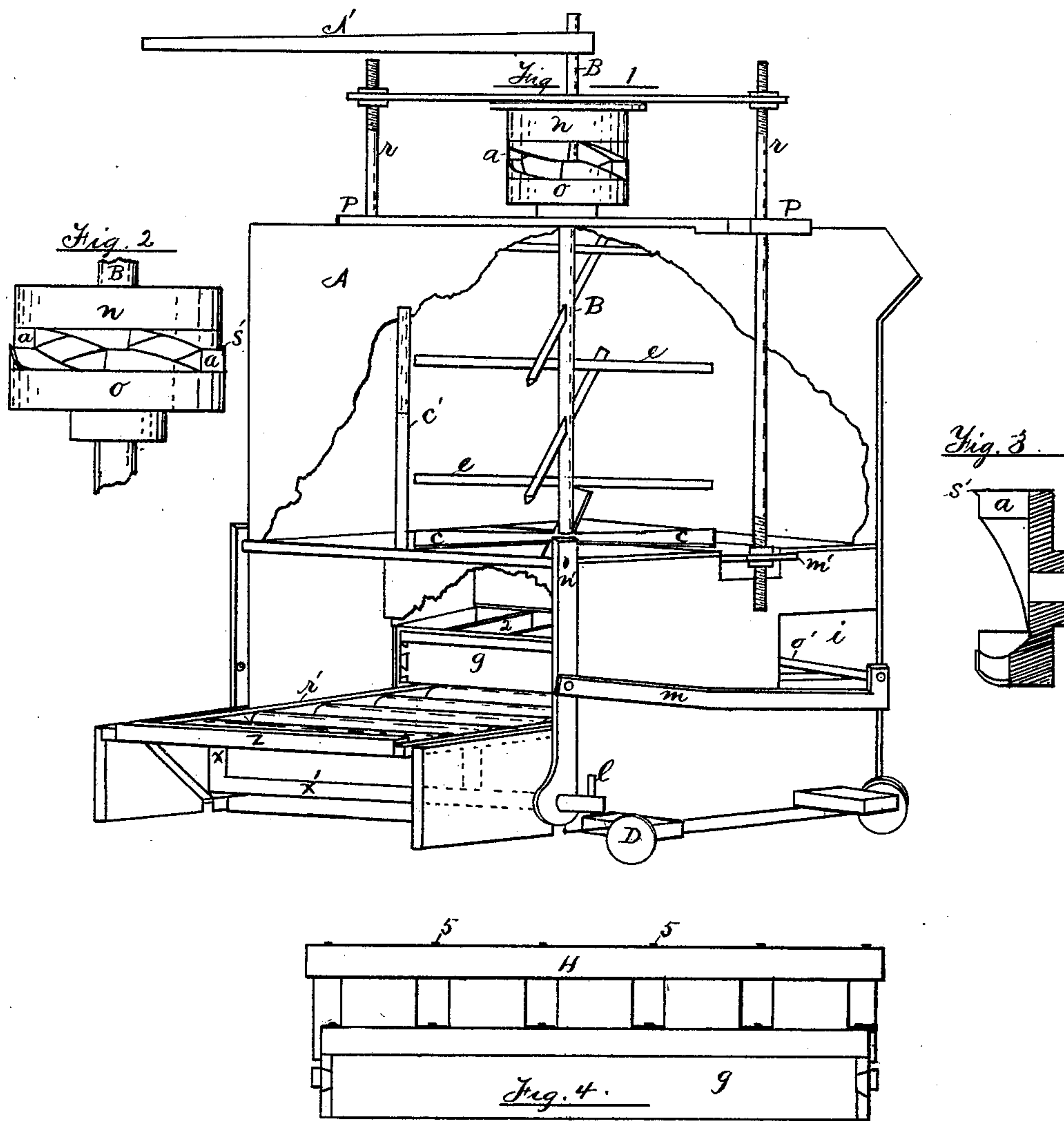


S. SHREFFLER, Jr.  
Brick-Machine.

No. 204,688.

Patented June 11, 1878.



