(No Model.)

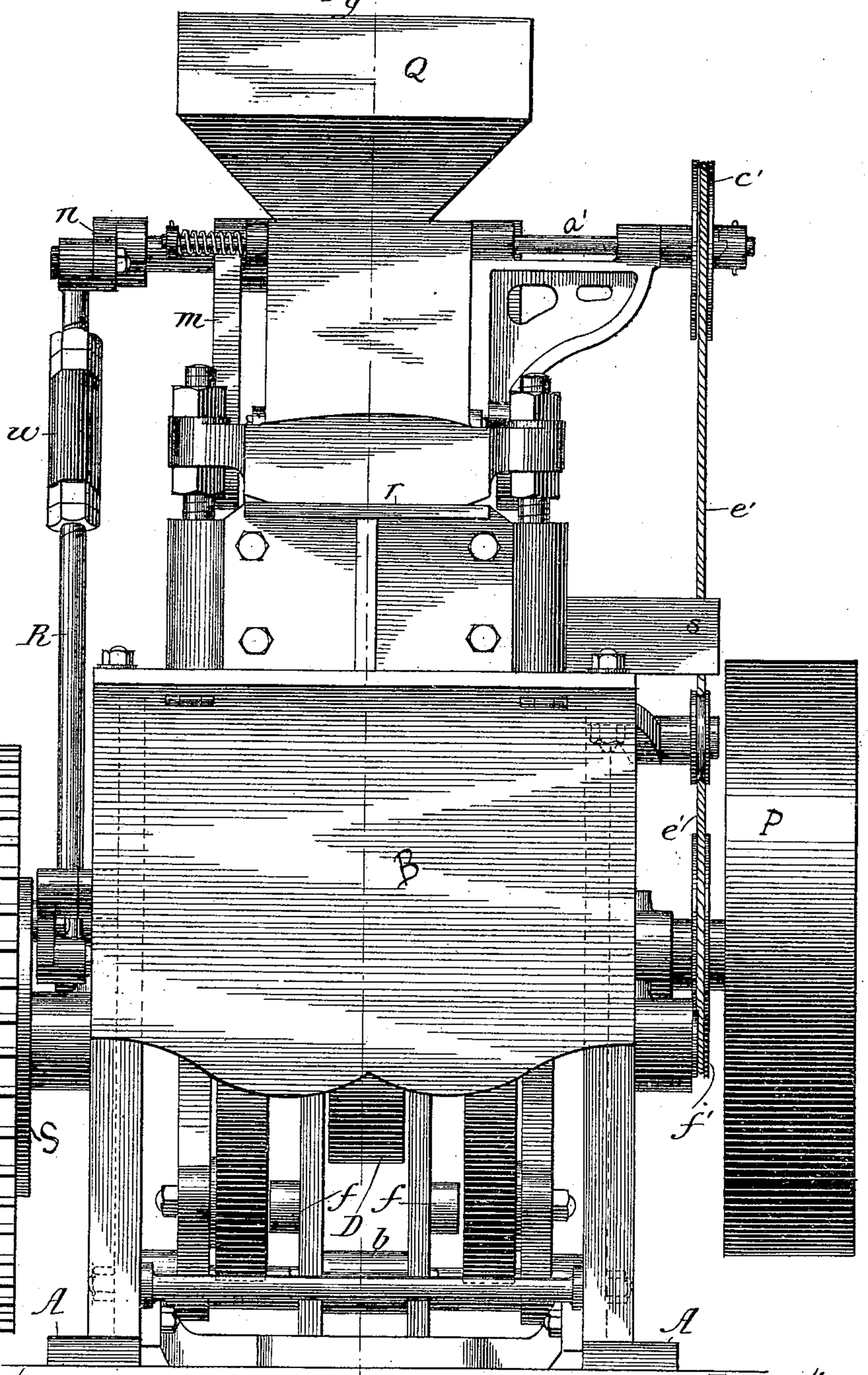
6 Sheets—Sheet 1.

W. L. GREGG.

BRICK MACHINE.

No. 354,187. Patented Dec. 14, 1886.

Fig. 1.



Witnesses
J. D. Massey
Frank A. Massey

Inventor:
William Langston Gregg

(No Model.)

