2 Sheets--Sheet 1.

Z. LUDINGTON.

Improvement in Brick-Machines.

No. 128,738. Patented July 9, 1872.

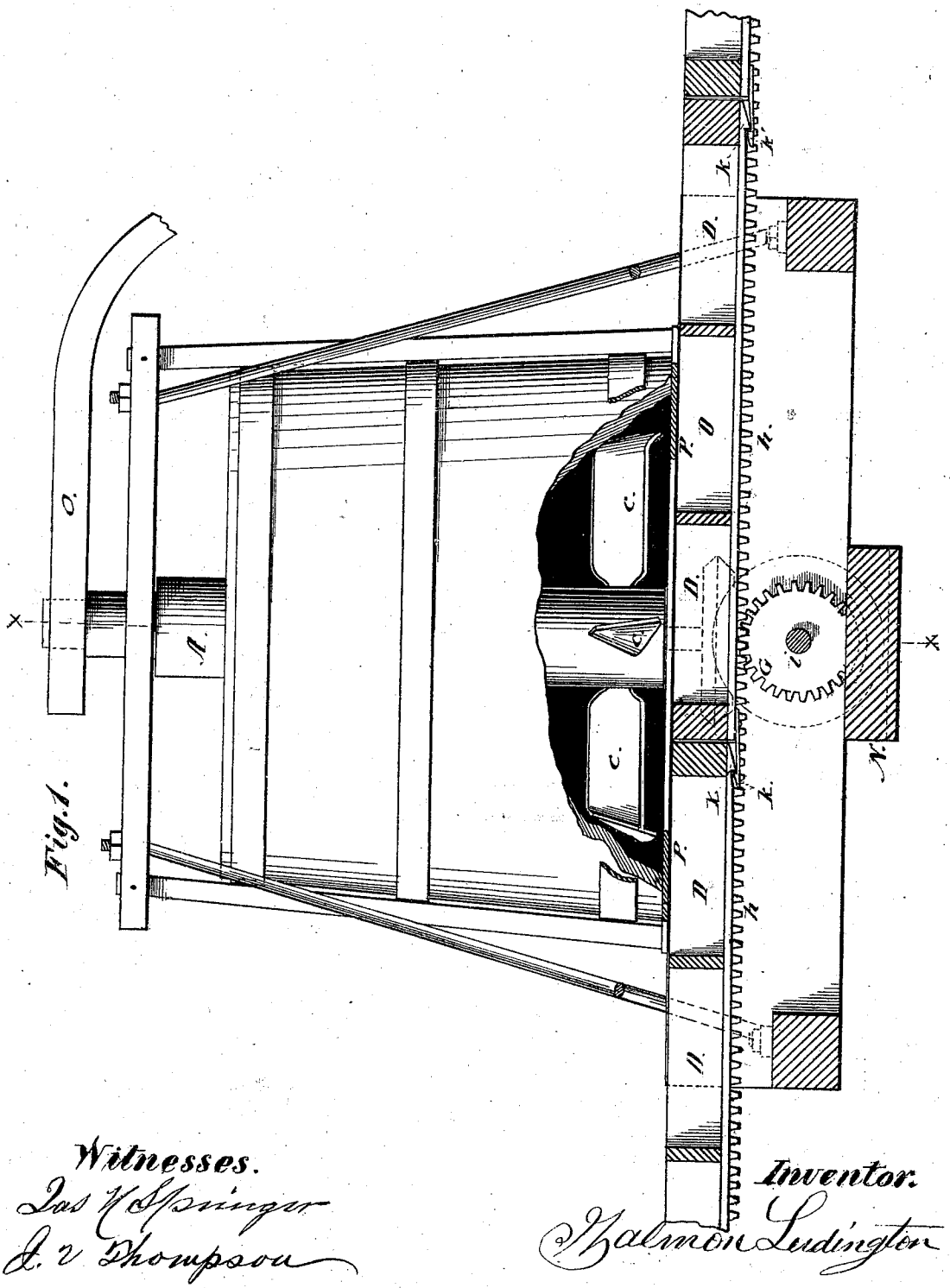

Fig. 1.

