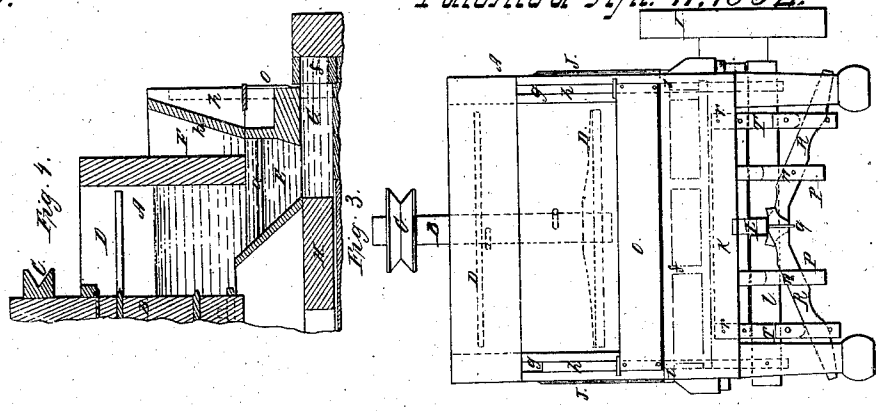
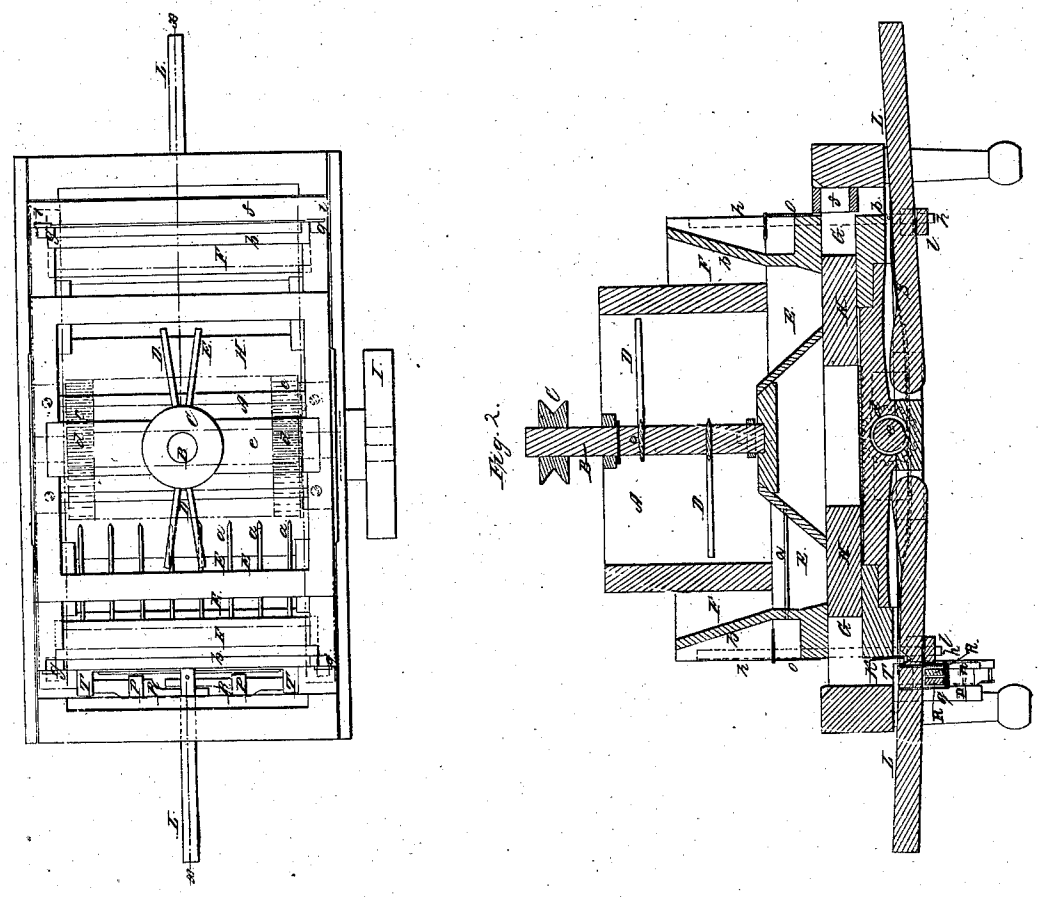
T. E. Seay,

Brick Machine.

No. 10,759. Patented Apr. 11, 1854.





UNITED STATES PATENT OFFICE.

THOMAS E. SEAY, OF COLUMBIA, VIRGINIA.

BRICK-MACHINE.

Specification of Letters Patent No. 10,759, dated April 11, 1854.

To all whom it may concern:

Be it known that I, THOMAS E. SEAY, of the town of Columbia, in the county of Fluvanna and State of Virginia, have invented a new and useful Improvement in Brick-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, forming part of this specification, in which—

Figure 1 is a top view of the machine. Fig. 2 is a vertical section on line *x x* of Fig. 1. Fig. 3 is an end elevation of the machine. Fig. 4 is a portion of Fig. 2 with press H thrown back, showing communication between mill A and mold *f*.

My invention consists in the employment of a system of knives arranged as will be hereafter described and movable vertically by a combination of levers and springs, so as to cut the body of the clay from that contained in the molds, said molds and the bricks within them being at the same time delivered at the top of the machine by the levers operating the knives.

