

# G. JACKSON.

## Tile Machine.

N<sup>o</sup> 95,479.

Patented Oct. 5, 1869.

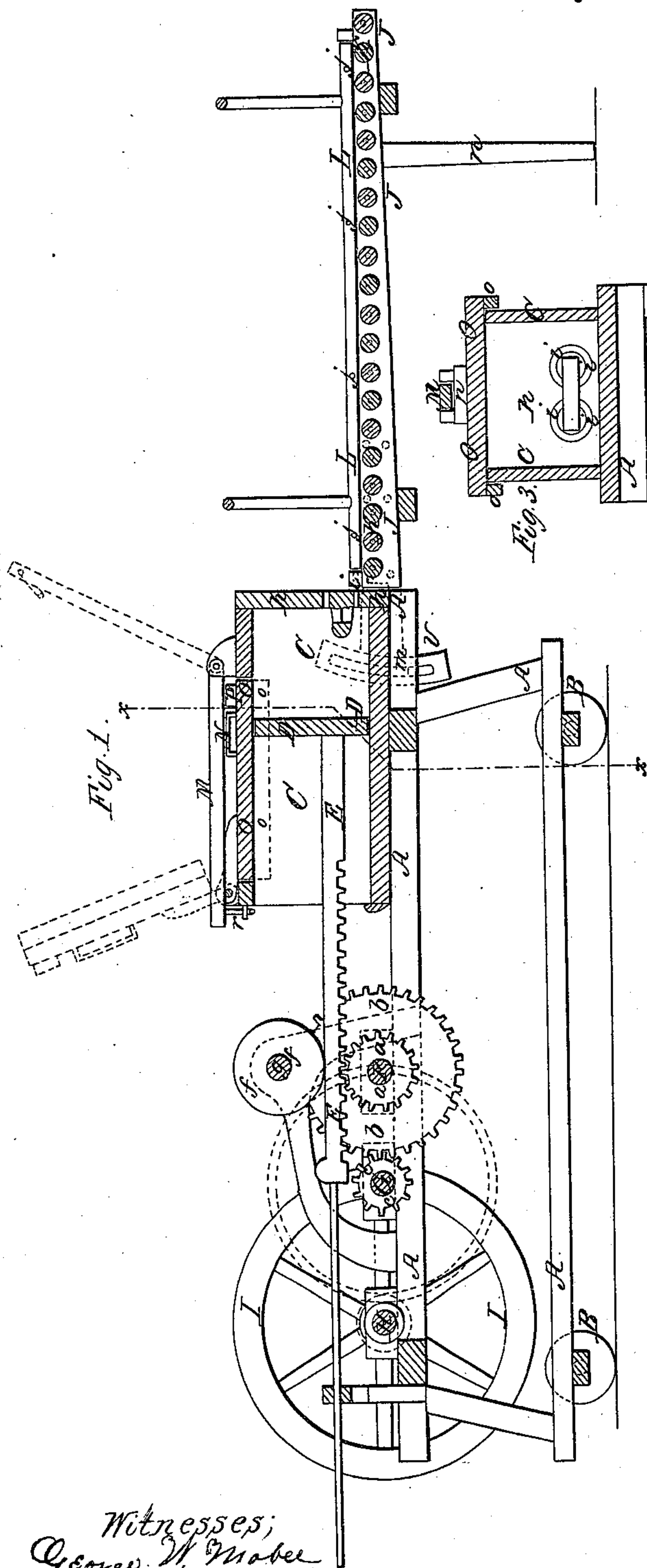


Fig. 1.