6 Sheets—Sheet 2.

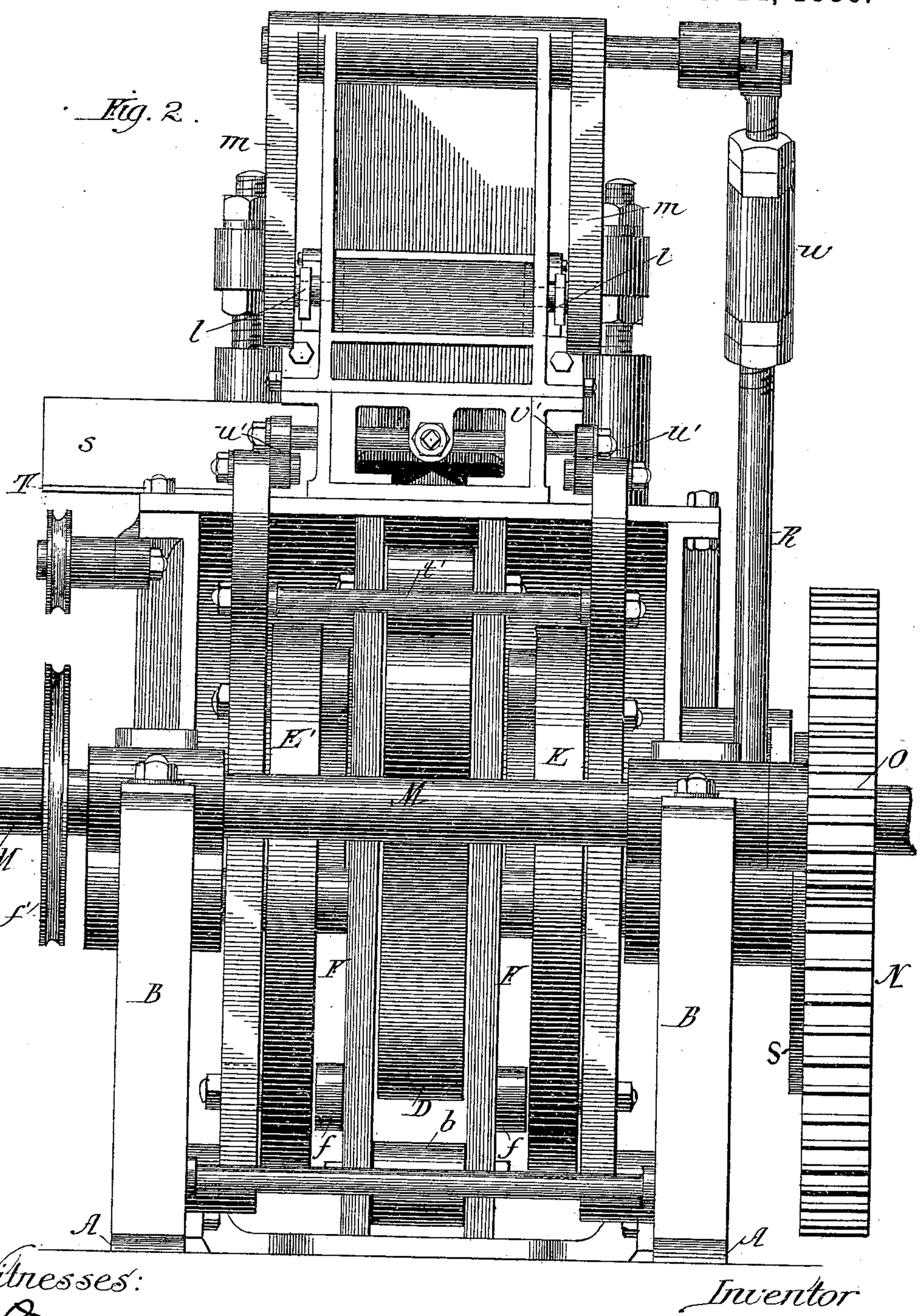
W. L. GREGG.

BRICK MACHINE.

No. 354,187.

Patented Dec. 14, 1886.

Fig. 2.



