J. Christen,

Tile Machine,

No. 106,550. Patented Aug. 23. 1870.

Fig. 1.

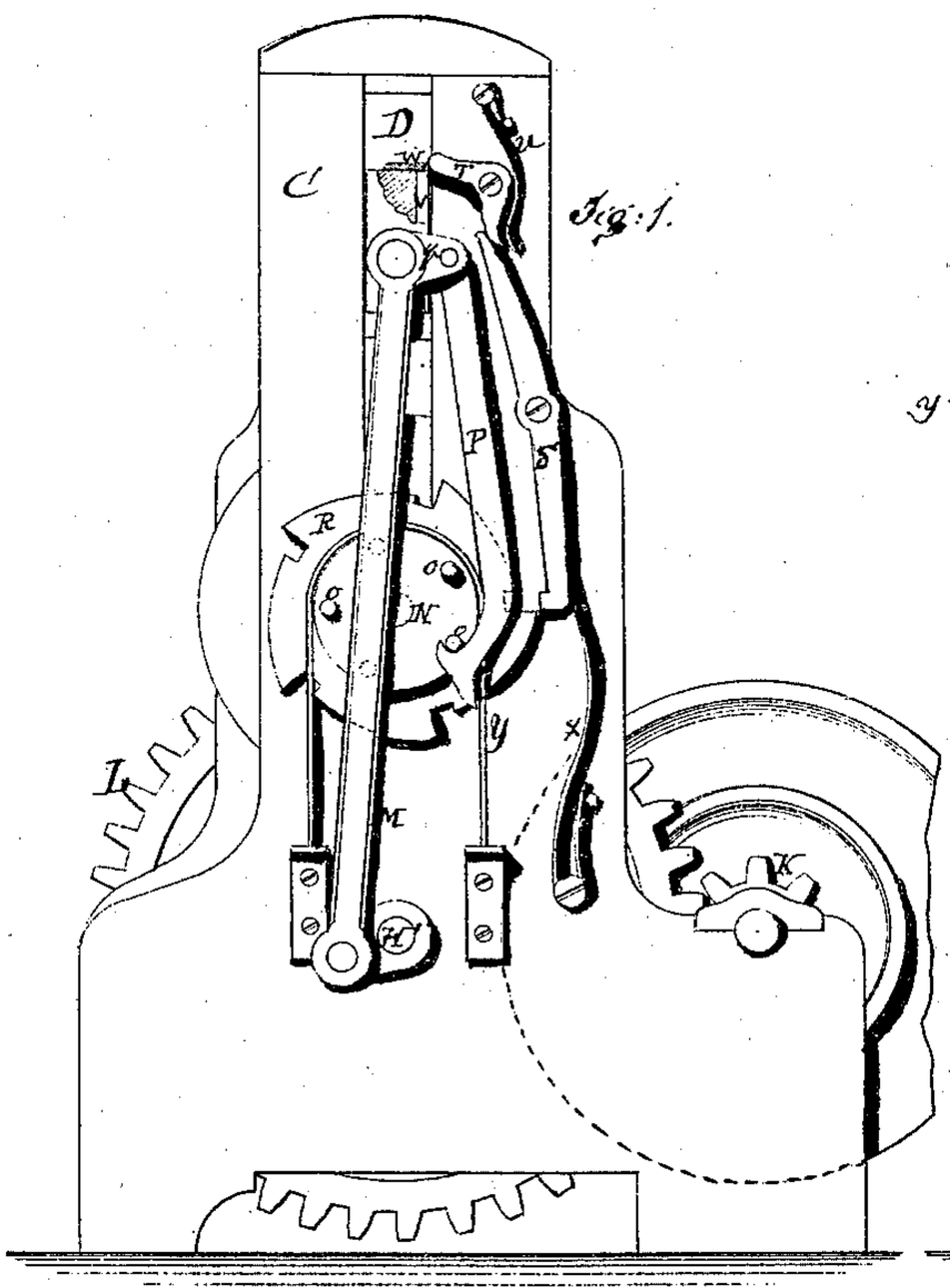


Fig. 2.

