J. M. Moyer,

Brick Machine.

No. 68,894. Patented Sep. 17, 1867.

Fig. 2.

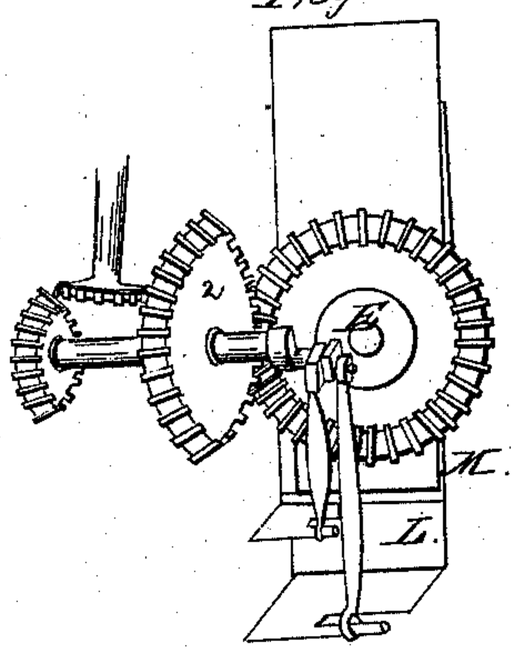


Fig. 3.

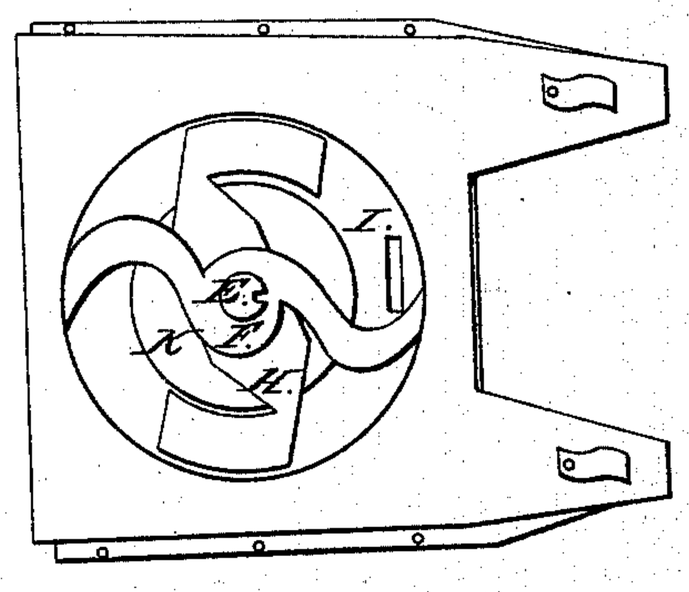


Fig. 1.