Witnesses:

J. R. Massey

Frank N. Massey

Inventor

William Lamson Gregg

(No Model.)

6 Sheets—Sheet 3.

W. L. GREGG.

BRICK MACHINE.

No. 354,187. Patented Dec. 14, 1886.

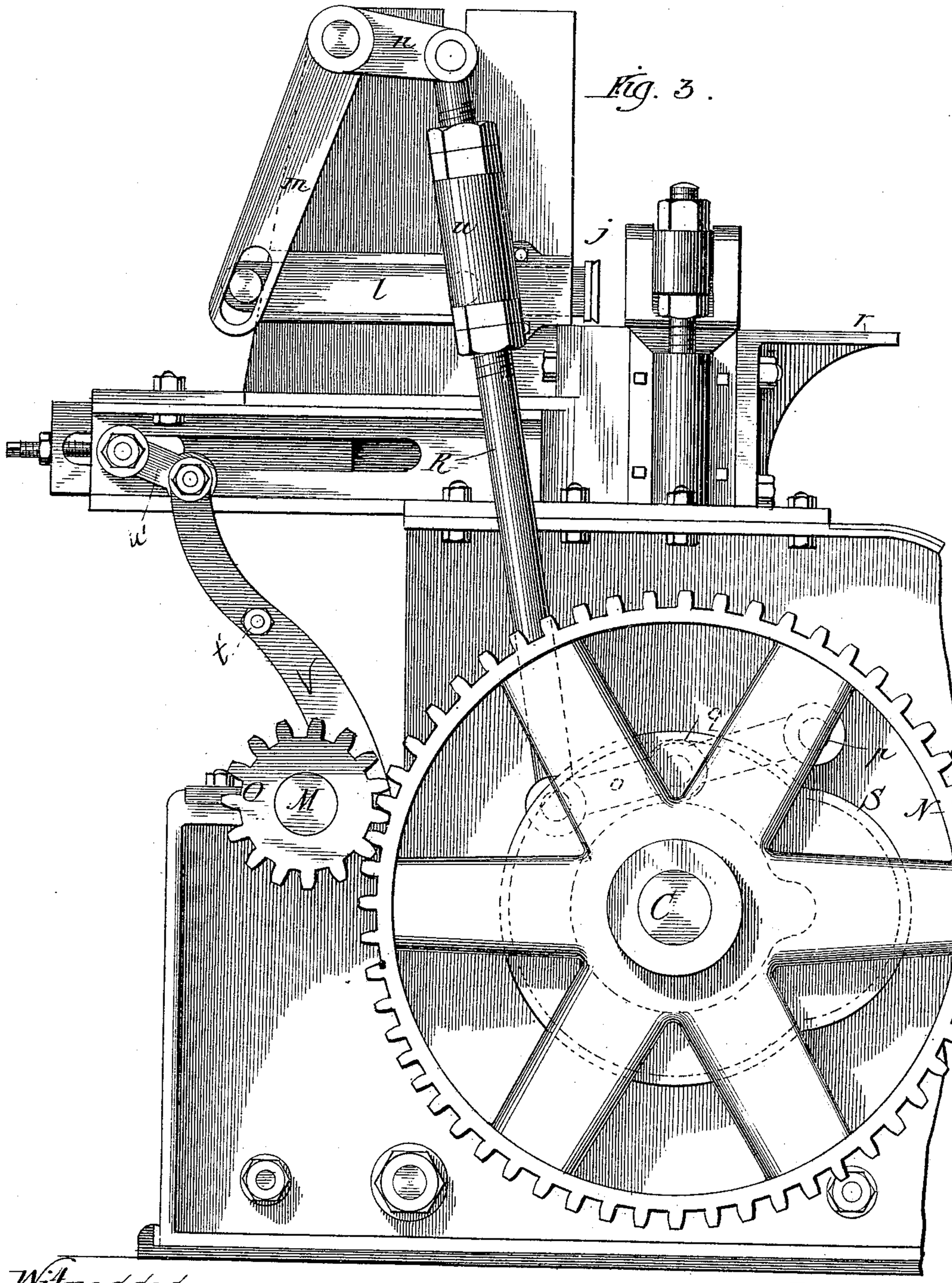


Fig. 3.

