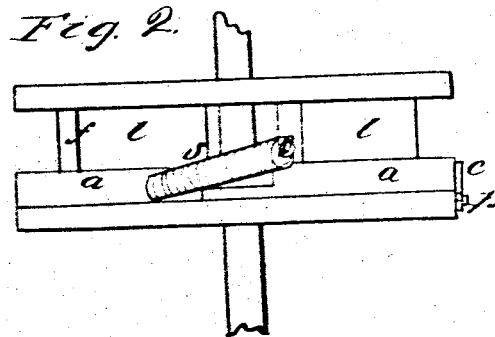
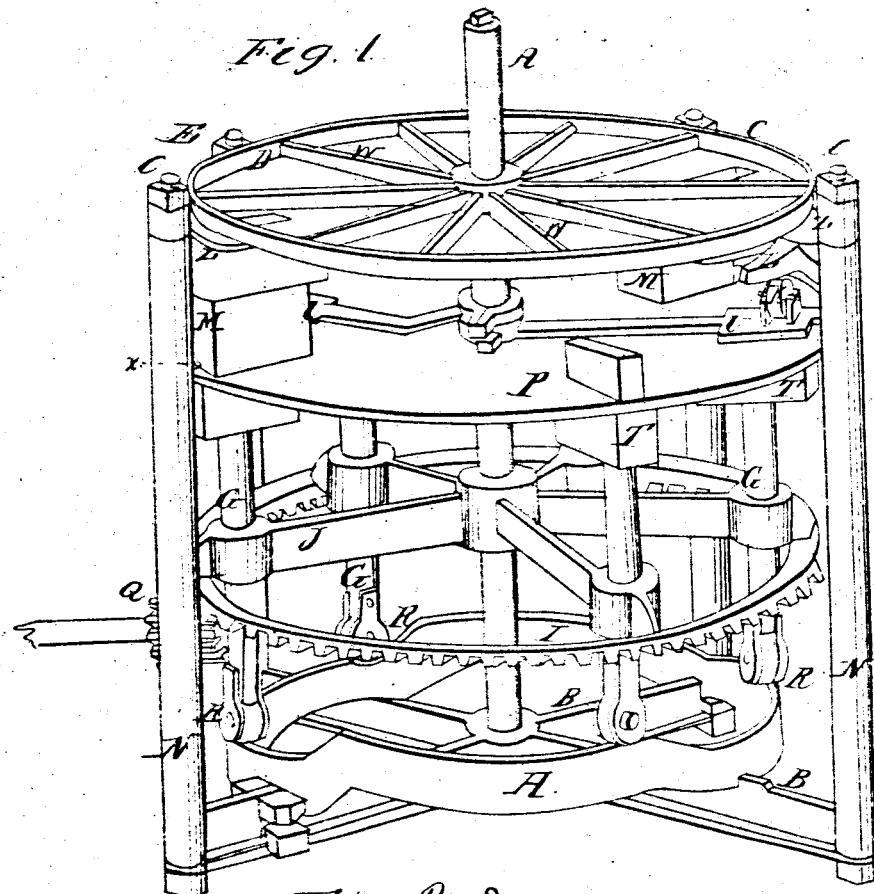


S. Costill,
Brick Machine,
No 1,769, Patented Sept. 4, 1840.



UNITED STATES PATENT OFFICE.

STACY COSTILL, OF PHILADELPHIA, PENNSYLVANIA.

MACHINE FOR MOLDING AND PRESSING BRICK.

Specification of Letters Patent No. 1,769, dated September 4, 1840.

To all whom it may concern:

Be it known that I, STACY COSTILL, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Machine for the Making and Pressing of Brick; and I do hereby declare that the following is a full and exact description thereof, reference being had to the annexed drawings of the same, making part of this specification.

The machine consists of an upright shaft A resting on two beams B placed at right angles forming a cross, and near its vertex there is another cross Z forming a bearing for the shaft. Upon the upper cross is placed a circular platform D with a rim C around its circumference of sufficient elevation to receive the clay which is to be conveyed through trunks pipes or boxes M open at the top communicating with apertures in the circular platform and fastened near to the extreme ends of the cross beams opposite each other. By continued action of a spider wheel W revolving with, or attached to, the shaft on the upper surface of the circular platform the clay is swept into the trunks, pipes, or boxes M and those being open below suffer the clay to pass through the trunks, boxes, or pipes, M into the molds T which consist of five or any other number. The molds are placed circularly and equidistant from each other, severally into apertures cut through the rotary circular plate P attached to the upright shaft. The boxes or molds T are secured firmly to the plate P for receiving the clay as it passes through the trunks M above and by their continual revolving motion with the plate suffers them to come in contact with the lower edges of the trunks and in passing cuts or strikes off the clay. It then passes around and is consolidated into bricks: which last operation is effected by pistons, pressers, or punchers G having friction rollers R attached to their lower ends. These traveling on the track of a cam way H causes the pistons or pressers to ascend and descend alternately. While the revolution of the plate and molds are performing; the upper ends of the pistons fill the molds and when required slide up and down to press the clay into the forms of bricks.

