

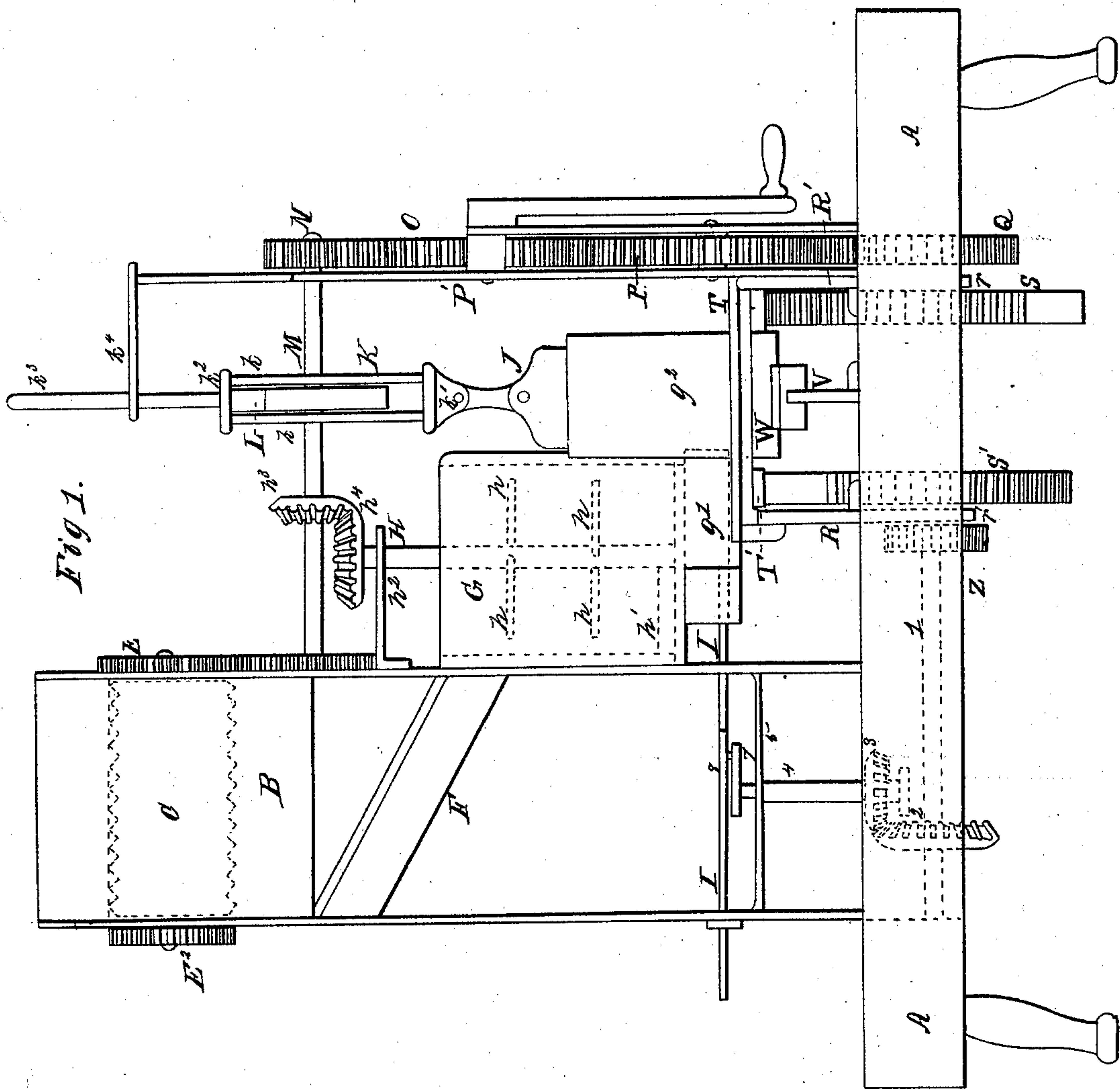
Sheet 1-3 Sheets.

W. O. Leslie,

Brick Machine,

No 77,894,

Patented May 12, 1868



Witnesses.