Witnesses:
J. R. Massey
Frank H. Massey

Inventor:
William Lawson Gregg

(No Model.)

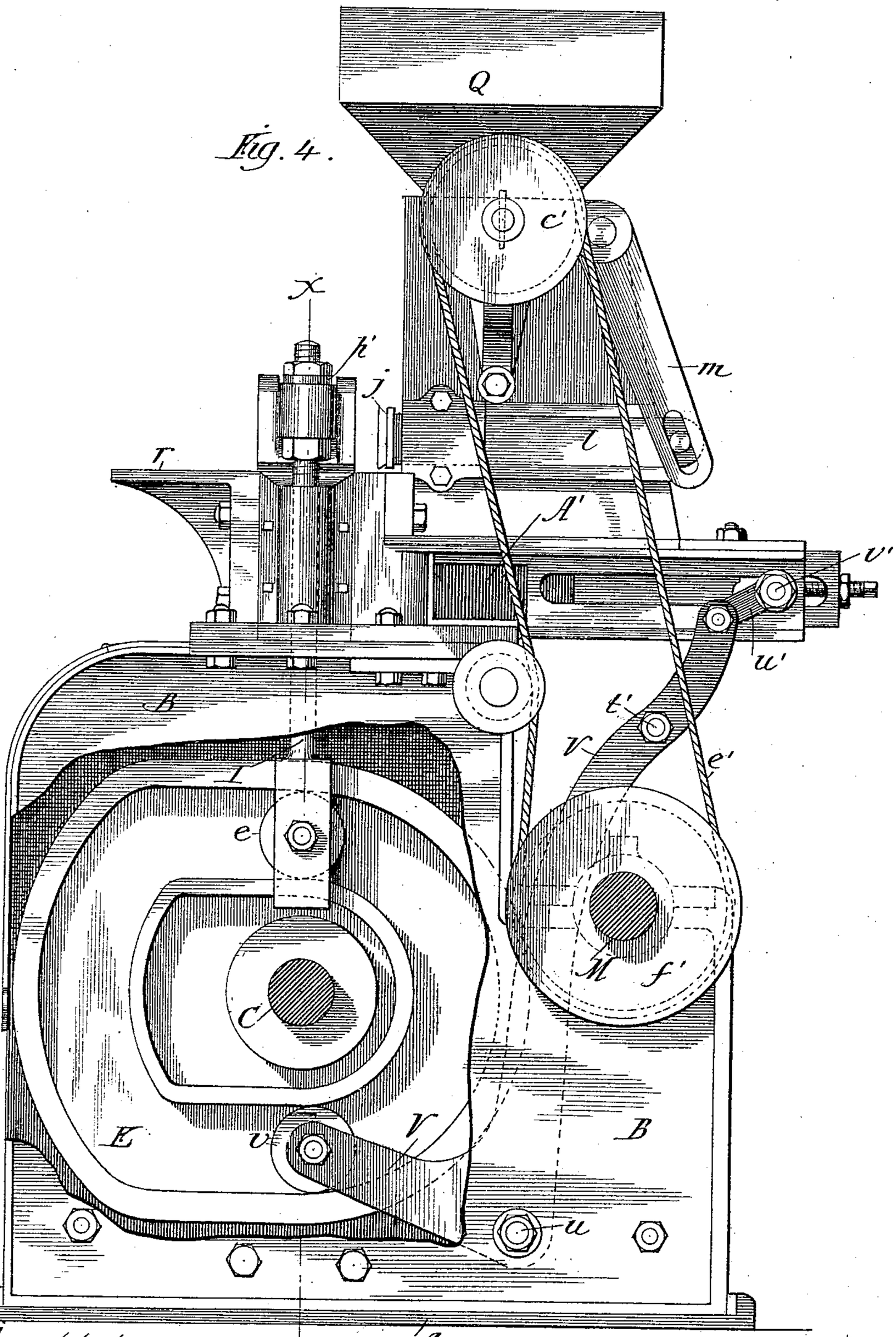
6 Sheets—Sheet 4.

W. L. GREGG.

BRICK MACHINE.

