(No Model.)

N. M. PLANTE.

BRICK MACHINE.

No. 306,858. Patented Oct. 21, 1884.

Fig. 1.

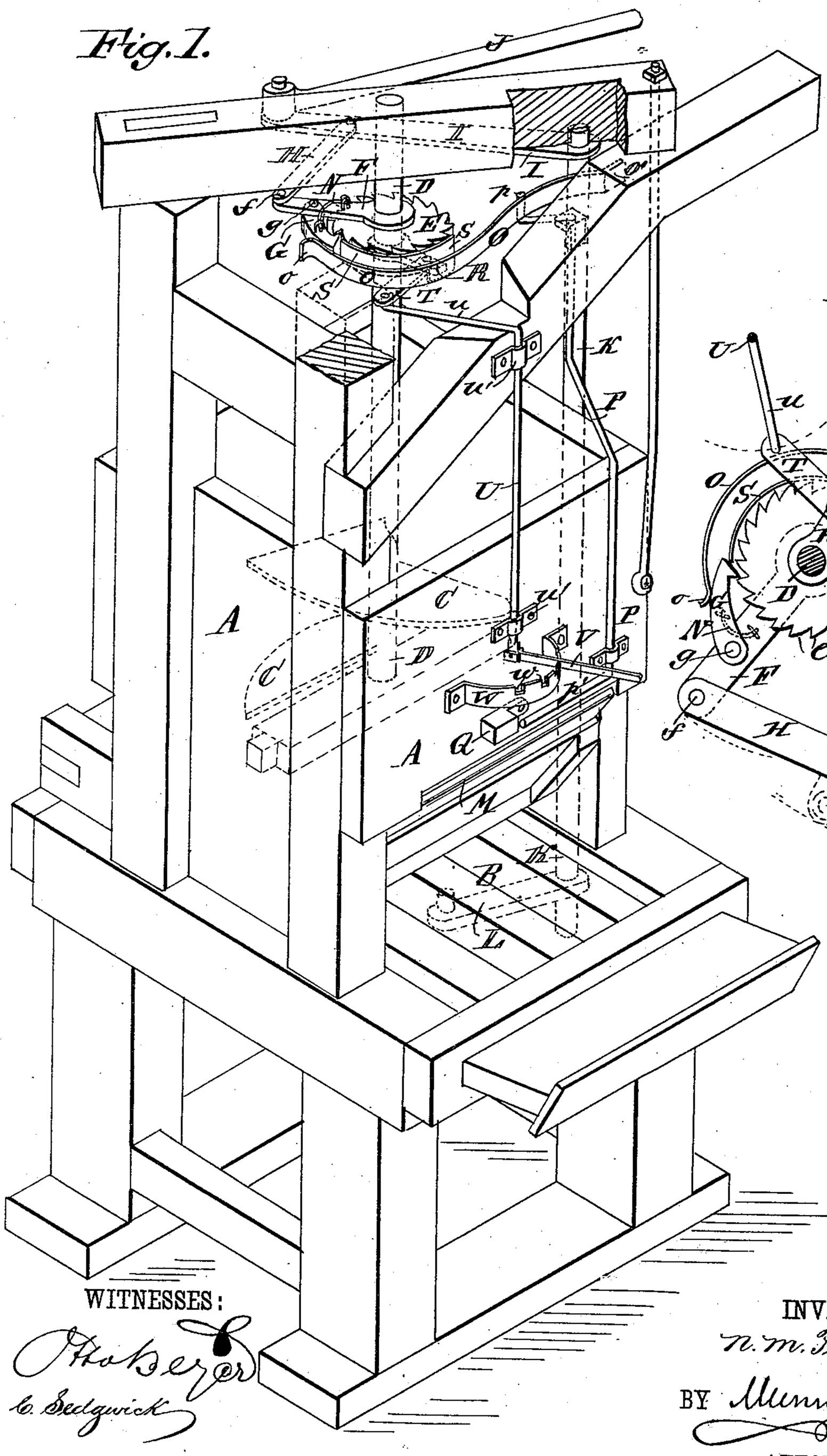
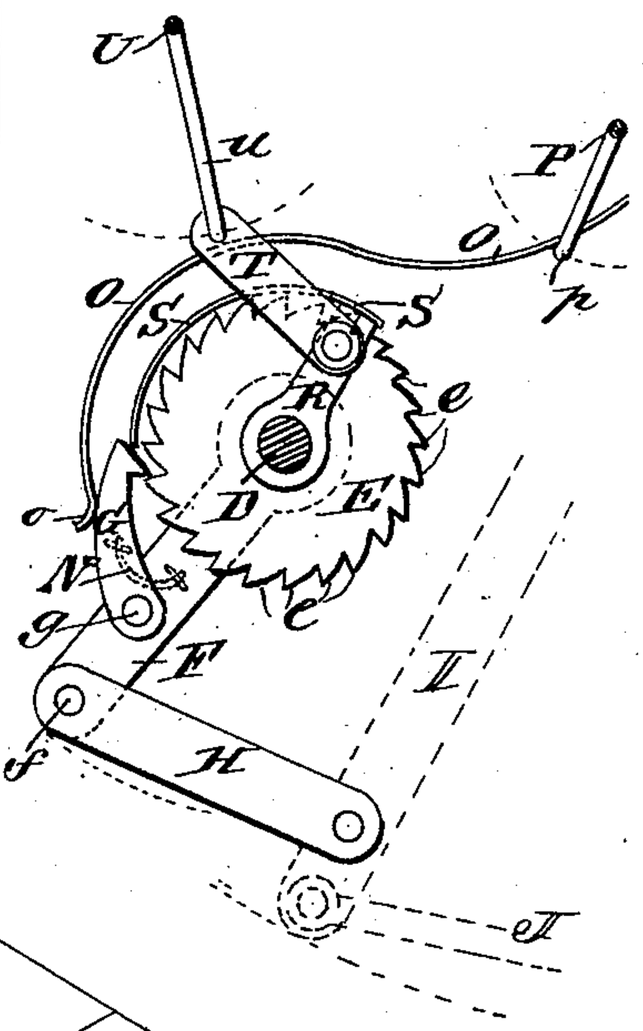


