

(No Model.)

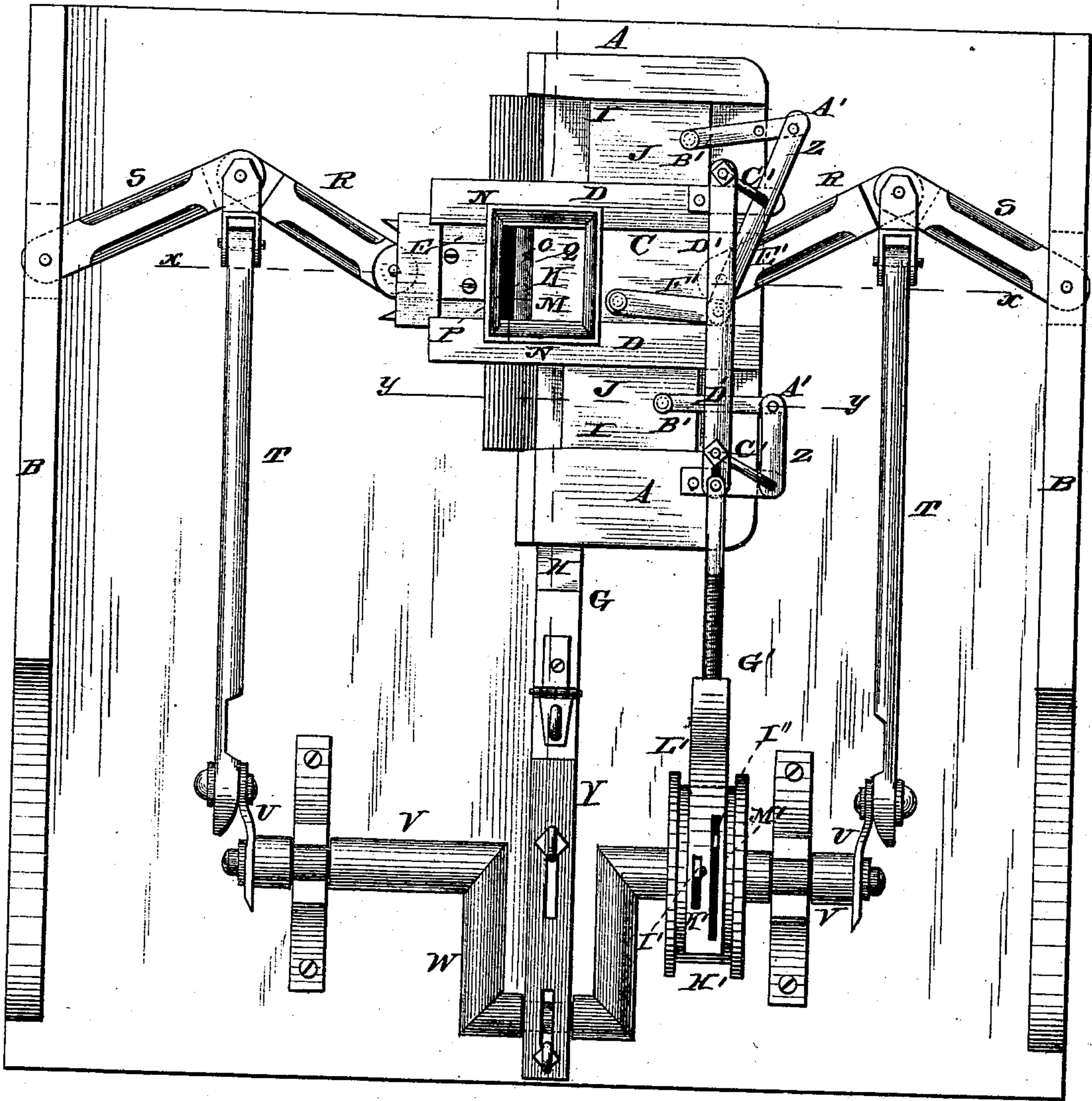
W. & A. B. WOODWARD.
BRICK MACHINE.