No. 354,187. Patented Dec. 14, 1886.

Fig. 4.



Witnesses.

J. W. Massey

Frank S. Massey

Inventor:

William Lincoln Gregg

(No Model.)

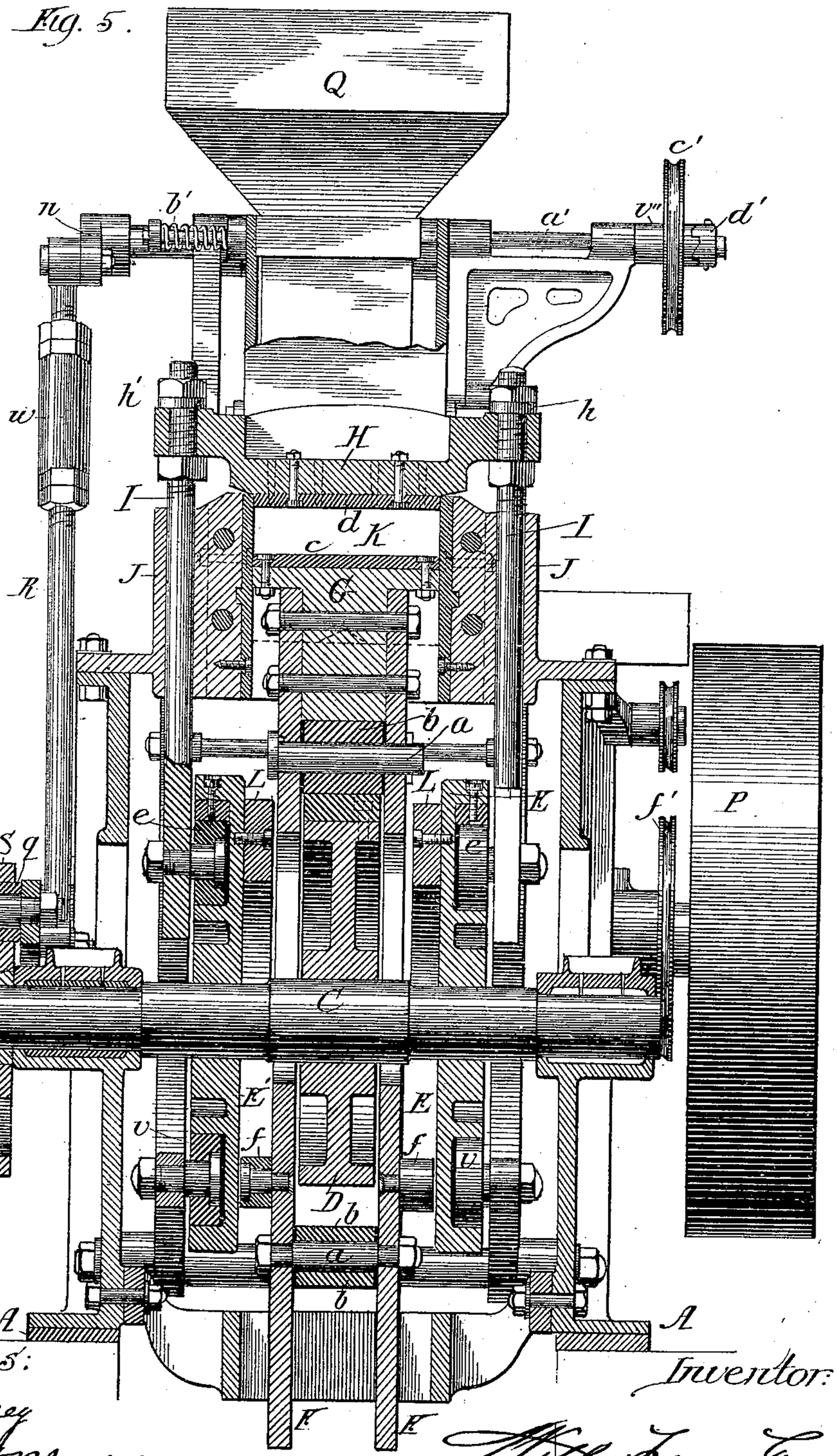
6 Sheets—Sheet 5.