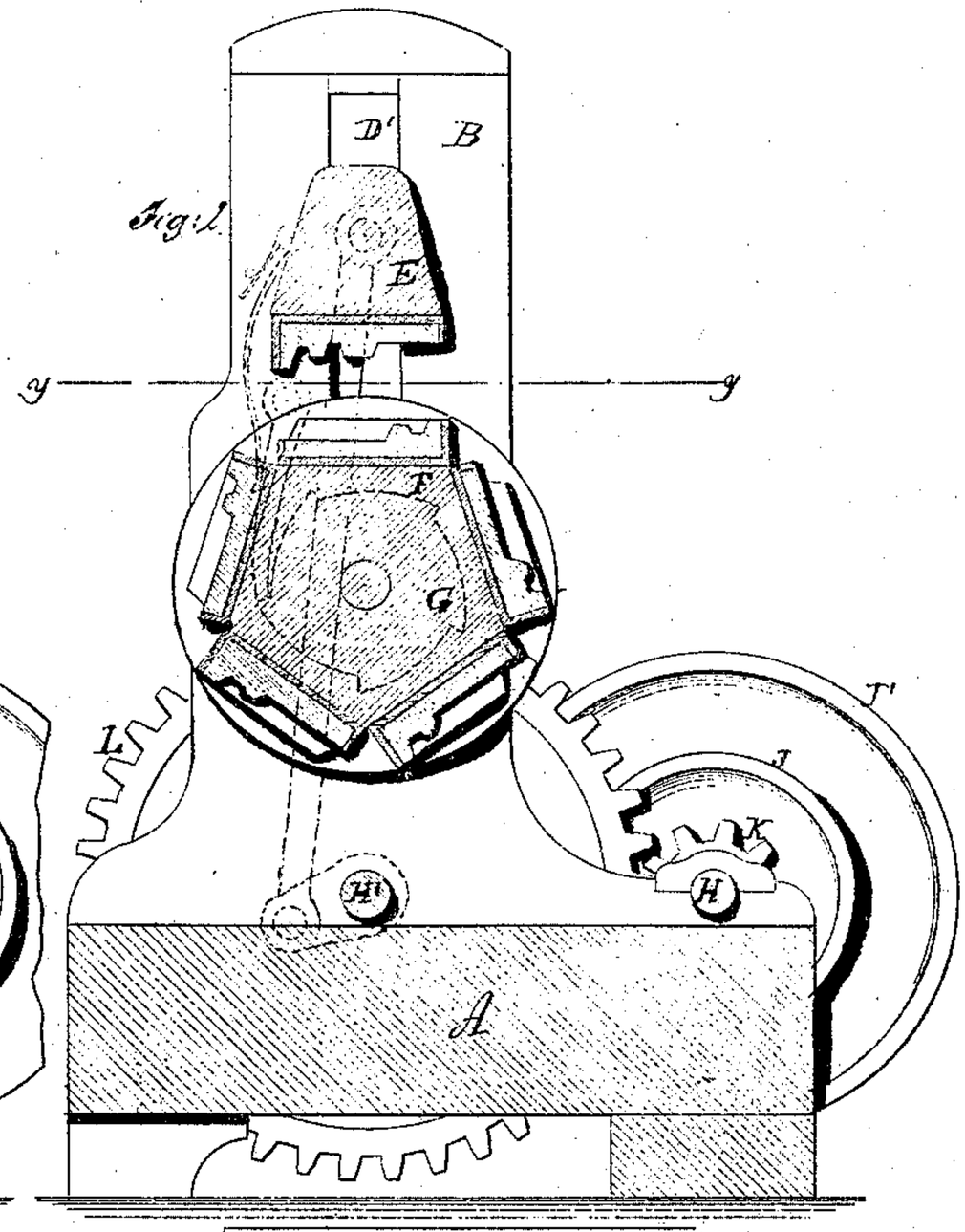
