2 Sheets, Sheet 1.

C. D. Page,

Brick Machine

No. 68,896. Patented Sep. 17, 1867.

Fig 2.

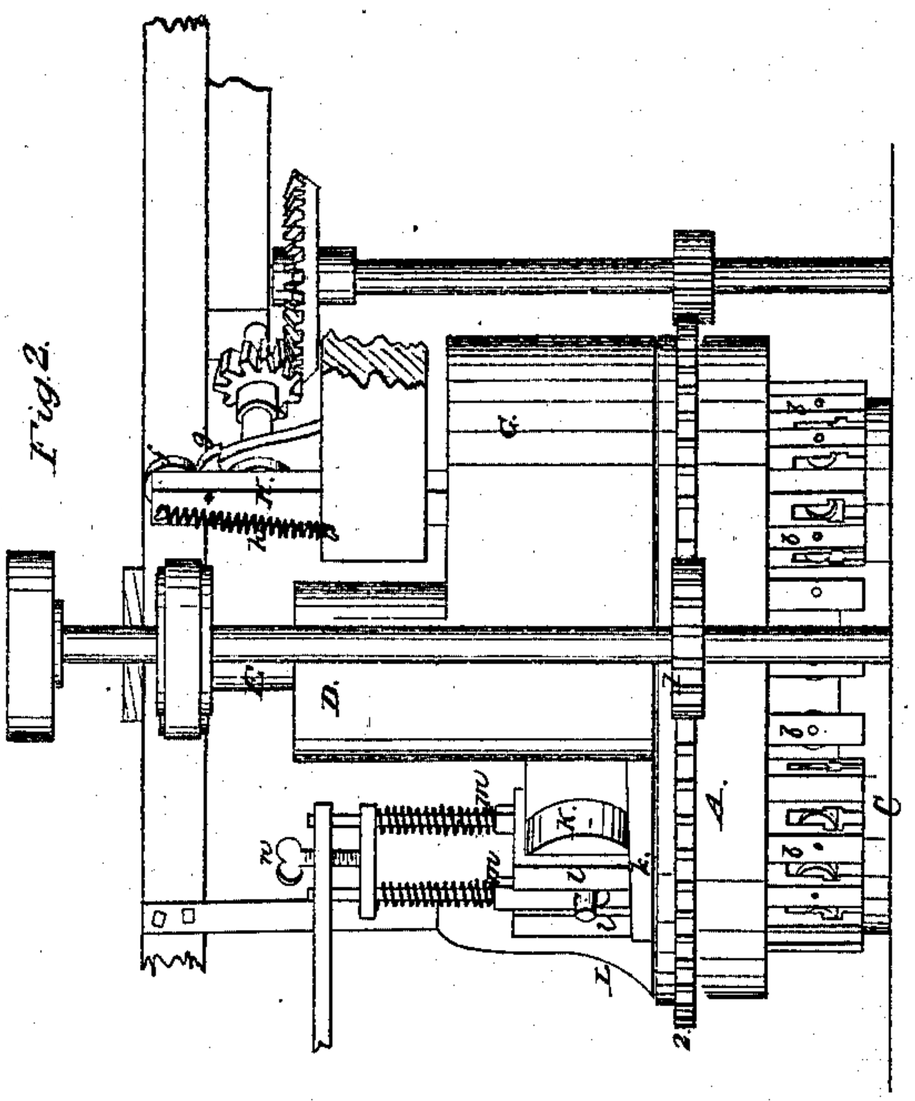
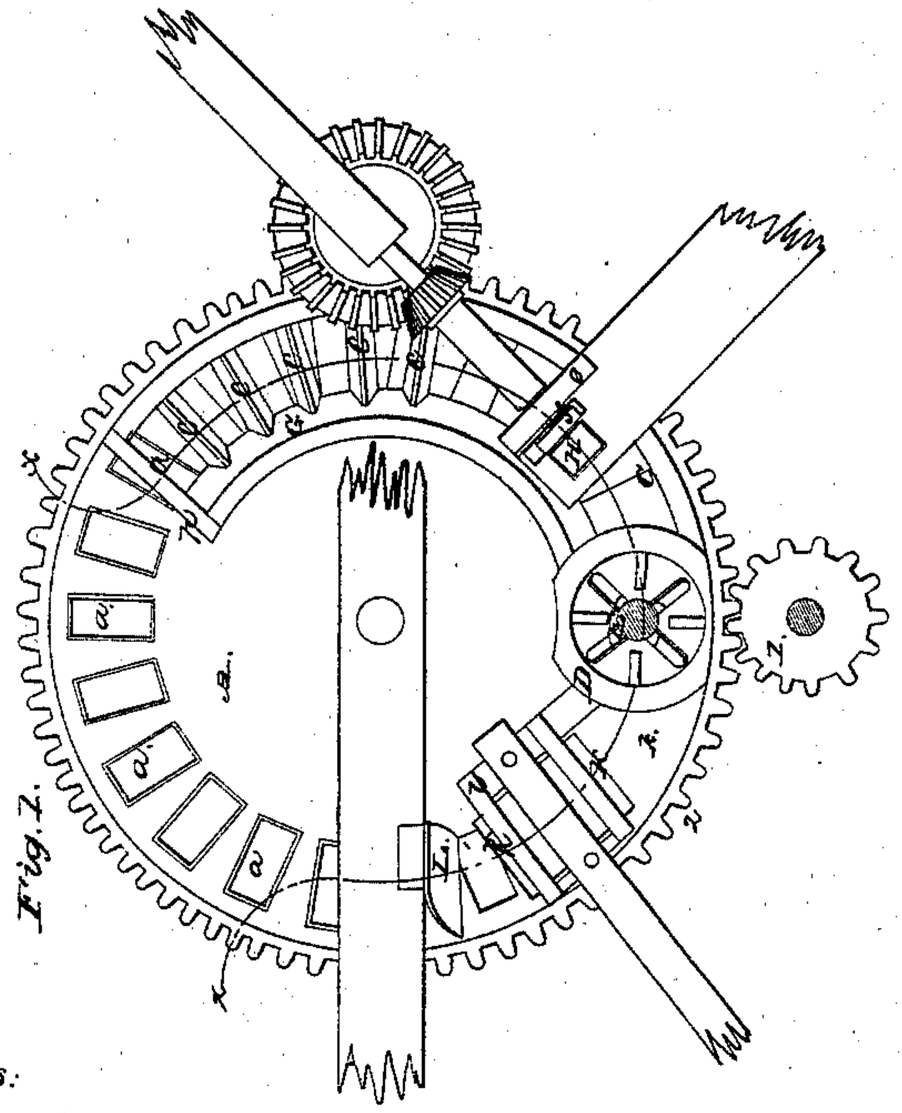


