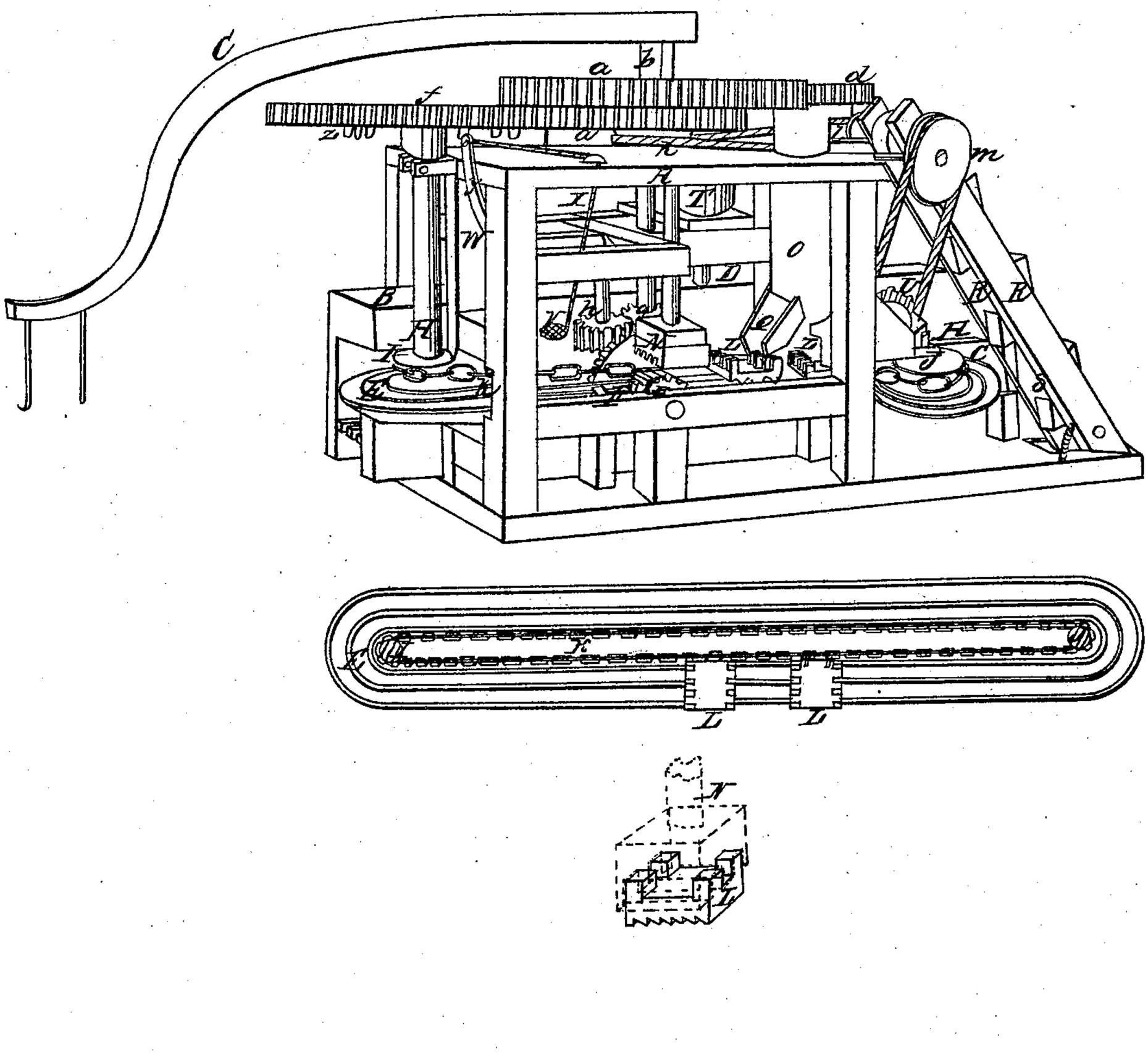
J. Hodges,

Brick Machine,

No. 220, Patented June 3, 1837.

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# UNITED STATES PATENT OFFICE.

JAMES HODGES, OF NEAR FAIR PLAY, SOUTH CAROLINA.

## MACHINE FOR MAKING AND DRYING BRICKS.

Specification of Letters Patent No. 220, dated June 3, 1837.