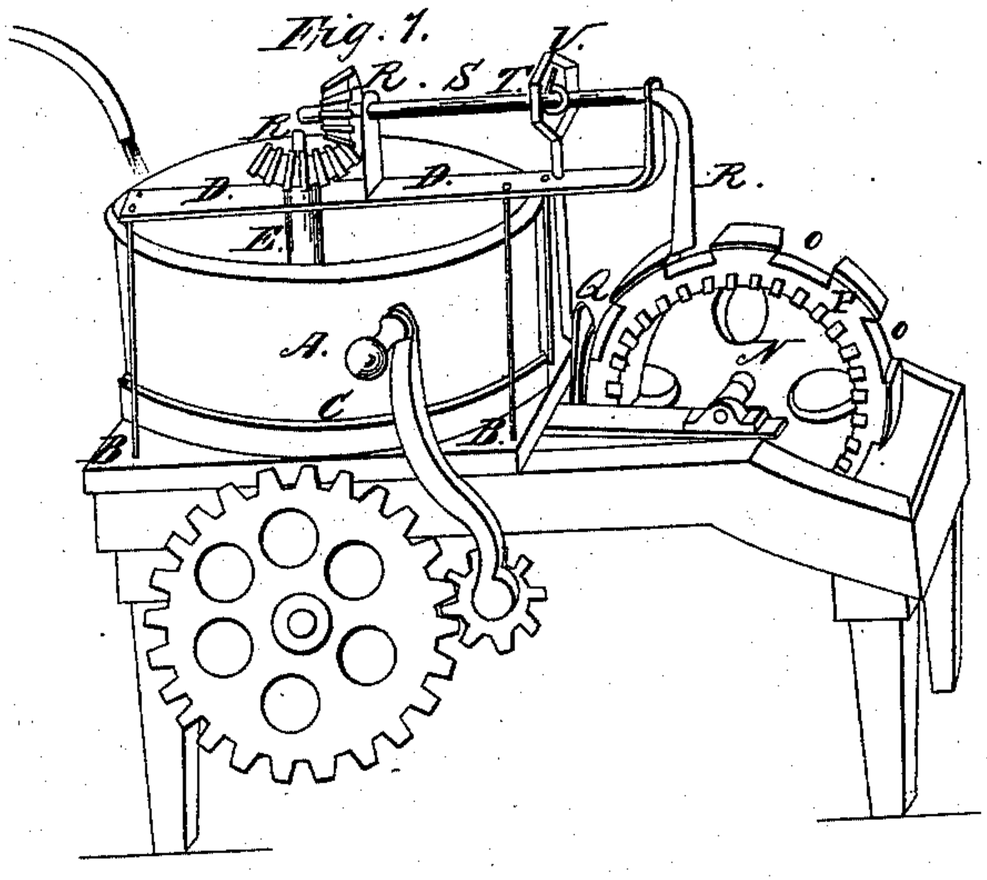


Fig. 4

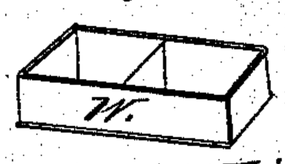
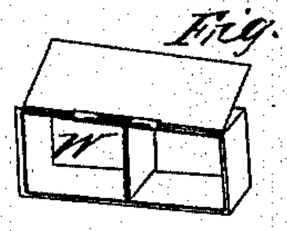


Fig. 5.



Witnesses:

Chas. L. Dickey

A. Schieler & Co.

Inventor:

Jno. M. Moyer.

United States Patent Office.

JOHN M. MOYER, OF PITTSBURG, PENNSYLVANIA.

Letters Patent No. 68,894, *dated September* 17, 1867.

IMPROVED BRICK MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN M. MOYER, of Pittsburg, in the county of Allegheny, and State of Pennsylvania, have invented a new and improved Machine for the Manufacture of Brick; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, made a part of this specification, in which—

Figure 1 is a perspective view,

Figure 2 a transverse section, and

Figures 3, 4, and 5 sectional views, with letters of reference marked thereon.

The nature of my invention consists in the arrangement and construction of a new and improved soft-mud, self-tempering, portable brick machine, of which the following is a description of its arrangement, construction, and operation.