W. L. GREGG.

BRICK MACHINE.

No. 354,187. Patented Dec. 14, 1886.

Fig. 5.



Witnesses:
J. D. Massey
Frank N. Moody

Inventor:
William Lincoln Gregg

(No Model.)

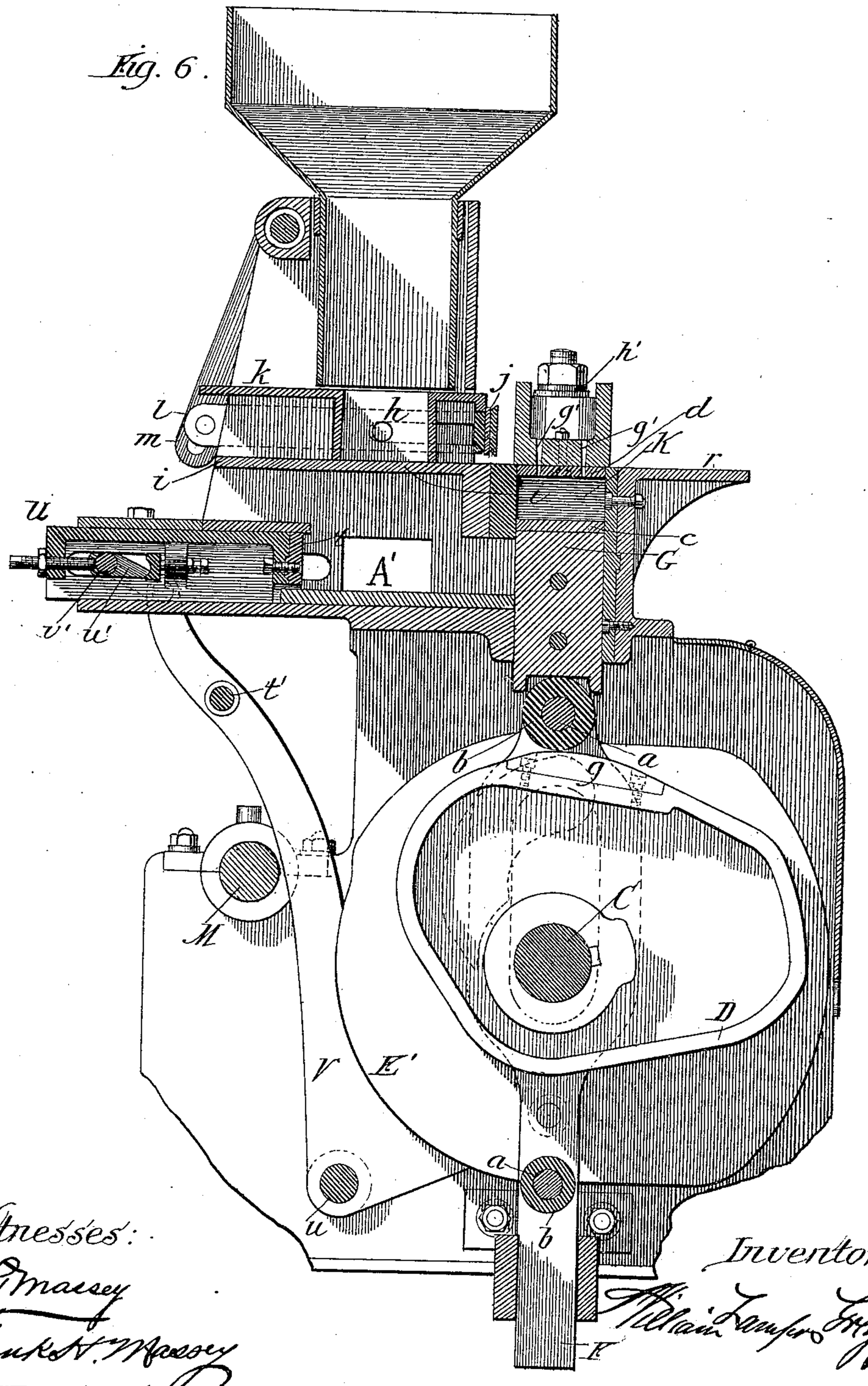
6 Sheets—Sheet 6.