At a regulated distance beneath the circular plate is a large horizontal bevel cog wheel I, having the same number of arms J as there are molds whose office is to act as

a driver to the machine and guide the pistons or pressers in their operations around the shaft near the rim of the wheel each arm J has an opening through which the pistons slide vertically in their rising and falling operation to press the clay and afterward to force the bricks out of the molds to the upright surface of the plate P where they are removed by hand or otherwise.

A cap or plate V covers the mold as soon as it is filled and is kept down by a stationary cam L one end of which is secured to the side of the trunk and the other end to one of the posts of the frame against which the friction roller K attached to the upper side of the said plate V presses.

The cap V is relieved by a trigger or catch or other mechanical contrivance when required to meet the next following mold which catch or hook is attached to the end of the plate V and hooks over a pin inserted into the edge of the circular plate P and is let off by striking against a pin in one of the posts. The plate V travels with the circular plate P while the clay is pressing—and when they are hooked together as before described. It is placed upon the upper surface of the plate P and vibrates on the shaft A to which it is attached by collars or by perforating it with a round aperture to admit the shaft, upon the cross beams at the bottom of the machine there rests firmly a circular cam way H the upper edge or track of which is made uneven and gaged to regulate the ascent and descent of the pistons and friction rollers R attached to said pistons or pressers G traveling upon the track the friction rollers R being attached to the lower ends of the pistons or pressers govern their elevation and depression when the clay is received and pressed by their up and down action and which pistons also discharge the bricks as already described, when the plate V is disengaged from the plate P and is drawn back by its spring so as to uncover the mold.

Connecting with the whole machinery there are four posts N with screw bolts O passing through them from bottom to top screwed to the ends of the cross beams at the top and bottom. These posts inclose and keep together all the parts of the machine and support the resisting power given out when the clay is prepared and forming into bricks. When the extent of this power or pressure is completed the trigger lets off the

cap V and the piston G continues moving upward by passing over a steeper part of the cam way and discharging the bricks on to the upper surface of the plate P on which the cap V rests. In one of the divisions of the track upon the circle of the rim the piston commences to rise suddenly which is at starting and then it diminishes with a slower action but with an increased force as the brick is forming. The machine performs a double operation at the same time namely of pressing and discharging a brick by the arrangement of the cams opposite one another and those operations can be increased at pleasure by so constructing the cam way and other parts of the machine to embrace them.

Instead of the cap V roller K stationary cam L it is proposed to substitute an apparatus like that represented in Fig. 2 for covering the molds and resisting the pressure therein and for disengaging itself and flying back from over the molds by the action of springs so as to allow the bricks to be discharged upon the circular platform P.

The arm *a* against which the brick is pressed moves loosely on the main shaft A being perforated with a round aperture at one end to admit the shaft and at its other end there is a movable catch *c* which takes hold of a pin *p* in the edge of the circular plate P which connects and causes them to turn together until the said catch strikes against a knob or projection *x* on one of the posts of the frame raises the catch disengages it from the circular plate over which plate the arm is suddenly drawn back by the spring *s* attached to it and to a part of the frame, or to one of the ways *l* or in any convenient place, which spring is extended as the plate moves around with the arm at-

tached to it and contracted as soon as the arm is disengaged from the plate, which leaves the mold in which a brick has been pressed uncovered and ready for having the brick discharged therefrom upon the plate P and at the same time covers the next succeeding molds for the pressure of another brick by means of the piston G the resistance being effected by means of a plain way arranged over the arm and against which it is pressed in the upward movement of the piston, which arm *a* is simply a stout bar of iron moving horizontally on the main shaft which passes loosely through it at one end and against which the brick is pressed. It travels with the plate P when hooked thereto by the hook *c*, at the same time extending the spring attached to it and to the way cam, or resisting block *l* until the catch *c* strikes a pin *x* in one of the posts which disengages the catch from the plate when it is instantly drawn back by the spring to its former position and over a new mold.

What I claim as my invention and which I desire to secure by Letters Patent consists in—

1. Constructing the platform with vertical trunks in the manner described in combination with the revolving spider.

2. I also claim the movable arm *a* in combination with the revolving plate P and stationary cam *l* the arm *a* being connected to the plate P and revolving with it while the brick is being pressed and being detached from it as soon as the pressure is completed as described.

STACY COSTILL.

Witnesses:

W. WILKINSON,
GEO. W. McCox.