3 Sheets—Sheet 1.

No. 254,525.

Patented Mar. 7, 1882.

Fig. 1.



WITNESSES
J. Reddick
Wm. L. Dietrich
P. C. Dietrich

INVENTORS
William Woodward
Abel B. Woodward
by C. H. Snow & Co. Attorneys

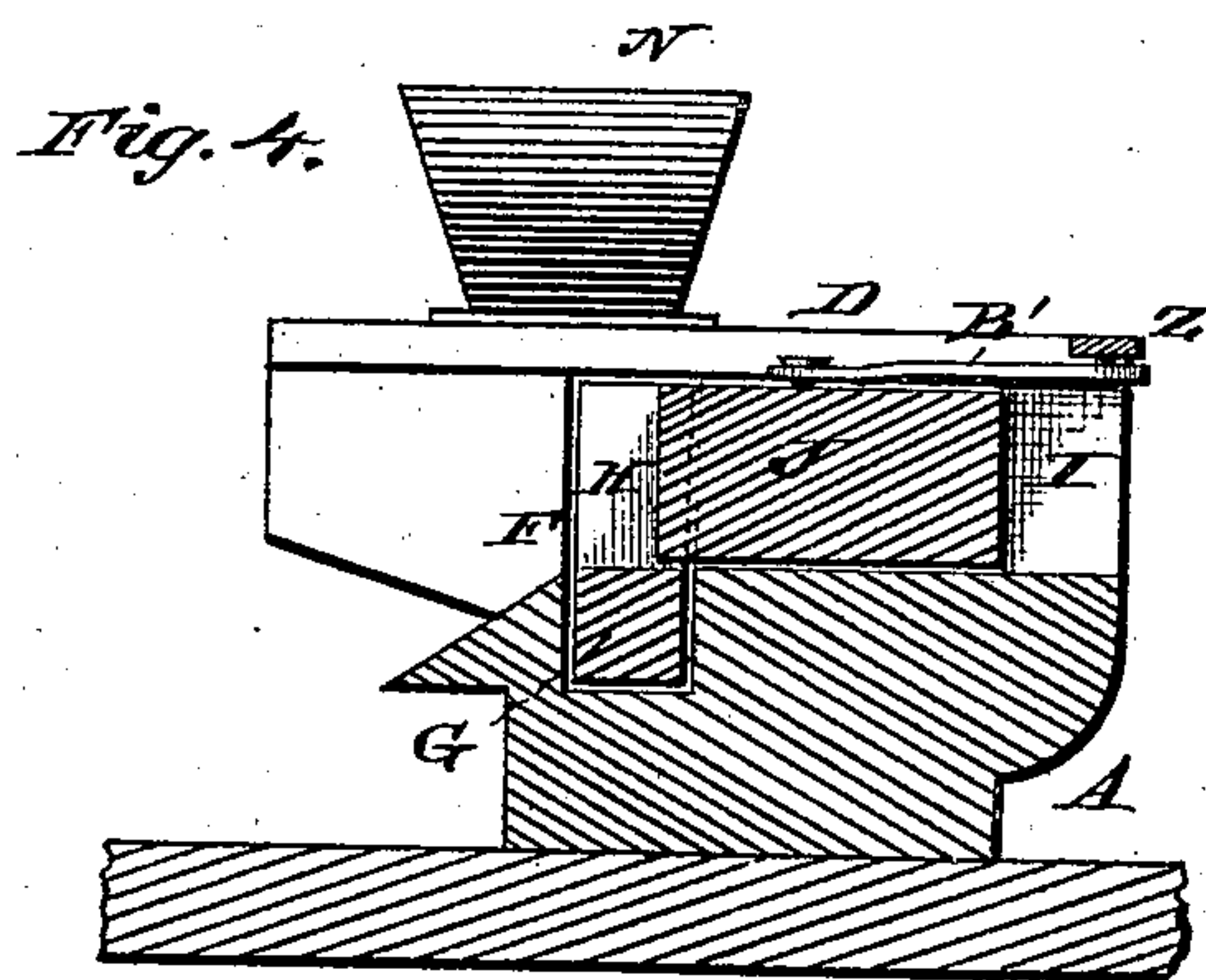
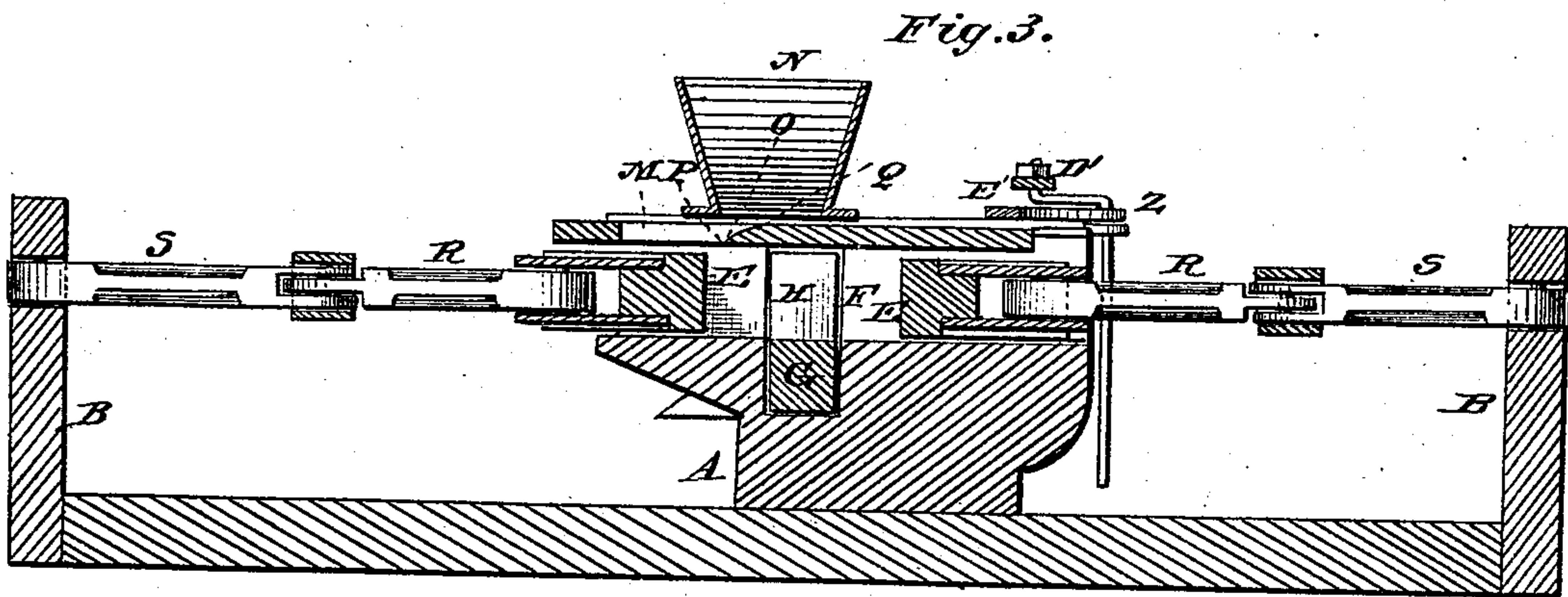
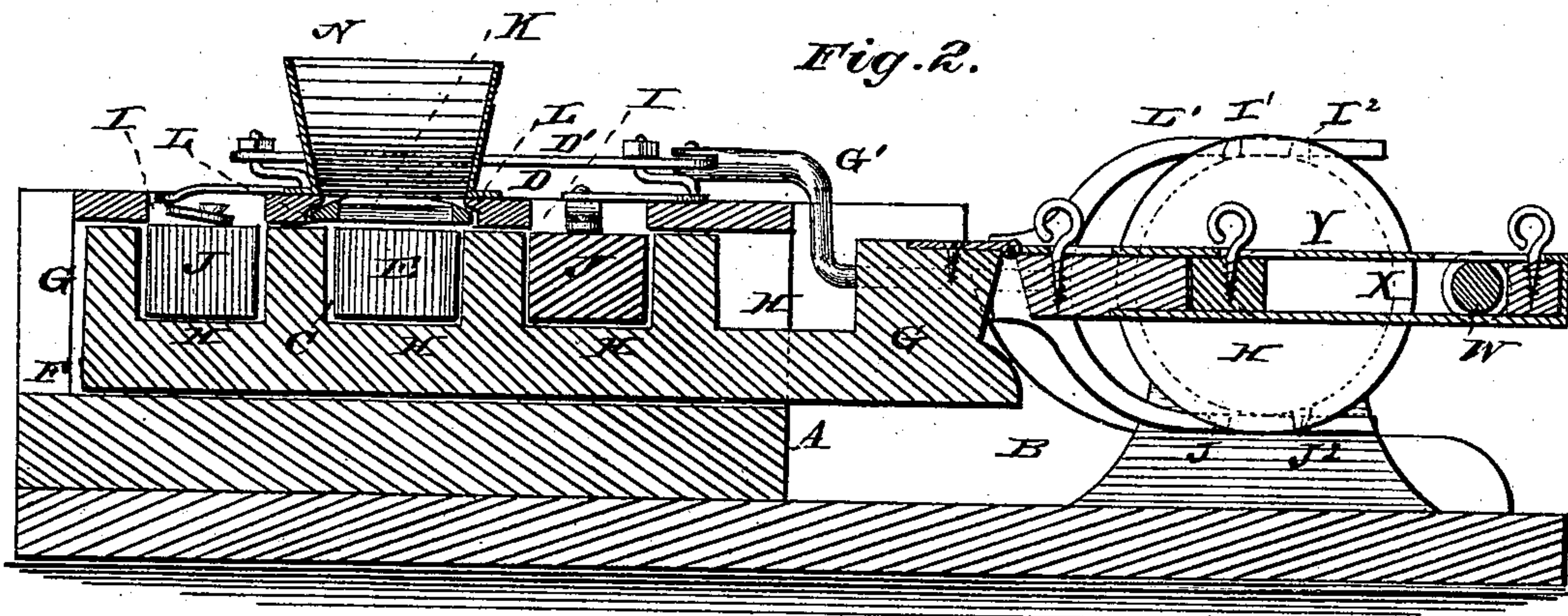
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W. & A. B. WOODWARD.
BRICK MACHINE.