Fig. 1.



Witnesses:

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By J. Fraser & Co

Attys

2 Sheets, Sheet 2.

C. D. Page,

Brick Machine.

No. 68,896. Patented Sep. 17, 1867.

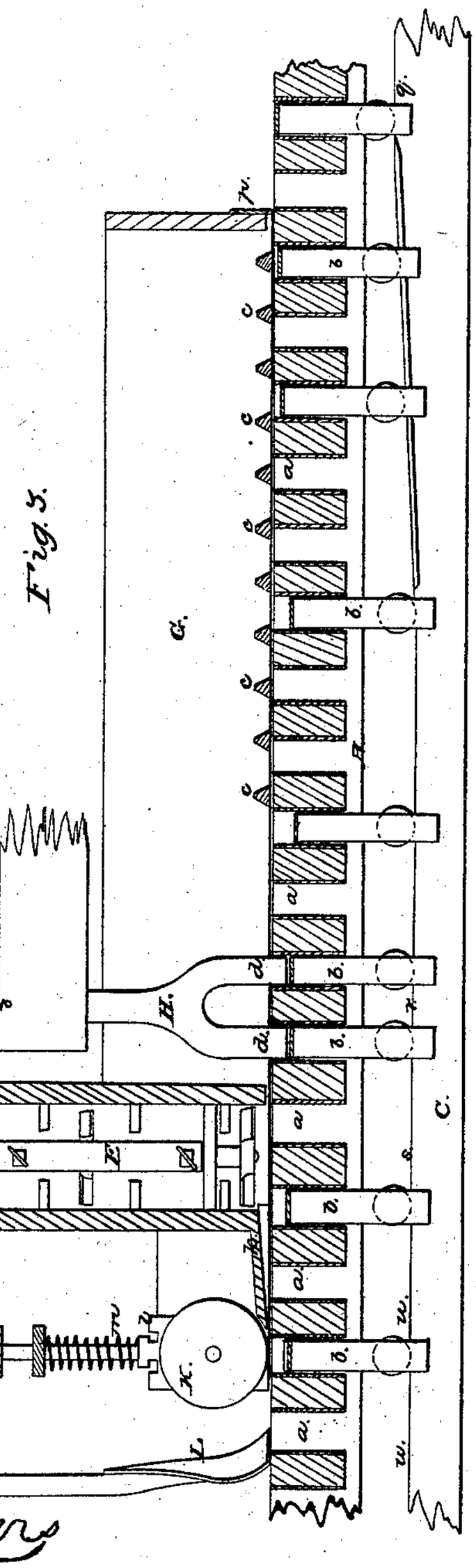


Fig. 5.

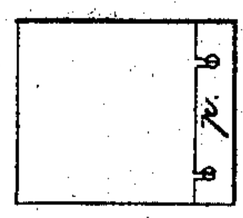
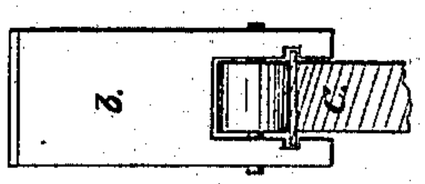


Fig. 4.



Witnesses:

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United States Patent Office.

CLARK D. PAGE, OF ROCHESTER, NEW YORK.

Letters Patent No. 68,896, *dated September* 17, 1867.

IMPROVED BRICK-PRESS.

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, CLARK D. PAGE, of Rochester, in the county of Monroe, and State of New York, have invented certain new and useful improvements in Brick-Presses; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a plan of my improved machine.

Figure 2, an elevation of the same.

Figure 3, a vertical section in line *x x*, the circle of the section being represented in plane.

Figures 4 and 5, detail views.

Like letters of reference indicate corresponding parts in all the figures.

My improvement belongs to that class of brick-presses having a horizontal revolving wheel, whose rim is filled with moulds, in which the clay is pressed from a pug-mill, the pressed brick being forced out of the moulds by followers running on a cam-way beneath.

The invention consists, first, in the combination with an extended segment-hopper for receiving the clay, of a stationary rack and a reciprocating stamp, whereby the clay is gradually fed into the moulds, and receives an initiatory pressure preparatory to passing under the pug-mill; second, in a horizontal passage, extending from the bottom of the pug-mill over the top of the moulds, for conveying a ribbon of clay to produce the final addition to the clay in the moulds, when said passage is used in combination with a finishing-roller; and, third, in so constructing the cam-way for the passage of the followers as that said followers will have an upward pressure under the pug-mill, to meet the opposing pressure from above.

As represented in the drawings, A is the horizontal mould-wheel, driven by a pinion, 1, gearing with cogs 2 on the periphery of the wheel. In the rim of the wheel are situated the ordinary moulds *a a a*, &c.; and in these moulds, from beneath, rest the ordinary followers *b b b*, &c., whose friction-rollers run on the circular cam-way C. At a suitable position over the moulds is situated a pug-mill, D, with a spirally-winged shaft, E, for forcing the clay downward. Thus far the machine is the same as others now in use. On the side of the pug-mill, opposing the motion of the wheel, is situated a segment-hopper, G, concentric with the wheel, and resting over the moulds. In the bottom of the hopper is situated a rack, consisting of wedging-bars *c c c*, &c., as clearly shown in figs. 1 and 3. In the opposite end of the hopper is situated a vertical stamp, H, provided with two or more feet *d d*, at such a distance apart as to strike into a corresponding number of the moulds. This stamp receives a uniform reciprocating action with the movement of the wheel, so as to strike fairly into the moulds, by any desirable means, that represented in the drawings being a friction-wheel, *f*, on its upper end, which receives motion by a cam-wheel, *g*, and by a spring, *h*, which produces the reaction.

