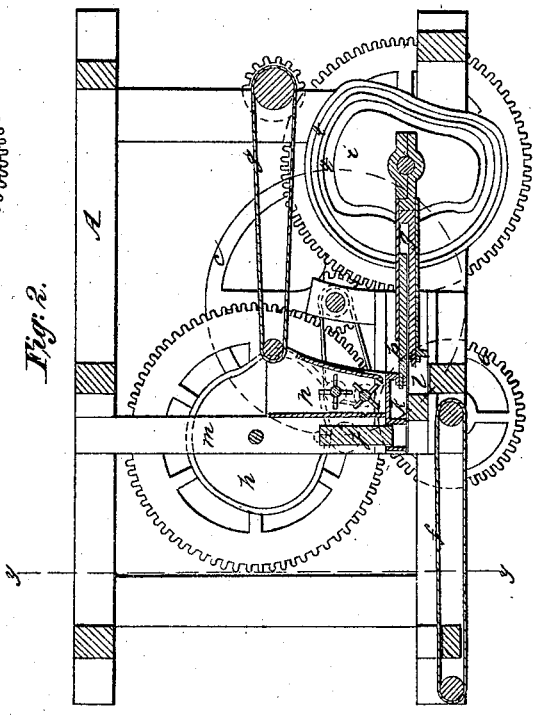

Fig. 2.

Witnesses.

Edwd J. Underwood

G. H. Smith

Inventor:

Josiah T. Smith

UNITED STATES PATENT OFFICE.

JOSIAH T. SMITH, OF SPRINGFIELD, ILLINOIS.

IMPROVED BRICK-MACHINE.

Specification forming part of Letters Patent No. **46,399**, dated February 14, 1865.

To all whom it may concern:

Be it known that I, JOSIAH T. SMITH, of Springfield, in the county of Sangamon and State of Illinois, have invented a new and useful Machine for Manufacturing Brick; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and letters of reference marked thereon.

The object of my invention is the production of good, smooth, and durable brick; and it consists in the arrangement of mechanisms as hereinafter described.

To enable others skilled in like arts to make and use my invention, I will proceed to describe its construction and operation, reference being had to the drawings, they constituting a part of this specification.

Figure 1 is a side view. Fig. 2 is a vertical section through the line *x x*, Fig. 3. Fig. 3 is a transverse section through the line *y y*, Fig. 2. Fig. 4 is a face of mold plate. Fig. 5 is lower side of mold-plate. Fig. 6 is sliding bottom of mold-plate.

Letter A represents the wood frame.

Letter B represents two power-wheels.

Letter C represents the driving-band wheels.

Letter D represents the driving-shaft.

Letter E represents the wheel for driving brick-belt.

Letter F represents the belt for carrying off brick.

Letter G represents the belt for carrying clay into the grinder.

Letters H H represent cam-wheels for acactuating press-beam and plungers.

Letter I represents the face of cam for operating the molds and bottom.

Letter J represents the press-beam and plungers.

Letters K K K represent the mold and mold-plate.

Letters L L represent the sliding bottom of molds.

Letters M M M represent the iron frame for supporting press attachments.

Letter N represents the pulverizing-box and pulverizers.

Letter O represents the guide for the slides, operating-molds, and bottom of molds.

Letter Q represents the slide for bottom of molds.

Letter P represents the slide for molds.

Letter R represents friction-rollers for press-beam.

Letters S S represent the small friction-rollers for raising press-beam and plungers.

Letter T represents the grooves in the cam-wheel I for operating P and Q.

Letter U represents the pulley for driving brick-belt.

The frame-work A is of wood and substantially constructed.

The uprights M M are of cast-iron, firmly bolted to the sills and plates of frame-work.

The cam-wheels H H are firmly bolted to the power-wheels B, all on the same shaft, and constructed with the necessary elevations and depressions on their surface to force down the press-beam and plungers in the manner desired. From the inner surface of said cams projects a flange corresponding with the elevations and depressions of the circumference on which runs the small friction-rollers S S, attached to the press-beam J, for the purpose of raising the press-beam and plungers.

The cam I, for operating the molds and bottom, is constructed with two grooves on each side, in which friction-rollers run, attached to the sides P and Q to operate the molds and bottom, the outer groove moving the molds and the inner moving the bottom.

The pulverizing-box N is within or between the uprights M M. Within the pulverizing-box are three shafts, set with iron spikes. These shafts are revolved by means of two endless chains driven by the shaft D.

The quantity of clay for the molds is regulated by means of a grate in the box N, immediately in front of the pulverizers, and can be raised or lowered as required.

Operation: The clay, being introduced into the pulverizing-box N, passes through the pulverizers and falls into the molds. The cam-wheel I now moves the molds back to their position under the press-beam and plungers. The pressing-cams, operating on the large friction-rollers, force the plungers down on the clay, firmly pressing it in the molds. The grooved cam I now withdraws the bottom of the molds, and the plungers force the brick down through the molds, leaving the face of the plungers on a plane with the bottom of the molds. Now, the grooved cam returns the bottom across the face of the plungers, thus removing the brick and cleansing the plungers

of any particles of clay which might adhere to them. Now, the flange on the cam-wheels H H, operating on the small friction-rollers, raise the press-beam and plungers. Now, the grooved cam withdraws the molds and bottom under the box N, where they receive another charge of clay.

I do not claim the pulverizers, molds, or plungers as my invention; neither do I claim the cam motion as novel; but

I do claim—

1. The combined arrangement of them, for the purposes as substantially set forth.

2. Discharging the brick from molds downward, being the direction in which they are pressed, thus avoiding derangement in the particles of clay, leaving the brick as smooth and perfect as when pressed.

3. The movement of the bottom across the face of the plungers, removing the brick, and perfectly cleansing the face of the plungers of any particles of clay which might adhere to them.

JOSIAH T. SMITH.

Witnesses:
JAMES STEELE,
HENRY E. RIVES.