George C. Buckley
W. A. M. Chisley

Inventor:

W. O. Leslie

Sheet 2-3 Sheets.

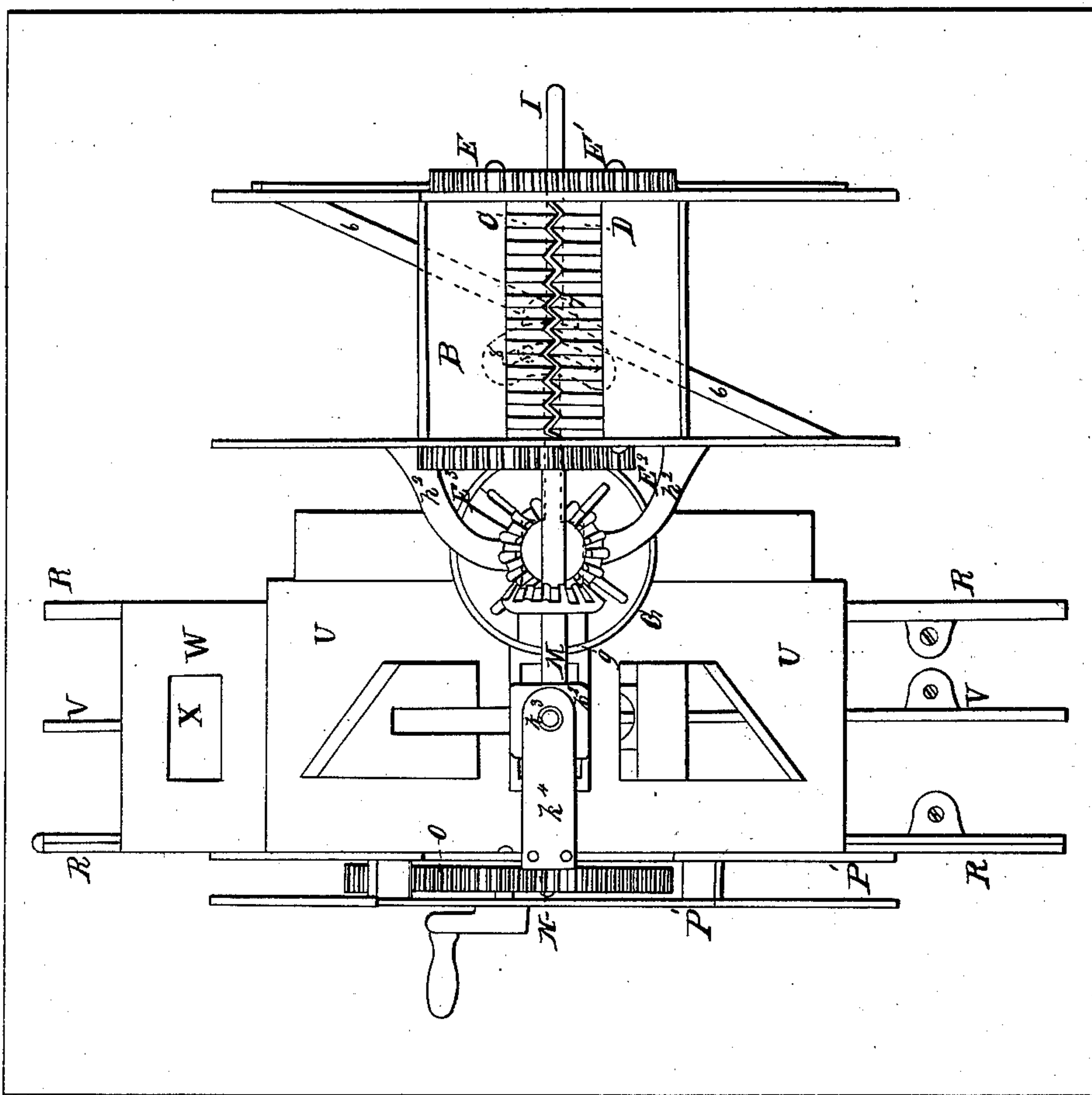
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Fig 2.