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WITNESSES

J. B. S. S. S.
Fred. L. Dietrich.
F. C. Dietrich.

INVENTOR

Wm & A. B. Woodward,
by C. A. Snow & Co.

Attorneys

(No Model.)

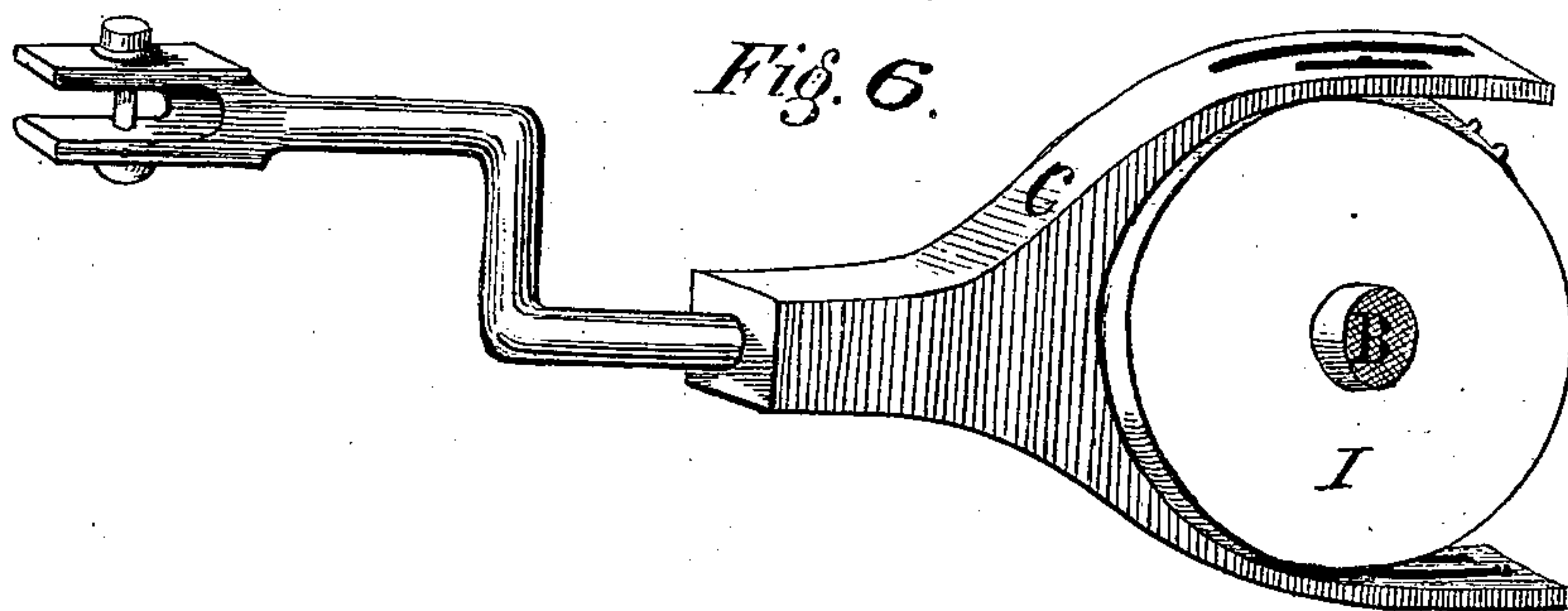
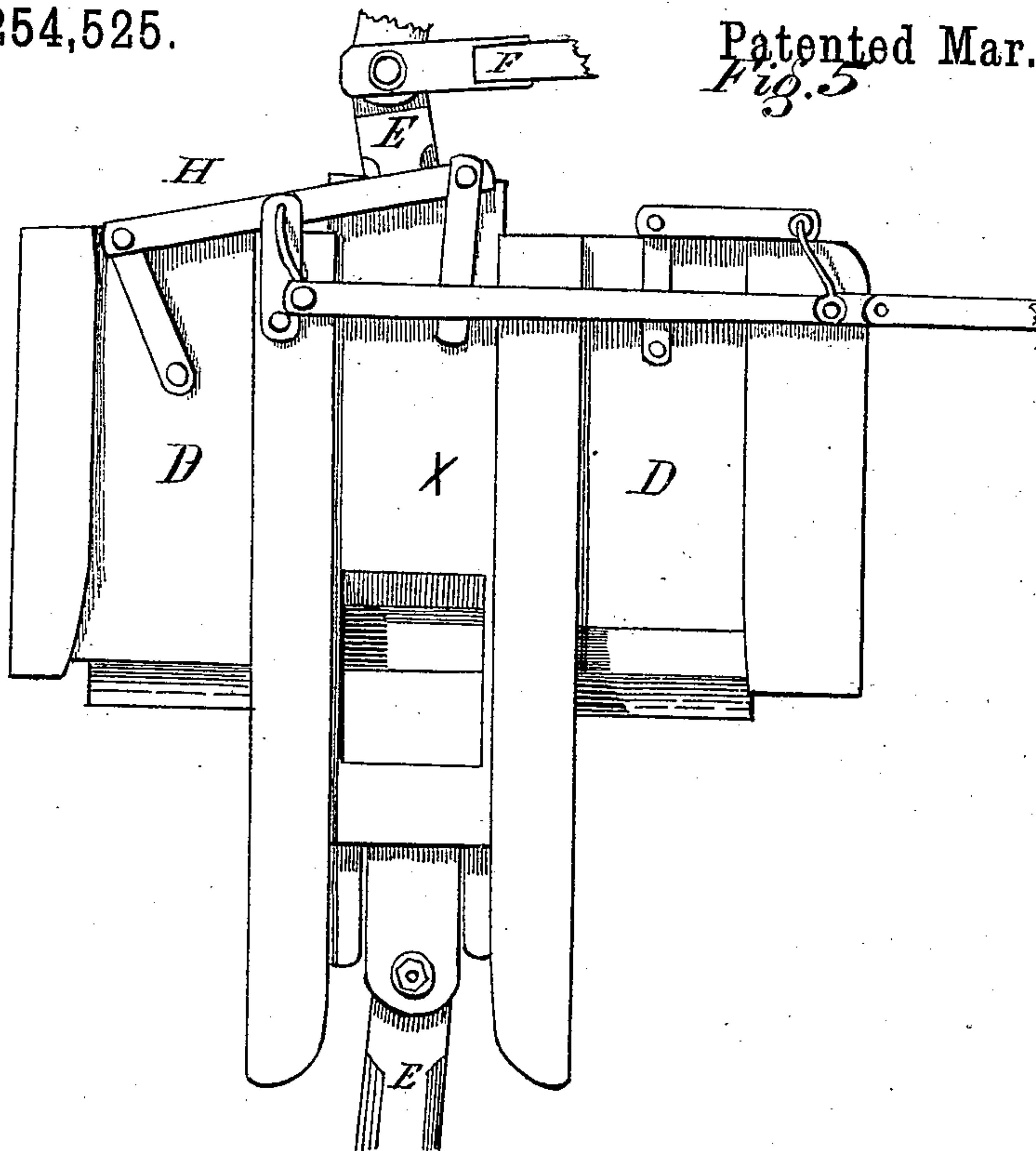
W. & A. B. WOODWARD.