Witnesses

Thos H. Hutchins

Wm J Hutchins

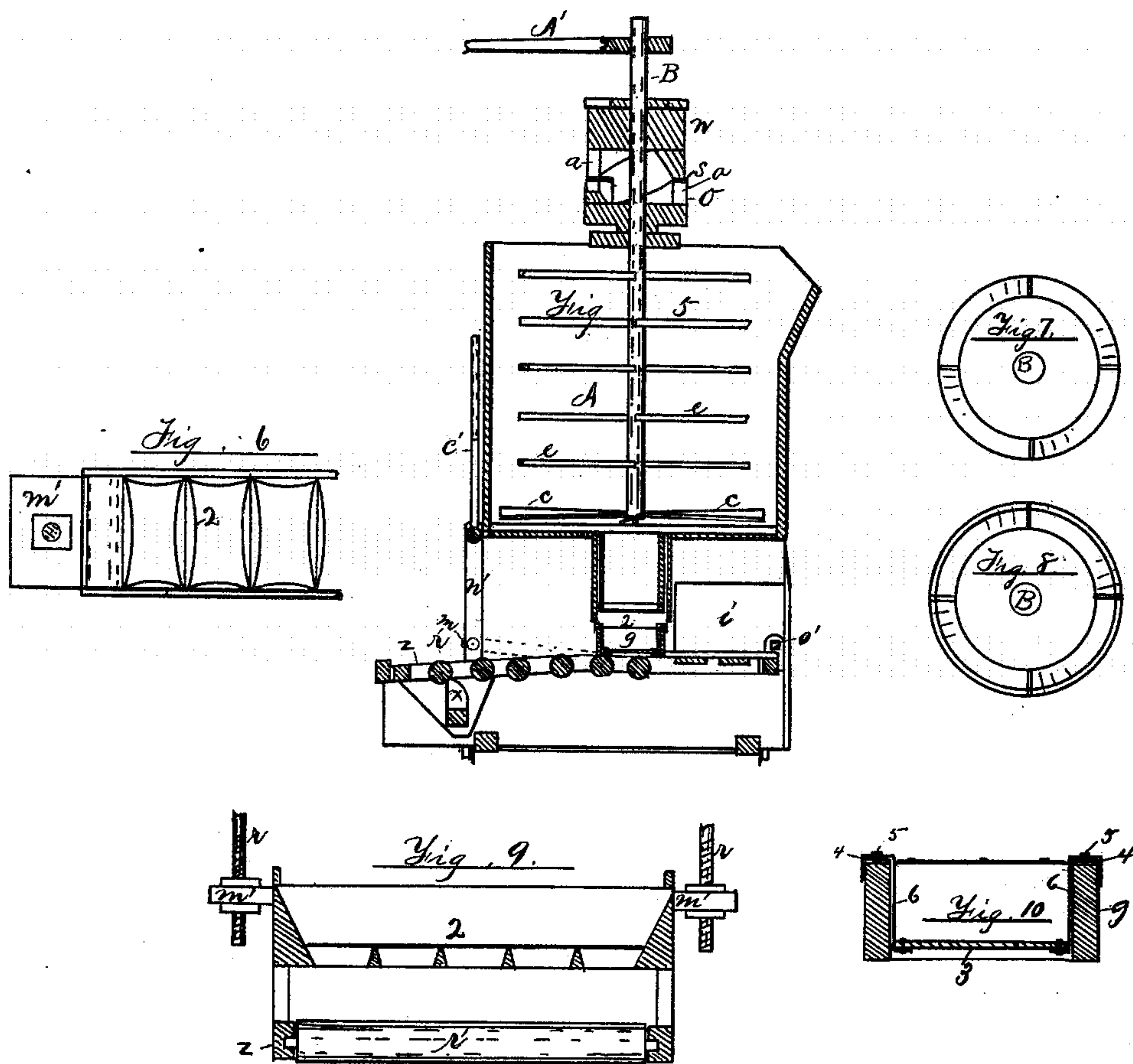
Inventor

Samuel Shreffler Jr

S. SHREFFLER, Jr.  
Brick-Machine.

No. 204,688.

Patented June 11, 1878.



Witnesses

Thos H Hutchins

Wm J Hutchins

Inventor

Samuel Shreffler Jr



# UNITED STATES PATENT OFFICE.

SAMUEL SHREFFLER, JR., OF MORRIS, ILLINOIS.

## IMPROVEMENT IN BRICK-MACHINES.

Specification forming part of Letters Patent No. 204,688, dated June 11, 1878; application filed March 18, 1878.

*To all whom it may concern:*

Be it known that I, SAMUEL SHREFFLER, Jr., of the city of Morris, in Grundy county, in the State of Illinois, have invented certain Improvements in Brick-Machines, the description and operation of which I will proceed to explain, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view; Fig. 2, a side elevation of the device for elevating and lowering the grate; Fig. 3, a vertical sectional view of one-half of said device; Fig. 4, a side elevation of the mold; Fig. 5, a vertical sectional view through the center of the machine; Fig. 6, a plan view on the top of a portion of the grate; Figs. 7 and 8, plan views of the working-faces of the elevating and lowering device; Fig. 9, a cross-sectional view through the center of the grate; and Fig. 10, a cross-sectional view of the mold.

The nature and object of this invention are to construct a machine for making brick in such a manner as to press the brick very hard into the mold with as little outlay of power as possible, and very fast. The machine is designed to run either by horse or any other power desired.