W. L. GREGG.

BRICK MACHINE.

No. 354,187. Patented Dec. 14, 1886.

Fig. 6.



Witnesses:
J. R. Massey
Frank N. Massey

Inventor:
William Lemuel Gregg

UNITED STATES PATENT OFFICE.

WILLIAM LAMPAS GREGG, OF PHILADELPHIA, PENNSYLVANIA.

BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 354,187, dated December 14, 1886.

Application filed June 22, 1886. Serial No. 205,915. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LAMPAS GREGG, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, and a citizen of the United States, have invented a new and useful Improvement in Brick-Machines, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation. Fig. 2 is a rear elevation. Fig. 3 is a side elevation showing that side which is to the left in Fig. 1. Fig. 4 is a side elevation showing the side which is to the right in Fig. 1. Fig. 5 is a vertical section at line *x* of Fig. 4, and Fig. 6 is a section at line *y* of Fig. 1. Figs. 2 and 3 are somewhat enlarged.

The leading object of my invention is to construct a machine in such manner that it can be used both for making brick and for re-pressing brick, which I accomplish as illustrated in the drawings and hereinafter described.

Those things which I claim as new will be set forth in the claims.

In the drawings, A is a bed-plate.

B B are housings.

C is the center shaft, supported in suitable bearings.

D is the pressure-cam.

E E′ are two counter-pressure cams.

F F are two sliding bars, held at a proper distance from each other by bolts *a*, on two of which bolts are rollers *b*.

G is the plunger, which is secured by bolts to the bars F. The top of the plunger is provided with a removable plate, *c*.

H is a counter-pressure plate, which is provided with a removable plate, *d*, which enters the mold-box.

I are counter-pressure rods, to which the plate H is secured, which rods pass through guides J.

K is the mold-box, provided with a suitable lining, as usual.

e are rollers supported on studs secured to the counter-pressure rods I, one of which rollers is located in the cam-groove in each of the cams E E′.

f are rollers upon studs secured to the sliding bars F.

L are two horn-cams, one of which is secured to each of the cams E E′, which cams L, coming in contact with the rollers *f*, pull down the plunger at the proper time.

g (see Fig. 6) is a steel facing upon a portion of the cam D.

M, Fig. 2, is a counter-shaft.

N is a spur-wheel on the main shaft C.

O is a pinion on the counter-shaft M, which pinion engages with the spur-wheel N.

P is a driving-pulley on the counter-shaft M.

Q is a hopper, the bottom of which is over a receptacle, *h*, for clay, (see Fig. 6,) consisting of four walls or sides, which rest upon a fixed plate, *i*. To the forward end of this clay-receptacle is attached a head, *j*.

k is a plate connected with the clay-receptacle, which closes and opens the bottom of the hopper as such plate moves back and forth with the receptacle *h*.

l are two bars connected with the clay-receptacle *h*, one on each side. The rear end of each of these bars is provided with a pin, which enters a slot in the link *m*.

n is another link, and R is a projecting rod connected at its upper end with the link *n*, and pivoted at its lower end to a bar, *o*, (shown best by dotted lines in Fig. 3,) which bar *o* is pivoted at *p*, and at or near its center is provided with a roller, *q*, which is located in the groove in the cam S, (see Fig. 5,) which cam is upon the spur-wheel N.

r is a table onto which the brick are delivered.

T is a narrow table projecting from one side of the machine and extending some distance into the machine, on which table brick to be re-pressed are placed and pushed into the machine.

s is a guide-piece attached to one side of the table T. This table and guide-piece may be made from a piece of angle-iron.

U is a plunger, the forward end of which is provided with a steel face, *t*. This plunger is located at right angles to the table T. It is provided with a slot, block, and screws for adjusting the lost motion. It is operated by two bell-crank levers, V, pivoted at *u*, the short arm of the levers being provided each with a roller, *v*, located in the cam-grooves in the cams E E′. The upper end of each lever is connected with a link, *u′*, which links are connected with the rod *v′*.

t' is a tie-rod.

w are couplings for the purpose of adjusting the length of the rods with which they are connected.

a' is a shaft which passes through the hopper.

b' is a spring at one end of the shaft.

c' is a pulley on an enlarged part of the shaft *a'*, the end of which enlargement *v''* is notched and engages with a correspondingly-notched piece, *d'*, secured to the shaft. The pulley *c'* is driven by a cord, *e'*, which passes over the groove-pulley *f'*. The devices last described serve the purpose of agitating the clay in the hopper.