Witnesses.

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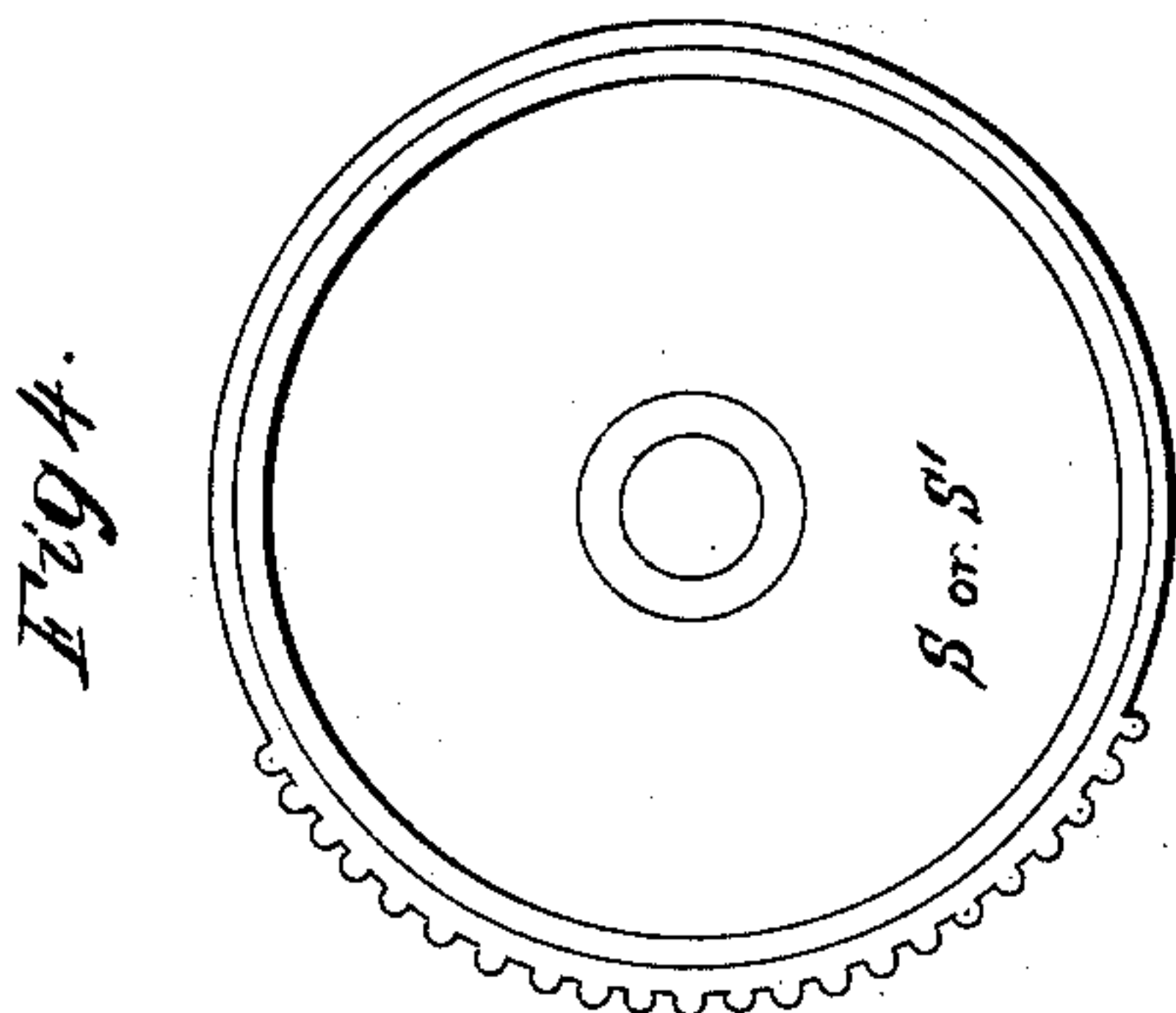
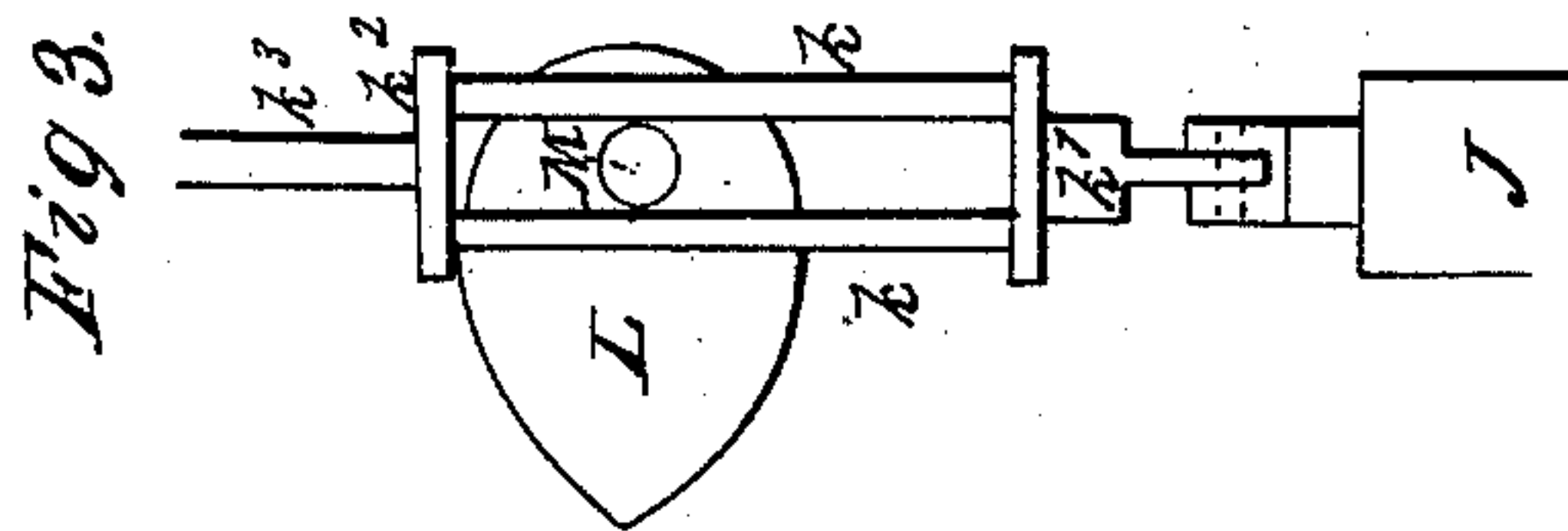