The invention also consists in the employment of a grating in the hopper leading to the molds, by which the clay is screened of stones and other foreign substances before being forced into the molds.

Similar characters of reference in the several figures of the drawing represent the same part of the machine.

A is the mill, within which is the vertical shaft B, rotated by the pulley C, the arms D acting upon the clay, as is usual in mills of this character. The bottom of the mill opens into the hoppers E, in which, slightly below the lower portion of the mill sides, are the horizontal grate bars *a*, placed the requisite distance apart to prevent stones and other hard substances from passing to the bottom of the hoppers E, (in the drawing but one of these gratings is shown.) The spaces above these gratings communicate with the exterior hoppers F, into which the stones and other substances are forced after they are arrested by the bars *a*. The sides *b* of the hoppers F are movable for discharging the stones, as will be hereafter described. The hoppers E communicate with the chambers G, in which works the press H, (shown by red lines in Fig. 1,) the racks *c* of which mesh into the pinions *d* of the shaft *e*, which is alternately rotated, so as to give the press a reciprocating motion, by any well known device connected with the pulley I.

The molds *f* are of the form shown by red lines in Fig. 3, and are held upon their edges by the projections *i* of their upper edges resting upon the sides of the frame. Their openings are directly in front of the chambers G, from which the clay is forced by the press H. (But one set of molds are shown in Figs. 1 and 2, the other being removed to show the arrangement of levers below it.)

In the ends of the frame J are the grooves *g*, in which work the slides *h*, the lower extremities of which are secured to the bar *l*, which is fastened to the lever L, so that the depression of the lever L, draws down the slides *h*, and with them the knife O securely attached to said slides. Through the slides *h* and directly above the lever L pass the pins *p*, against the under surface of which press the springs S (as seen in Fig. 2), causing the slides and knife O to move up when the pressure on the lever L is withdrawn. Beneath the ends of the frame are the slotted studs P, in each of which is the fulcrum *n* of a lever R. The outer arms of these levers R are attached to the slides T, as shown in Fig. 3, and their inner arms connected with the lever L by the strap *q*. To the slides T is fastened the knife K by rivets or bolts *r*, so that the upward movement of the said slides by the depression the lever L raises the knife K, and the upward movement of said lever caused by the springs S, draws up the inner arms of the levers R by reason of the strap *q* and causes the descent of said knife. The upward movement of the slides T causes a pressure of their upper ends upon the edge of the molds, raising said molds simultaneously with the descent of the knife O and the ascent of the knife K, the action of which upon the clay in the chambers G will be hereafter described.

The operation of my improvement is as follows:—The clay after being tempered in the usual manner by the mill A is forced through the bars *a* into the hopper E, and thence to the chamber G, where by the action of the press H, it is forced into the molds *f*, the press alternately filling the molds at the opposite ends of the machine. Immediately on the filling of any one set of molds the lever L at the end containing said molds is pressed down, causing, as

shown above, the descent of the knife O, and simultaneous rising of the knife K and molds *f*, the knives passing through the clay in the chamber G, along the inner face of the molds, and smoothly separating the body of clay in said chamber from that contained in the molds, which rising upon the extremities of the slides T presents to the operator three or more well formed bricks, according to the size of the machine. As the filled mold is removed it is replaced by an empty one and the lever L released, causing, as above described, the ascent of the knife O and descent of the knife K and molds *f*. The succeeding movement of the press H fills these new molds, which are separated from the body of the clay and delivered to the operator, as above described. This operation of filling, separating and delivering the molds is performed alternately at the opposite ends of the machine, and must be regulated in velocity and correspondence of motion as found most suitable in practice, the machine being capable of hand working by a single operator or of having its levers and pulleys connected with suitable machinery, so that manual labor will be required for no other purpose than removing and replacing the molds. The details of such working arrangement being well known will not require any description in this place, my invention consisting in the parts already described and having no reference to any particular external machinery by which the operation of those parts is effected.

The hoppers F are cleared of the stones and other substances separated from the clay by the gratings *a*, by simply removing the inclined sides *b*, depressing the knife O, and sweeping the rubbish out over the end of the machine.

This machine for simplicity of construction and effectiveness of action is not surpassed by any of like character, the clay being well pressed into the molds and the bricks smoothly separated from the body of the clay by the same operation that delivers them.

The exceeding simplicity of this machine renders its construction economical, which places it within the reach of all, the rapidity of its operation being entirely governed by the will of the manufacturer in his selection of motive power and details of arrangement, the work performed however being equally good when the entire formation is produced by the aid of machinery or the several operations performed by manual agency.

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

1. The vertically moving knives O and K arranged as described, in combination with the levers L and R and slides T, whereby the molded bricks are separated from the mass of clay, at the same time that the molds are raised from their recess, for carrying away and discharging the bricks as herein set forth.

2. I also claim, the employment of the gratings *a* as described, between the mill and molds, for screening the clay from stones and other hard substances when this is combined with the exterior chambers F, into which the stones and other substances are forced by the action of the clay, as herein fully set forth.

In testimony whereof, I have hereunto signed my name before two subscribing witnesses.

THOMAS E. SEAY.

Witnesses:
GEO. PATTEN,
SAML. GRUBB.