*To all whom it may concern:*

Be it known that I, JAMES HODGES, of near Fair Play, in the district of Anderson and State of South Carolina, have invented a new and useful Machine for Making Brick, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

This machine consists of a rectangular frame A of suitable length, breadth, heighth, and strength to contain and support the machinery hereafter described. On one side of this frame is constructed a furnace B about the length of the frame and half its heighth and breadth,—open at the front end and closed at the rear, having an opening C in the side near this end for the chain and molds (hereafter described) to pass through and a chimney D near the center passing through the cistern (hereafter described). Three parallel metallic ribs or ways E of an oval shape upon which the molds move, extend from a space F on the opposite side of the frame from that at which the furnace is placed around into the mouth of the furnace and through it and out of the opening C before described; then along between the furnace and side posts of the frame to the space F from whence it started, in which there is placed a notched wheel G for pressing the molds upward. Inside the oval ways at each end is placed a vertical shaft H on which is a channelled wheel I J around which an endless chain K passes, the one at the front marked I having spurs in its periphery for moving the chain and that at the rear being smooth. The endless chain moves over the inner oval way and is for the purpose of conveying the molds secured to it with the brick contained therein, through the furnace to be dried instead of drying in the usual manner. The molds L consist of a piece of metal cast with a space on the upper side the length and depth of the brick to be molded therein and of a breadth according to the number of brick to be molded in each and allowing spaces for corresponding projections of a stationary mold hereafter described—having teeth on the under surface against which the teeth of the wheel G come in contact for pressing it upward against the molder to mold the brick. The molds may be of any required number and fastened to the chain by links or other suitable fastenings. The stationary molder N consists of a casting having five projections or divisions for a three brick mold more or less according to the number of brick to be molded—the two side ones embrace the mold and form its outer side and the three intermediate projections or divisions enter the corresponding spaces or channels of the molds and form the sides to each mold. This molder is placed over the notched wheel. In the rear of the molder and over the ways is placed a mixing tub O for mixing the clay having in its center an upright shaft with cross knives for cutting up and mixing the clay and a spout Q in one side of the lower end for conducting the clay into the molds—a gate worked by a lever being placed at the opening of this spout to shut off and open the discharge for the clay as required. At the rear end of the frame are placed two parallel timbers R R at an angle of about 25 degs. with rollers between them turning on axles passing through these timbers and around which rollers passes an endless strap S with buckets on the same for elevating the dry clay and emptying the same into the mixing tub. A reservoir T for the water to mix the clay is placed on the top of the frame—the water being conducted to the mixing tub by a spout. Behind the mixing tub and over the ways is a revolving brush U for oiling the molds—said brush receiving the oil from a distributor or vessel placed over it. Near the front end of the frame and above the ways is a sand sieve V for sanding the bricks previous to passing them into the furnace. This sieve is fastened to the end of a spring bar W let into the frame. A cord X is attached to one side of the sieve passing over a pulley and attached to the end of a spring Y which is moved by cams or cogs Z on the under side of a cog wheel hereafter described coming in contact with the same.

The gearing by which the several movable parts of the machine are propelled consists of a large cog wheel *a* on the main shaft *b* turned by a lever or sweep *c* by animal or other power which cog wheel turns another cog wheel *d* on the mixing shaft for mixing the clay and for discharging it into the molds as these are brought under the spout by the chain. On the main shaft is another cog wheel *e* working into a cog wheel *f* on the shaft of the toothed wheel which moves the endless chain with the molds over the ways. The molds pass under the oil brush and are oiled; then

under the spout where they receive the clay; then under the molder where they are pressed upward by the toothed wheel and the bricks molded; then under the sieve and sanded; the cams under the last mentioned cog wheel coming in contact with the spring and shaking the sieve; then they pass slowly through the furnace where they are dried; then out at the opening near the rear end of the furnace and discharged by having the ways inclined at this place so as to incline the molds sufficiently to discharge the bricks. The empty molds then pass on and are oiled; filled; the bricks pressed; sanded; dried; and discharged as before and so on continually, the several parts of the operation being all performed at the same time in succession on the different molds. The toothed wheel for molding the bricks is turned by a small cog wheel *g* on the main shaft working into a cog wheel *h* which works into a face wheel *i* on the end of its axle. The elevators are moved by a pulley *k* on the main shaft around which passes a band leading to a pulley *l* on the axle of the upper roller. On the other end of this axle is another pulley *m* from which extends a band to a small pulley *n* on the end of the axle of the revolving brush, for turning the same.

What I claim as my invention, and which I desire to secure by Letters Patent consists in the following parts separately, and in combination with each other and with the other parts of the machine, as above described, viz:

1. The form of the molds and the method of drying the bricks by causing them to pass through a heated kiln on a revolving endless chain over ways instead of drying them in the usual manner.

2. Also the method of oiling the molds and sanding the bricks.

In testimony whereof I have hereunto subscribed my name before two witnesses on this 18th day of March A. D. 1837.

JAMES HODGES.

Witnesses:
WM. BISHOP,
WM. P. ELLIOT.