Fig. 2.



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BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 306,858, dated October 21, 1884.

Application filed August 19, 1884. (No model.)

To all whom it may concern:

Be it known that I, NAPOLEON MELVEN PLANTE, of Verplanck, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Brick-Machines, of which the following is a full, clear, and exact description.

The object of my invention is to provide an improved construction of the operating mechanism of brick-machines, and to make provision for graduating the pressure on the clay, to insure the molding in the said machines of clean sharp-cornered bricks of uniform density from clays of different qualities or stiffness.

The invention consists in the combination, with a ratchet-wheel fixed to the clay-presser shaft, of an arm mounted loosely upon said shaft, and carrying a pawl engaging with the ratchet-wheel, and of devices for operating said arm and pawl.

The invention further consists in a guard-plate held adjustably over the teeth of the ratchet-wheel, to cause the pawl to engage the ratchet-wheel earlier or later in its movement over the teeth to press the clay more or less to fill the molds, together with devices for supporting and adjusting the guard-plate and locking it in position, all as hereinafter fully described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a perspective view of a brick-machine embodying my improvement and with parts broken away, and Fig. 2 is an under side view of the improvement detached from the machine.

The letter A indicates the clay box or hopper of the machine, arranged over the mold-bed B, and having the inclined or spiral clay-pressing blade or screw C, (dotted,) which is mounted on the shaft D, journaled in any suitable manner to the frame of the machine.

The shaft D carries fixedly the ratchet-wheel E, and on the shaft is placed loosely the arm F, to which is pivoted, at *g*, the pawl G, which is adapted to engage the wheel E, for rotating the shaft D, and the pressing screw or blade C, for forcing the clay downward into the molds placed on the bed B.

The end of the arm F is pivoted at *f* to a link, H, which connects with the arm I, to which is attached the end of a rod or lever, J, connected in any way with a convenient motor for working the machine. The arm I is held rigidly to the upright shaft K, which is journaled in the machine-frame, and extends downward below the mold-bed, where it has an arm, L, (shown in dotted lines in Fig. 1,) which connects with the usual devices for shifting or discharging the filled molds.

M is a sliding door fitted at the base of the clay-box over an opening, through which sticks, stones, or other obstructions may be removed, to avoid clogging or breaking the parts of the machines.