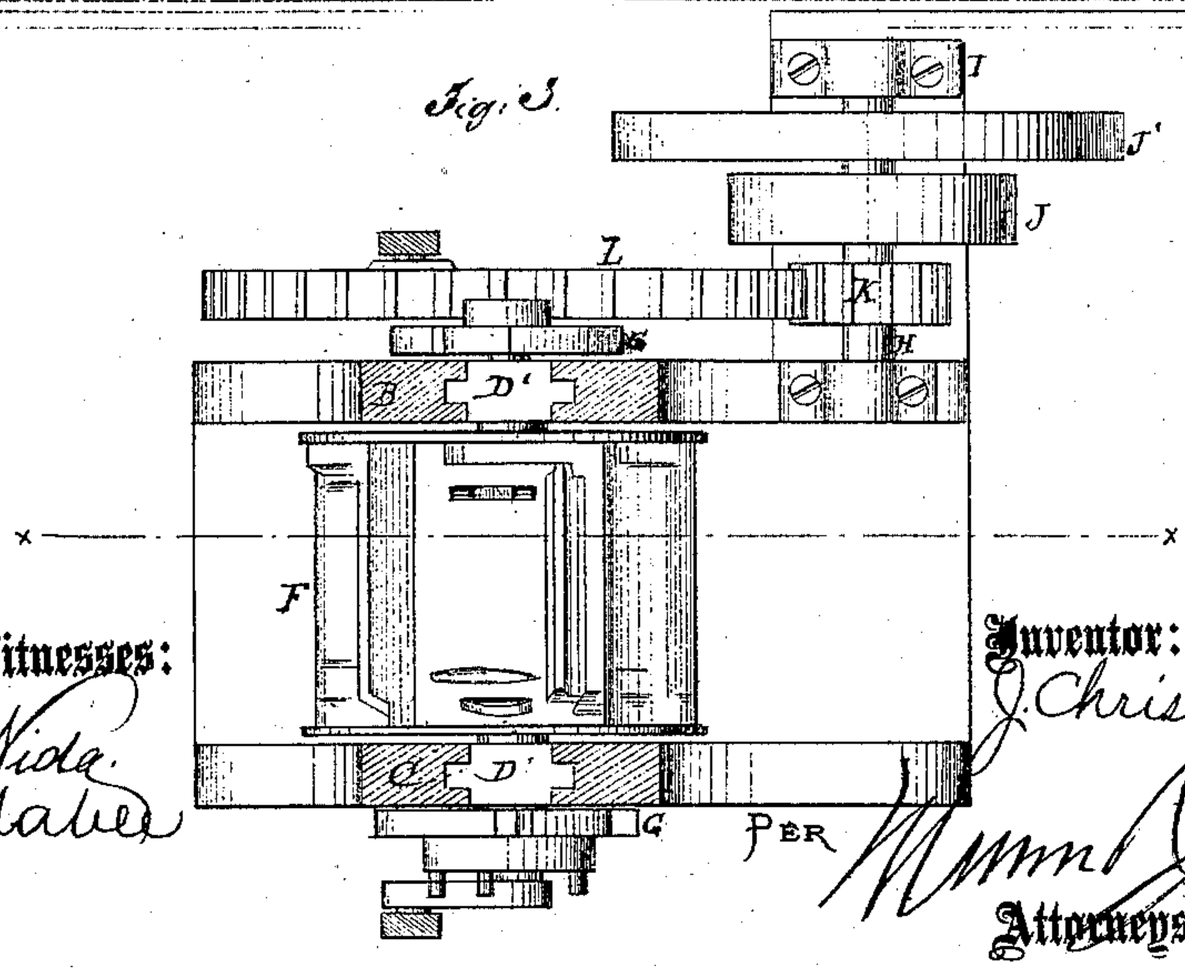