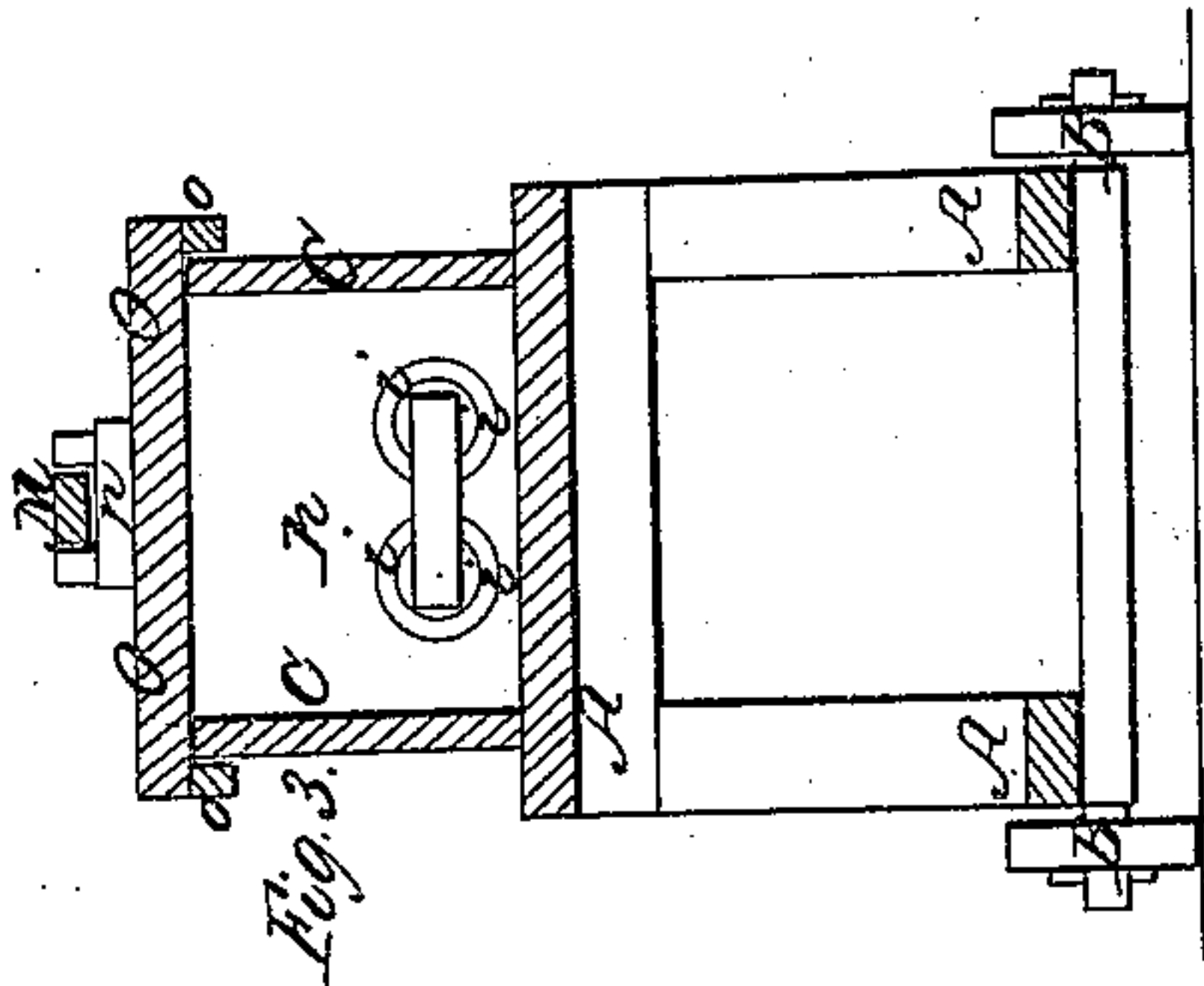


Fig. 3.

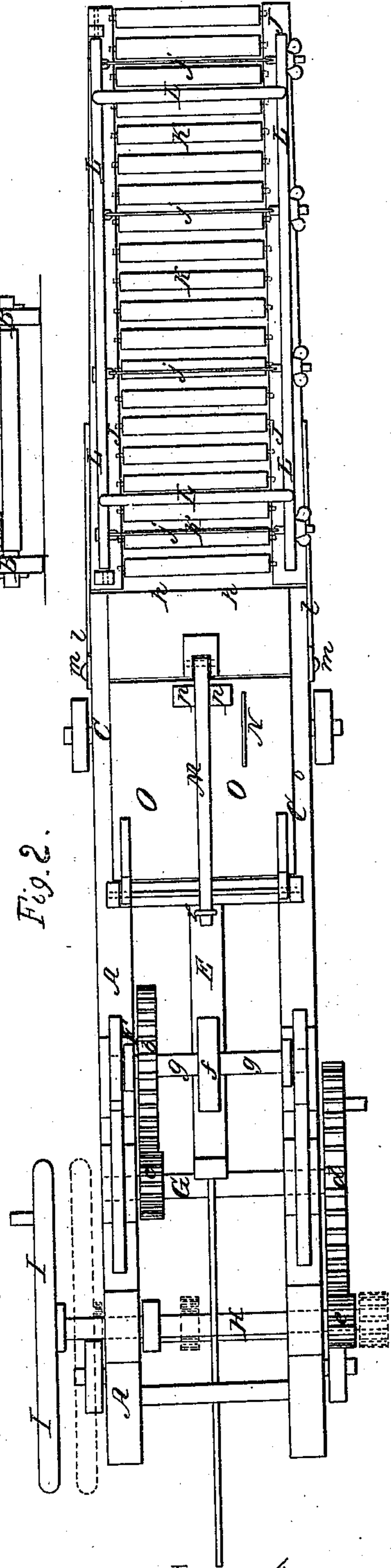


Fig. 2.

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# United States Patent Office.