A spring, N, connects the arm F with the pawl G, and acts normally to hold the pawl out of engagement with the ratchet-wheel E, or just clear of its teeth, and a spring, O, is held at one end, *o'*, to the machine-frame, and curves around the toothed edge of the ratchet-wheel for some distance, and has an outturned end, *o*, to allow the head of the pawl G to pass inside the spring O, which normally stands at such distance from the teeth of the wheel E as to force the pawl G into engagement with the teeth, to cause the wheel E, shaft D, and connected mechanism to operate for pressing the brick.

A rod, P, is journaled on the machine-frame, and has a crank-arm, *p*, at the upper end, coming inside of the spring O, and a handle-arm, *p'*, at the lower end, so that by pulling the arm *p'* outward the arm *p'* will draw the spring O back, to prevent it from engaging the pawl G with the wheel E, and thus stop the operation of the machine at any time.

A button, Q, or other suitable device may be swung up or placed inside of the handle-arm *p'*, to hold the spring O back while the machine is to be stopped, and when the button is swung clear of the arm *p'*, as in Fig. 1, the spring O moves up again toward the wheel E, to engage the pawl G with it to start the machine again.

It is necessary, in order to form clean sharp-cornered brick from clays of different qualities or "temper" placed in the box A, to make some provision for graduating or changing the extent of revolution of the pressing blade or

screw to accommodate the stiffness of the clay, and I accomplish this without in any way altering or adjusting the connections of the lever J or other device that may be employed for giving motion to the shaft of the pressing-screw from the prime motor: and to this end I place loosely on the shaft D the arm R, which carries fixedly at its outer end the segmental guard-plate S, which curves around the wheel E just outside of its teeth *e*, to prevent engagement of the pawl G with the teeth. A link, T, connects the end of the arm R with the crank-arm *u* of a rod or shaft, U, which is journaled in suitable bearings, *u'*, on the machine-frame, and has a handle or lever, V, pivoted to its lower end, so that by swinging the lever to one side or the other the guard-plate S will be set at different positions of the circumference of the wheel E, to cause the pawl G to take hold of the teeth *e* of wheel E earlier or later in the stroke of the pawl for giving more or less movement to the shaft D and presser C, as may be required.

The plate S may be locked in any position by engaging the lever V with any one of a series of notches, *w*, made in the catch-plate W, held to the machine-frame; or any other suitable catch device may be employed for the purpose.

I do not limit myself to the method shown of supporting the guard-plate S by an arm, R, placed directly upon the shaft D, as said plate may be supported by devices held to the machine-frame; but the construction shown is preferred.

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

1. As an improvement in brick-machines, the combination, with the clay-presser shaft and a ratchet-wheel fixed on said shaft, of an arm loosely mounted on the shaft and carrying a pawl engaging with the ratchet-wheel on the shaft, and devices for reciprocating the pawl-carrying arm, substantially as shown and described.

2. As an improvement in brick-machines, a guard-plate held adjustable over the teeth of the ratchet-wheel, which is fixed to the clay-presser shaft, substantially as described.

3. As an improvement in brick-machines, the combination, with shaft D and ratchet-wheel E, of the arm F, spring-pawl G, lever I, and link H, substantially as shown and described.

4. In an improved operating device for brick-machines, the combination, with ratchet E, arm F, pawl G, and the guard S, of the springs N and O, substantially as shown and described, and for the purpose set forth.

5. As an improvement in brick-machines, the combination, with the clay-presser C, shaft D, ratchet-wheel E, pawl G, and means for engaging the pawl with the ratchet-wheel, and means for operating the pawl, of the guard-plate S, held adjustably over the teeth of the ratchet-wheel, substantially as shown and described.

6. As an improvement in brick-machines, the combination, with the clay-presser C, shaft D, ratchet-wheel E, pawl G, and means for engaging and operating the pawl, of the guard-plate S, fixed to an arm, R, placed on the shaft D, and means for shifting the arm to adjust the guard-plate, substantially as shown and described.

7. As an improvement in brick-machines, the combination, with the ratchet-wheel E on the clay-presser shaft D, the pawl G, and means for engaging and operating the pawl, of the guard-plate S, fixed to an arm, R, placed on the shaft D, and a cranked shaft, U *u*, connected to the arm R by a link, T, substantially as shown and described.

8. As an improvement in brick-machines, the combination, with the ratchet-wheel E, pawl G, guard-plate S, arm R, link T, and cranked shaft U *u*, of the lever V and catch-plate W, substantially as shown and described.

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Witnesses:
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