Witnesses.
Jas. V. Springer
L. V. Thompson

Inventor.
Walmon Ludington

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

2 Sheets--Sheet 2.

Z. LUDINGTON.

Improvement in Brick-Machines.

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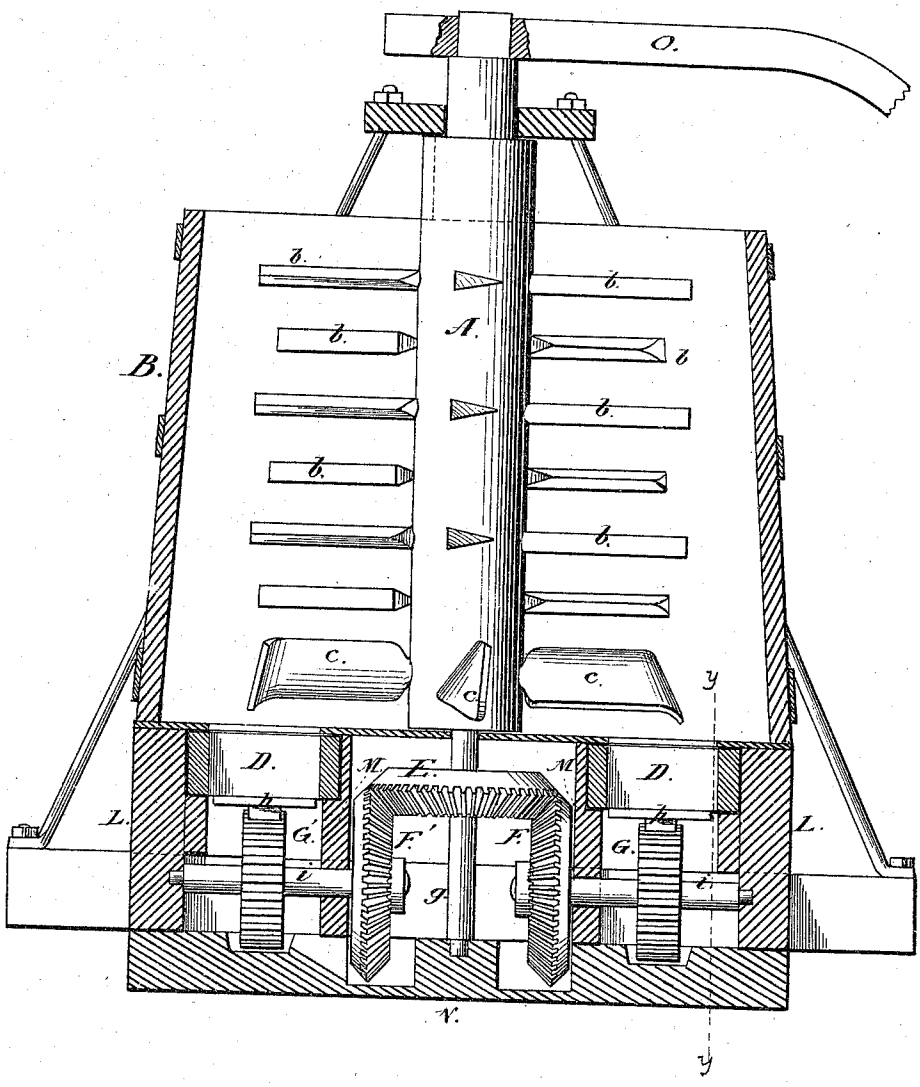
Fig. 2.



Witnesses.

Chas. N. Springer

D. Thompson

Inventor.

Zalmon Ludington

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

UNITED STATES PATENT OFFICE.

ZALMON LUDINGTON, OF UNIONTOWN, PENNSYLVANIA.

IMPROVEMENT IN BRICK-MACHINES.

Specification forming part of Letters Patent No. 128,738, dated July 9, 1872.

SPECIFICATION.

Specification describing certain Improvements in Brick-Machines, invented by ZALMON LUDINGTON, of Uniontown, Fayette county, in the State of Pennsylvania.

Nature and Objects of the Invention.

My invention relates to an improvement in the manufacture of brick for building purposes.