GEORGE JACKSON, OF ALBANY, NEW YORK.

Letters Patent No. 95,479, dated October 5, 1869.

## IMPROVEMENT IN TILE-MACHINES.

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, GEORGE JACKSON, of Albany, Albany county, New York, have invented a new and improved Tile-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, sheet 1, represents a vertical longitudinal section of my improved tile-machine.

Figure 2, sheet 2, is a plan or top view of the same.

Figure 3, sheet 2, is a vertical transverse section of the same, taken on the plane of the line *xx*, fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to certain improvements in tile-machines, of that class in which the clay is, by a sliding piston, forced through apertures in the end of a box, so that it comes out in a continuous stream of the requisite cross-section, to be cut into pieces of the desired length, by a series of wires attached to a swinging frame.

The invention consists in an improved arrangement of mechanism for reciprocating the piston of a tile-making machine, whereby the latter may be impelled gradually forward, to force the clay through suitable apertures, and withdrawn rapidly, to avoid loss of time.

A, in the drawing, represents the main frame of my improved tile-machine.

It is made of wood or other suitable material, of sufficient strength to support the machinery connected with the apparatus, and may be placed upon rollers B B, to allow it to be readily conveyed from one place to another.

It supports, at one end, the rectangular or other shaped clay-box C, which is made of suitable strength and proper size.

In this clay-box works a piston, D, which is provided with a horizontal toothed piston-rod E, meshing into the teeth of a pinion, *a*, that is mounted on a horizontal transverse shaft, F, as shown.

This shaft has its bearings on the frame A, and carries a large toothed wheel, *b*, which meshes into the teeth of a pinion, *c*, that is mounted on another horizontal shaft G. The shaft G has its bearings, also, on the frame A.

Into a toothed wheel, *d*, that is mounted on the shaft G meshes a pinion, *e*, of another shaft H.

The shaft H has its bearings on the frame A, in such manner that it can slide in the same, to carry its pinion *e* into gear with the wheel *d*, as shown by

black lines in fig. 2, or out of gear, as by red lines in the same figure.

A fly-wheel, I, is mounted on the shaft H, to gather and regulate the power.

Rotary motion is by suitable mechanism imparted to the shaft H, and thereby, when the pinion *e* is in gear, to the shafts G F, so as to impart the requisite longitudinal motion to the piston, to move it forward.

When the clay-box is empty, and the piston is to be withdrawn, the shaft H is moved in its bearings to carry the pinion *e* out of gear, and motion is imparted to the shaft G to draw the piston back. Quicker motion is thus obtained, when the shaft H is out of gear, for moving the piston backward, while for its forward motion more power is obtained when the fly-wheel shaft is brought into gear.

A friction-wheel, *f*, attached to a shaft, *g*, works on the smooth upper edge of the piston-rod, to prevent the same from playing vertically.

The front wall *h* of the clay-box C has one or more apertures, *i i*, of annular or horseshoe-form, or of such other form as is required for producing tile of suitable form.

When the box is filled with clay, and the piston moved forward, the clay is forced through the apertures *i* in a continuous stream, and the tile thus formed is placed upon and moved forward on a frame, J, whose bed consists of a series of rollers, K K, as shown.

To one side of the frame J is pivoted a frame, L, which carries a number of transverse wires, *j j*, that are placed between the rollers K.

When a row of tile has been deposited on the bed K, the frame L is swung up, so that its wires will cut the tile into pieces of the requisite length.

As tiles of different diameters have to be made, it will be necessary to have the frame J vertically adjustable, to adapt it to higher or lower apertures *i*. It is, therefore, provided with slotted arms *u*, that are, by means of screws *m*, secured to the sides of the frame A, the slots allowing the rear end of the frame J to be lowered or raised at will.

The front end of the frame J is supported on a suitable leg, *n*.

The box C has a hinged cover, O, which is, at the sides, provided with pendent flanges *o o*, lapping over the sides of the box, as shown in fig. 3. These flanges prevent the clay from oozing out between the top of the box and the cover.

To the front end of the box C is pivoted a lever, M, which, when swung down over the cover, rests on a block, *p*, that projects from said cover, the free rear

end of the lever being held down by a staple, *r*, or other catch, that is provided on the rear end of the box.

A handle, *N*, in form of a large staple, projects also from the cover.

When the cover is to be opened, the lever is first released from the catch *r*, and is then swung up with one hand, while the other hand is used to swing up the cover, by means of the handle *N*, as indicated by red lines in fig. 1.

Having thus described my invention,

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

The laterally-sliding shaft *K* and driving-pinion *e*, in combination with shaft *G*, pinion *c*, spur-gear *b*, shaft *F*, pinion *a*, and rack *E*, all arranged and operating as set forth, to reciprocate the piston in the manner described.

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Witnesses:

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