The opening upon one side of the machine into which the brick that are to be re-pressed are placed is indicated by the letter A'.

In the counter-pressure plate are small openings *g'*, to allow the escape of surplus clay, if any there be, in the mold-box.

h' are hard-rubber washers beneath the nuts at the upper ends of the pressure-rods I, for the purpose of slightly relieving the strain upon the parts in case there should be a little too much clay for the mold-box.

The movements of the plunger G, which gives the pressure, and the plungers U, which push the brick to be re-pressed into the mold-box, are so timed that the forward end of the plunger U is at its extreme forward limit when the plunger G is rising to about the position shown in Fig. 6, the inner end of the plunger U thus forming for the time being one of the walls of the lower end of the mold-box.

The operation is as follows: Supposing the machine to be in operation, and clay having been fed to the mold-box K, as hereinafter described, the plunger will be forced up by the action of the cam D against the pressure-roller, the counter-pressure plate H being at the same time held stationary. When the brick has been pressed, the action of the cams E E' will raise the counter-pressure plate, and the action of the cam D will carry up the plunger G until its upper surface comes in line with the table *r*. Then the head *j* will be carried forward, and the brick will be swept off onto the table *r*. At the same time the receptacle *h*, being filled with clay, will be carried forward to a point over the mold-box K, and the clay in *h* will drop into the mold-box, the plunger G having begun its descent, being carried down by the horn-cams L. At this time the plate *k* will be beneath the bottom of the hopper. By the movement of the machine the receptacle *h* and head *j* will be again carried back to the position shown in Fig. 6 and the counter-pressure plate H be brought down to the proper position for pressing another brick. The head *j* and receptacle *h* are moved back and forth by the action of the cam S, rod R, and links *m n*. The clay in the mold-box will then be pressed, the brick delivered, and a new charge of clay brought to the mold-box, as before described.

In re-pressing brick the operation is as follows: The brick to be re-pressed are placed one after another upon the table T and pushed into the machine until the forward brick comes in line with the plunger U. Then the plunger, being operated by the bell-crank levers V and cams E E', will push the brick forward into the mold-box, the plunger G at that time being down. Then by the action of the cam D and plunger G, as before described, the brick in the mold-box will be re-pressed and will be delivered upon the table *r*, as before described.

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

1. In a machine for making and re-pressing brick, a hopper, a sliding filler-box, a plate to close the bottom of the hopper, a sweep to remove the brick to a table, the filler-box, plate, and sweep moving together, in combination with a mold-box, plunger G, counter-pressure plate, shaft C, cams D, E, E', and S, and connections between the cam and sweep, all constructed, combined, and operating substantially as and for the purpose specified.

2. In a machine for making and re-pressing brick, the combination of a mold-box, a plunger, G, counter-pressure plate and rods, an opening to receive the brick to be re-pressed, sweep U, to push the brick to the mold-box, shaft C, cams D, E, E', and S, and levers V, substantially as and for the purposes specified.

3. In a machine for making and re-pressing brick, the combination of a hopper, a filler-box, a sweep to remove the brick, a plate, *k*, to close the lower end of the hopper, a mold-box, a plunger, G, counter-pressure plate and rods, an opening in the side of the machine to receive brick to be re-pressed, a sweep, U, to push the brick to the mold, main shaft C, cams D E E' S thereon, connecting-rod R, and levers V, substantially as and for the purpose specified.

4. In combination with the hopper, an agitator consisting of a shaft, *a'*, having a notched enlargement near one end, and carrying a pulley, *c'*, a notched piece, *d'*, upon the shaft *a'*, and a spring, *b'*, substantially as and for the purpose specified.

WILLIAM LAMPAS GREGG.

Witnesses:
J. R. MASSEY,
FRANK H. MASSEY.