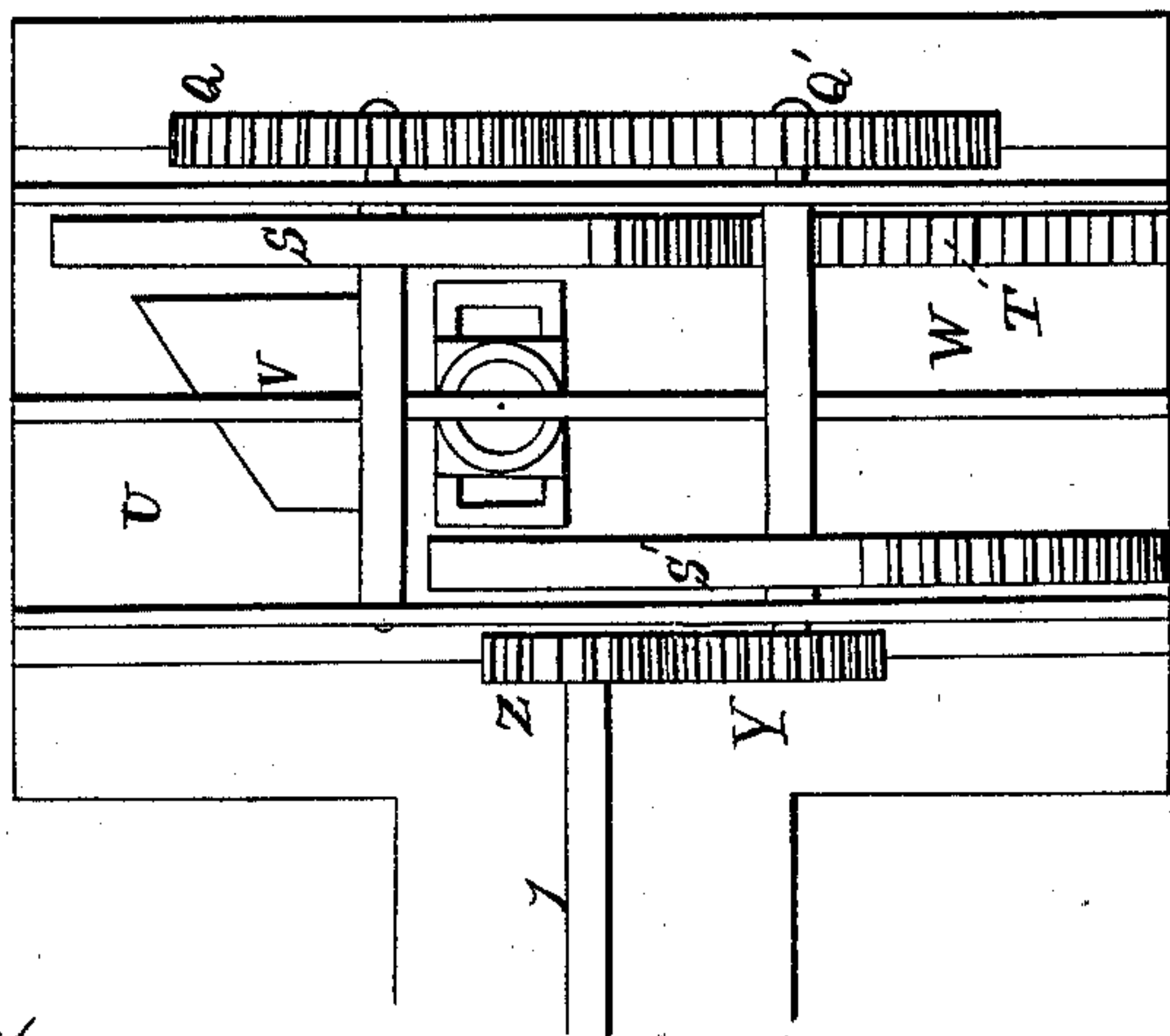