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEPH CHRISTEN, OF NEW ORLEANS, LOUISIANA.

IMPROVED TILE-MACHINE.

Specification forming part of Letters Patent No. **106,550,** dated August 23, 1870.

To all whom it may concern:

Be it known that I, JOSEPH CHRISTEN, of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and Improved Machine for Making Tile, and also molds for the same; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to a new and useful improvement in a machine for forming tile for roofs and floors, and for ornamental work for buildings and other purposes, from clay, cement, or plaster-of-paris, or from a combination of either two or all of them; and it consists in the construction and arrangement hereinafter described.

In the accompanying drawing, Figure 1 represents a side elevation of the machine. Fig. 2 is a vertical section of Fig. 3 on the line *x x*. Fig. 3 is a horizontal section of Fig. 2 on the line *y y*.

Similar letters of reference indicate corresponding parts.

A is the base or bed of the machine, from which rise two uprights, B and C. D D′ represent slots in the upright sides, which allow the follower E to rise and fall by means of a crank-motion. F represents the molding-cylinder, which is revolved with an intermitting motion by means of a ratchet on one end of its shaft, and a pawl (seen in dotted lines) which is attached to the uprights B. G represents the ratchet-wheel, also seen in dotted lines. H is the driving-shaft, the outer end of which is supported by the stand I. J is a pulley on this shaft, from which the machine is driven by means of a belt. J′ is a fly-wheel. K is a driving-wheel on the shaft H. L is a gear-wheel on the shaft H′, which engages with the wheel K. From the shaft H′ and wheel L the motions are obtained for operating the molding-cylinder and the follower. A crank-motion is obtained from a unit-pin on the wheel L on one side of the machine, and from a crank on the end of the shaft H′ on the other side, which is communicated to the follower E by means of connecting-rods M, one of which is seen in dotted lines in Fig. 2. These rods connect with the follower by means of wrist-pins in the ends of the follower.

Connected with the molding-cylinder there is a disk-wheel, N, containing five projecting pins, O. The molding-cylinder F has five faces or sides, forming a pentagon.

P is a lifting-hook, which is connected with a short crank, *q*, on the wrist-pin of the follower, the hook end of which takes hold of the pins O and turns the molding-cylinder one-fifth of a revolution, and so that the sides stand alternately in a horizontal position and stationary for a period of time sufficiently long to receive the follower as it descends to make the impression. The shaft H′ revolves with a constant motion and causes the follower to ascend and descend.

The molds for forming the tile are placed on the sides of the cylinder and on the face of the follower, and the clay or cement for the tile is placed in sufficient quantity on the faces of the cylinder, so that when the follower descends the tile or other article is formed, according to the molds used. When one of the sides is brought by the lifting-hook to the proper position, the cylinder is held stationary by means of a ratchet, R, and the lever-pawl S.

T is a small bell-crank on the upright C, one arm of which is operated upon by the follower. The other arm is forced against the upper end of the lever-pawl S by the spring U with a constant pressure. V is a recess in the follower, and W is a lip, which alternately lowers and liberates the arm of the bell-crank, thus causing the lever-pawl, with the assistance of the spring X, to alternately engage with and hold stationary and to liberate the molding-cylinder.

The shaft of the molding-cylinder revolves on the bottoms of the slots D D′.

Y is a binder, which is made to fit around the disk-wheel N, and is fastened to the frame by screws, as seen in the drawing.

It will be seen that tile and other articles corresponding in form or configuration to the molds used may be rapidly made in this machine, five separate pieces being made at each revolution of the molding-cylinder. The follower is so operated that it descends five times for each revolution of the cylinder.

I do not confine myself to a pentagon or a

five-sided cylinder exclusively. A polygon of any suitable number of sides may be used with the same result. Molds of any description or style for the purposes intended are made from a pattern. The cement for such mold is placed on the cylinder and on the face of the follower, and the pattern (which may be made of wood, metal, or other suitable material) is embedded therein by bringing the follower down, as in forming the tile or other article. Each side of the cylinder is thus made to correspond with the follower and form one side or half of the mold.

When the mold thus made has become sufficiently hard for use the tile or other article is produced, as heretofore described.

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

1. In combination with a follower, E, and molding-cylinder F, the connecting-rod M, crank-shaft H′, lifting-hook P, and toothed disk N, substantially as described.

2. In combination with the elements of the above clause, the ratchet-wheel G and its pawl, the lever T, lever-pawl S, and ratchet-wheel R, substantially as specified.

The above specification of my invention signed by me.

JOS. CHRISTEN.

Witnesses:
BEN. JACOBS,
GEO. W. HOPKINS.