In a drum or box, to be used as a receptacle for the clay, I fix a vertical shaft having arms radiating from it. These arms perform the work of manipulating the clay to be formed into molds located at the bottom of said drum or box. The molds are made in sets of three or more each. and have their bottoms formed into racks, which are engaged by spur-wheels rotating about their respective shafts fixed in horizontal bearings on either side of the machine immediately under the openings to be occupied by the molds. At the ends of the shafts to which the spur-wheels are secured are beveled wheels, which are engaged and driven by a pinion secured to an iron shaft extending from the main shaft which carries the arms moving within the drum or box. The shaft having the beveled pinion attached finds its bearing in a beam which rests on or is buried in the ground to form the principal sill of the structure. In this sill or beam are cut notches which receive the beveled wheels, and also the spur-wheels which engage the racks attached to the bottoms of the brick molds. Two beams at right angles to the main beam have extending from them, toward a top horizontal beam, rods, which serve the purpose of braces to steady the structure. The molds have their sides formed of wood incased in sheet metal, the purpose of said casing being to prevent rapid wear of the molds as they are thrown in and out by the operation of the machine. The bottoms of the molds are formed of iron or other metal, and, as before stated, have teeth which form racks to be engaged by their respective spur-wheels. I attach and detach the sets of molds to form a continuous series as the sets are moved in and out by the action of the machine. The plates on the bottoms of the molds are extended at one end beyond said molds and terminate in a barb-shaped hook which fits into a hook or catch similar in shape at the opposite end of the next set. These barbed hooks or catches are formed on each set of molds, and are attached successively on either side of the machine while the mill is in operation, so as to form an endless chain of molds. The molds, when filled, are smoothed off by scrapers fixed in the bottom of the drum, on either side of the mill, at right angles to the course of the molds, and are detached as they pass out, and are carried off to be dropped on the floor of the yard and returned to the other side to be attached previous to entering again for a new supply of clay. When a set of molds is attached to a set preceding it finds a rest and bearing in a rabbet, on either side of its space, which supports it, while it is caught and drawn forward by the spur-wheel which engages the racks under the molds. The clay, after being thoroughly ground, is pressed down into the molds by the shear-shaped sweeps fixed in the bottom of the main shaft of the mill.

Description of Accompanying Drawing.

Figure 1 is a side elevation of mill with molding device cut away on line *y y* of Fig. 2. Fig. 2 is a transverse section of the machine.

Similar letters of reference refer to corresponding parts in all of the figures.

B is the drum or box into which the clay is to be thrown and ground. A is the main shaft in which are fixed the arms *b b b*, radiating from its axis, which are intended to manipulate the clay previous to its entrance into the molds. *c c c* are the shear-shaped sweeps which revolve with the main shaft and press the tempered clay into the molds. D D D are the brick-molds, arranged in triplets, forming sets to be hooked together by means of the barbed shaped hooks or catches *k k'*. *h h* are the racks formed on the bottom of the molds, which are engaged by the spur-wheels G G'. *i i* are the axles of the wheels G G' having their bearings in the timbers L M. These timbers also form rabbet bearings for the molds as they are passed or driven through the machine by the spur-wheels G G'. *g* is an iron shaft extending from the main shaft and bearing in the beam N. The bevel-pinion E revolving about this shaft drives the bevel-wheels F F' on the ends of the shafts *i* and

causes the spur-wheels G G′ to engage the racks *h h* and drive the sets of molds in and out of the machine in opposite directions. O is the lever-arm attached to the main shaft A, to the end of which the power is applied to operate the machine. P P are the metal plates in the bottom of the drum which cut the clay from the molds as they are passing out of the machine.

Claims.

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

1. The molds D D D arranged in sets, in combination with the toothed racks formed upon their bottoms, and the spur-wheels G G′, as and for the purposes set forth.

2. The combination and arrangement of blades *b b*, sweeps C C, perforated bottom, molds D D, provided with their racks *h h*, and end attachments and beveled spur-gearing, all as and for the purpose shown and described.

ZALMON LUDINGTON.

Attest:
JAS. H. SPRINGER,
I. V. THOMPSON.