Fig 5.



Witnesses.

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Inventor.

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United States Patent Office.

WILLIAM O. LESLIE, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 77,894, dated May 12, 1868.

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, WILLIAM O. LESLIE, of Philadelphia, Pennsylvania, have invented certain new and useful Improvements in Brick-Machines; and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the annexed drawings, forming part hereof, in which drawings—

Figure 1 represents a side view, and

Figure 2 a top view of the machine.

Figure 3 represents a front view of the cam and yoke by which the plunger is operated.

Figure 4 represents a front view of either of the two partially-cogged wheels which form a portion of the mechanism employed for reciprocating the mould-carriage.

Figure 5 represents a perspective view, from below, of the mould-carriage way-track, and pressure-plate, and also of the mechanism for reciprocating the carriage, only one of the racks employed being shown.

The improvements herein described relate to the machine for which Letters Patent were granted to me, 6th August, 1867.

The said improvements consist, first, of a combination and arrangement of mechanism for reciprocating the horizontal plunger; second, of a combination and arrangement of mechanism for reciprocating the mould-carriage.

In figs. 1 and 2, A represents the floor of the machine. B is the preparatory mashing or crushing-tub, in which there are two corrugated rollers, C and D. E, E¹, E², and E³ are cog-wheels fixed on the journals of these rollers. F is a chute by which the crushed clay is conducted from the tub B into the mixing-tub G. H is a shaft, carrying the knives *h*, and the sweep *h*¹. The lower bearing of the shaft H is in the bottom of the tub G, and the upper end of said shaft has bearing in a standard, *h*². *h*³ and *h*⁴ are bevel-gear wheels by which the shaft H is turned. There is an aperture, *g*, in the bottom of the tub G, leading into the chamber *g*¹. I is a horizontal plunger which works through the chamber *g*¹, and presses the tempered clay before it into the box *g*². J is a vertical plunger, working in the box *g*². It is connected by a link, as shown in fig. 1, with the yoke K, which is composed of four vertical posts *k*, a bottom, *k*¹, and a top, *k*², from which latter proceeds the shaft *k*³, which slides up and down through an aperture of corresponding sectional size in the standard *k*⁴. L, figs. 1 and 3, is a cam attached to the shaft M, on which there is a pinion, N, which gears into a spur-wheel, O, the journals of which bear in the standards P¹. The wheel O gears into a similar wheel, P, the journals of which also have bearings in the standards P¹. The wheel P gears into the pinion Q, the shaft of which has bearings in the downward projections *r r'* of the sides R R' of the mould-carriageway. S, figs. 1, 4, and 5, is a wheel, with a segment of cogs thereon, as shown. This wheel S is placed on the shaft of the pinion Q, and is located so as to gear into the rack T, which is attached to the under side of the mould-carriage. The pinion-wheel Q gears into a similar wheel Q', the journals of which have bearings in the projections *r r'*, before referred to. S is a segment-cog wheel similar to the wheel S, it being placed on the shaft of the pinion-wheel Q', and located so as to gear into a rack, similar to the rack T. The rack referred to is not shown, but it is attached to the under side of the mould-carriage, opposite the rack T.

The pressure-plate U, the track V, the mould-carriage W, and the mould X, are in form similar to the like parts described in my said Letters Patent.

Y, fig. 5, is a cog-wheel, placed on the shaft of the wheel S'. The cog-wheel Y gears into the cog-wheel Z, which is on the shaft 1, which also carries the bevel-cog wheel 2, which gears into the bevel-cog wheel 3, on the vertical shaft 4, the journals of which bear in the cross-bars 5 6, figs. 1 and 2. 7 is a crank on the upper end of shaft 4. The crank, 7, is provided with a pin, shown in figs. 1 and 2, which travels in a slot in the cam or yoke 8, a top view of which is shown in red ink in fig. 2. The cam 8 is attached to or forms a part of the horizontal plunger I.

Power is applied to the wheel O.

Clay from the pit is fed into the tub B, where it is crushed by the action of the rollers C and D, and passes through the chute F into the mixing-tub G. Here it is thoroughly tempered by the action of the revolving-

knives h , and finally swept into the chamber g^1 by the rotary sweep h^1 . It is pressed from this chamber by the plunger I , into the box g^2 , and it is pressed by the vertical plunger J , operated by the cam L , into the moulds, as they are alternately presented by the carriage.

The segment-cog wheels S and S' , through the gearing described, have imparted to them, by the driving-wheel o , a continuous rotary motion, and their action on the racks T is such as to impart a reciprocating motion to the mould-carriage W .

There is also imparted, by the gearing described, a continuous rotary motion to the crank, 7 , which, acting by means of the pin shown, through the slotted cam or yoke 8 , imparts a reciprocating motion to the horizontal plunger I , the arrangement of which is such as to cause it to press the tempered clay into the box g^2 , and, by pausing, confine it there, while the vertical plunger J presses it down into the mould.

The operation of the pressure-plate, mould-carriage, moulds, and track is similar to the operation of the similar parts described in my said Letters Patent.

Having thus described my improvements, I claim, and desire to secure by Letters Patent—

1. The combination of the pug-mill or mixing-tub G with the chamber g^1 , having the plunger I working therein, the chamber g^2 with the plunger J , and the reciprocating mould-carriage W , all constructed and ranged to operate substantially as shown and described.

2. The mould-carriage, provided with the racks T , in combination with the segment-wheels S and S' , and the spur-wheels Q and Q' , when arranged as shown and described, for the purpose of imparting to the mould-carriage a reciprocating motion, as set forth.

WM. O. LESLIE.

Witnesses:

W. A. A. McKINLEY,
GEO. E. BUCKLEY.