The operation of this portion of the machine is as follows: The clay, having been previously ground and reduced, is dropped into the hopper and passes into the moulds. Were there nothing to prevent, the clay would be carried around bodily on the wheel, and the moulds would be very imperfectly filled. This action is prevented by the rack *c c c*, which catches and holds the clay and concentrates it downward by the wedging form, and the agitation produced breaks up any lumps that may exist, so that when the moulds have passed the rack they are filled fully with the pulverized material, and in condition to be pressed down. After passing the rack, the moulds come under the stamp, the feet *d d* of which strike into them as they pass beneath, and remove the air by the force of the concussion. When two feet are employed, as shown in the drawing, each mould receives two blows, the first giving a pressure sufficient to thoroughly settle the material closely in the mould, and the next compacting it more closely. Of course the increase in the number of feet gives a corresponding increase in the number of blows, but two will generally be found sufficient. When the stamping has been accomplished, the moulds are in condition to pass under the pug-mill. This action of filling the moulds and stamping the material in them, preliminary to passing under the pug-mill, is of much importance. The clay is broken and pulverized, and equally pressed, so far as the pressure goes, which gives a brick of great equality in density when fully completed, and there are no lumps to disfigure and weaken the surface. The additional great pressure of the pug-mill renders the brick very solid. Where the material is pressed from the pug-mill directly into the open moulds, as in the old plan, the clay is filled with lumps, and the density of the brick is very uneven, owing to the great thickness of light material subjected at once to pressure. From the bottom

of the pug-mill a thin passage, *k*, is made, extending over the moulds, and into this passage a ribbon or sheet of clay is constantly pressed from the pug-mill, and resting on top the pressed material in the moulds, adds so much additional. At the extremity of the passage is a roller, K, resting in bearings *l l*, and pressed down by spring-followers *m m*, adjusted by a set-screw, *n*. This roller, resting over the moulds, presses the thin ribbon of clay firmly down, and gives the finishing pressure to the brick, which is complete after passing under the ordinary shaving-knife L.

The pressure of the roller K on the ribbon of clay produces a hard and dense surface to the brick, which cannot be produced under the yielding pressure of the pug-mill. An adjustable scraper, *p*, is situated at the end of the hopper for the purpose of scraping the top of the wheel of the clay that sticks thereto. The cam-way C is so arranged that when the followers pass under the hopper they commence to fall, as shown at *q*, fig. 3, so as to allow the clay to enter the moulds. They gradually descend until they pass under the stamp H, when they remain level, as at *r*. In passing under the pug-mill, they commence gradually to rise, as shown at *s*. In passing under the passage *k*, the roller K, and the knife L, they also remain level, as shown at *u*. But after passing the knife, they gradually rise and throw the pressed bricks out before they reach the hopper again. The upward pressure of the followers in passing under the pug-mill, as at *s*, gives a counter-action to the pressure down from the pug-mill, and produces a finished surface at the bottom, by giving the same density as above, an effect that would not be produced were the great pressure to come only one way.

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

1. The combination with the hopper G of the rack *c c c*, and stamp H, for filling the moulds and giving the initial pressure, operating substantially in the manner and for the purpose specified.

2. The thin passage *k*, leading from the pug-mill, combined with the roller K, in the manner and for the purpose herein set forth.

3. Giving the followers an upward pressure under the pug-mill, as and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

C. D. PAGE.

Witnesses:

R. F. OSGOOD,

J. A. DAVIS.