In the drawings, Fig. 1 represents a perspective view of the machine with a portion of the box A broken away to show the interior working parts, which consist of the vertical main shaft B with radial arms *e* along its length, and with flat pressing-arms *c* at the lower end, so arranged as to have their front edge elevated a little, so as to cause the clay in the box to be pressed downward as they revolve. The main shaft B stands in the center of the box A, and passes from a step on which it stands up through the wheels *o* and *n*. These wheels *o* and *n* have their faces, which engage with each other, provided with a series of circular inclined offsets, shown at *a*, Figs. 2 and 3. The main shaft B is firmly keyed or fastened to the lower wheel *o*, while the upper wheel *n* is attached firmly to the beam *s*. As the shaft B revolves it will be observed that the beam *s* with the rods *r*, having hung to their lower ends the grate 2, Figs. 1 and 9, is caused to have a reciprocating motion up and down corresponding with the size and number of

the circular inclined offsets *a* on the face of the wheels *o* and *n*, the object of which is to press the clay between the radial pressers *c* and the grate 2 below, so as to force the clay into the mold *g* under the grate 2, as shown in Fig. 1, it being so arranged that when the grate 2 is raised at its highest point two of the radial pressing-arms *c* will be directly over and parallel with the grate, so as to give the most pressure to the clay in the mold at that instant.

When a mold is filled it is pulled forward on the rollers *r'* by means of the levers *c' n' m* and cross-bar *o'*, an empty mold having been shoved into the opening *i* immediately in front of the cross-bar *o'*, which empty mold brings out the full one, and is ready under the grate to be filled at the next rise of the grate. The number of offsets on the wheels *n* and *o* determine the number of molds full of brick to be made at each revolution of the shaft.

Fig. 1 represents but three offsets on these wheels *o* and *n*, while Figs. 7 and 8 represent four, which are probably as many as are practical, as more would make it difficult to remove and replace the molds quick enough. The offsets *a* are designed to be a little inclined, so as to let the upper wheel *n* with its weight down without a jolt. It is also designed to have a level plane a little way both at the foot and at the apex of the inclines on these wheels *o* and *n*, so the shaft may revolve just a little without elevating or lowering the beam *s* both at a time when it is highest and lowest, so that the radial pressing-arms *c* may travel on a level plane while passing over the grate below. Fig. 3 more particularly shows the level planes on the inclined offsets *a*.

The wheel *o* is provided with an elevated rim, *s'*, all round its upper outer edge, as is shown in Figs. 2, 3, and 8, and the upper wheel *n* is just small enough to travel inside this rim *s'*, as shown in Fig. 2 more particularly. This rim *s'* is for the purpose of holding in the oil necessary for lubricating purposes, which would run out and not stay on the inclines were it not for these rims. The roller *x'* is provided with cams *x* for the purpose of lowering and elevating the roller-frame *z* at its outer end, the inner end being hinged to the main part of the machine, as is more particularly shown



in Fig. 5, the lowering of the roller-frame *z* being necessary to clean out the machine and to adjust the molds when necessary. The roller *x'* is operated by the pressure of the foot on the short lever *l*. The rods *r* are provided with set-screws, as shown, at either end, to elevate or lower the grate as may be necessary in the operation of the machine.

The advantage of elevating the grate in the manner set forth is that the clay gets a pressure both from above and below at the moment the mold is filled, thus getting a greater and more firm pressure of the clay in the mold than can be done where the clay is only forced downward into the mold by pressure from above.

Figs. 4 and 10 show the mold, which consists of a frame of wood having partitions far enough apart to make the size of the brick desired, which compartments are provided with plunging wooden bottoms 3, hung and riveted at either end to the metal hooks 6, which hooks 6 are all connected along on the top of the mold at the sides by a strip of metal, H. When it is desired to remove the brick, the bottoms are plunged out and upward, as is shown in Fig. 4, which discharges the brick.

I am aware of a similar mold having been used before, but not having the wooden bottom nor the extra strip of metal 4 at the under

side of the upper end of the hook 6 and riveted firmly to it by rivets 5. It is found that the strip H is worthless and breaks between the compartments of the mold when made of a single strip, and the additional strip riveted fast, as shown, gives it a sufficient strength in those localities. It is also found that if the metal extends across the bottom of the mold, the clay will stick to the metal, while it will not to the wooden bottom; and, also, the wooden bottom will not bend as a metal one does under the enormous pressure of the clay.

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

1. The combination and arrangement of the shaft B, box A, radial arms *c* and *e*, grate 2, rods *r*, beams *m'* and *s*, and wheels *n* and *o*, all constructed and arranged, as set forth, to elevate and lower the grate 2, in the manner and for the purpose set forth.

2. The rim *s'* on the upper outer edge of the wheel *o*, arranged, as set forth, to prevent the lubricating oil from falling off the inclined offsets.

SAMUEL SHREFFLER, JR.

Witnesses:

THOS. H. HUTCHINS,

W. J. HUTCHINS.