I construct the mud-tub or hopper A which receives the clay of wood, in circular form, of any given size, and secure it with bands, with raised metal bowl in the centre, letter K, fig. 3, and place it on the cast-iron bed-plate B B, fig. 1, made secure in the raised groove C cast upon the bed-plate, which, with the parallel beam D D, secures it in place. The beam D D passes across the centre of the tub, and is held in place by bolts or rods on the outside of the tub, secured to the bed-plate, through the centre of which the shaft E passes, with shoulder resting and revolving on a step in the bed-plate, through which the shaft passes to receive the spur-wheel beneath, secured by a key. The sickle or shear-spuds F, fig. 3, through which the shaft E passes, are firmly secured to the sides of the hopper A, by means of bolts, and remain fixed, over and beneath which the knives attached to shaft E set, or, regulated by washers, revolve, cutting, crushing, pulverizing, and mixing the clay, which is placed in the hopper together with a stream of water, as shown in fig. 1. By means of the sickle or shear-spuds F the cutting and crushing is constant and gradual, giving increased surface and requiring less power. The lower knife or sweep H, fig. 3, attached to shaft E, is made in curved or sickle form, with drag or trail filling the space between the sides of the hopper and the raised bowl in the centre, (the bowl filling the space to prevent the sweep from carrying around an undue quantity of tempered clay,) carrying around the mixed clay to opening I in the bottom of the tub or bed-plate, and forcing the clay through the opening into plunger-box beneath, shown in fig. 2. The spur-wheel beneath, attached to shaft E, connects with spur-wheel No. 2, fig. 2, joined on the end of power-wheel shaft with double-crank moving pitmen, connecting with cutter L and plunger M, made of cast steel, as shown in fig. 2, with openings in the centre, through which shaft E revolves, which can or may be driven by cams or eccentrics attached to shaft E in plunger-box, instead of double crank and pitmen. The cutter L passes before plunger M, severing the clay between opening I and plunger-box, covering opening I, preventing the return of the clay into hopper A when plunger M forces the clay from the open end of plunger-box into the moulds in place in large brick-wheel. Plunger M is regulated by means of an adjustable bur on pitmen, so as to admit a requisite amount of clay into plunger-box and no more, to be forced out, and upon withdrawal forming a vacuum and causing a suction, thus aiding the knife or sweep H in refilling the box, the knife L working backward and forward in advance of plunger M. The large metal brick-wheel N, fig. 1, I construct of any given size, with shaft passing through the centre, resting upon arms of the bed-plate, to which it is secured by boxing, and provided with the slots O O at equal distances, with grooves on both sides of the base to receive and keep in place the brick-moulds, which are provided with slides. The wire P attached to the side of the wheel at the end of the slots O O prevents the moulds from passing beyond their places, and is so arranged as to leave an opening for the removal of loose sand or dirt at the base of the slot. The wheel N is provided with cogs upon the rim, by which, at regular intervals, it is driven by a one-fourth cog-wheel connecting with power beneath. The brick-moulds being placed in the slots O O, are carried around, by the revolution of wheel N, to the open end of plunger-box, when and where they are filled in turn by the action of plunger M, and when filled, while in pressure, before the withdrawal of the plunger, the knife Q, fig. 1, passes down between the mouth of the brick-mould and the end of plunger, cutting off the clay smooth on the top of the mould, and acting as a covering for the mould, keeping the clay in place until the withdrawal of the plunger, when the knife Q rises and wheel N revolves, acting as an off-bearer, carrying the moulds thus filled up, every second revolution of the one-fourth cog-wheel, to a level, when the mould

is forced out from the slot on to a table, by means of the arm R passing through the slot, which is a part of shaft S extending above and parallel with beam D D, upon which it rests by means of uprights; the shaft S connecting with shaft E by means of pinion-wheels R R, which give it power. On shaft S, I place a one-fourth cam, T, which acts in and upon the stop-cam frame U, which is attached by a rod to knife Q, causing it to rise and fall when shaft S revolves, cutting away all excess of clay from the moulds, which is retained in plunger-box. I construct the mould W of steel, (see figs. 4 and 5,) with slides to enter the grooves in slots O O, of the size of two or more bricks, the bottom swinging upon a hinge which forms one of the slides, the other being riveted to the opposite side. When the mould is full and upon the table, the brick is removed by inverting the mould and lifting the leaf or bottom, admitting the air, when the mould is readily removed from the brick, then sanded and replaced in the slot O of wheel N before it descends.

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

The sickle or shear-spuds F and lower knife or drag H in hopper A, in combination with the raised bowl, constructed, arranged, and operated in manner set forth.

I claim the knife L and plunger M, constructed and applied in manner and form substantially as described.

I claim the brick-wheel N, with slots and grooves to admit moulds, operated substantially as set forth.

I claim the arrangement of the stop-cam U in connection with knife Q and arm R, arranged and operating in manner described.

I claim the mould with hinged base, constructed and used as described to and for the purpose intended.

In testimony whereof I, the said JOHN M. MOYER, have hereunto set my hand.

JNO. M. MOYER.

Witnesses:

A. S. NICHOLSON,

I. CHAS. DICKEN.