3 Sheets—Sheet 3.

BRICK MACHINE.

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Fig. 5



Witnesses.

J. Reed Sillell
J. B. Noyes

Inventors

Wm. & A. B. Woodward
by *C. A. Snow & Co.*

attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM WOODWARD AND ABEL B. WOODWARD, OF NASHVILLE, TENN.

BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 254,525, dated March 7, 1882.

Application filed January 4, 1882. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM WOODWARD and ABEL B. WOODWARD, of Nashville, in the county of Davidson and State of Tennessee, have invented certain new and useful Improvements in Brick-Machines; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a plan view of our improved brick-machine. Fig. 2 is a longitudinal vertical sectional view. Fig. 3 is a vertical cross-section taken on the line *x x*, Fig. 1. Fig. 4 is a vertical cross-section on the line *y y*. Fig. 5 is a plan view, on an enlarged scale, of the hopper, sliding cap-plate, plungers, and operating mechanism; and Fig. 6 is a detail view, in perspective, of the eccentric and pitman.

Corresponding parts in the several figures are denoted by like letters of reference.

This invention relates to brick-machines; and it consists in certain improvements in the construction of the same, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, A represents the molding bench or table, which is placed between the firmly and rigidly connected sides B B of a suitably-constructed frame. Table A has a transverse recess, C, the upper edges of which are provided with flanges D, forming guides for the plungers E E, which form the sides of the mold. The recess C is intersected at right angles by a groove or recess, F, in which moves a slide, G, having transverse recesses H, four in number, of the size and shape of a brick set on edge. These recesses form the bottoms and ends of the brick-molds.

I I are recesses formed transversely in the table A, and intersecting the recess F at right angles on both sides of the central recess, C. In these recesses move the slides or plungers J, which serve to push the pressed bricks out of the molds and onto a suitably-arranged belt, (not shown in the drawings,) which carries them to the kiln.

E E are the plungers, which slide in the transverse recess C and form the sides of the mold.

The top of the latter is formed by the cap-plate K, which slides transversely in grooves L, near the upper edges of recess C. Said cap-plate is provided with a slot, M, which, when the plungers and cap are withdrawn, fits directly under the mouth of the hopper N, which is arranged upon table A above the recess C, thus causing the dirt or clay to pass by its own weight from the said hopper through slot M in the edge of the slot M in cap-plate K is beveled, as at O, to form a sharp cutting-edge, P, which will readily cut the clay in the act of separating the mass in the hopper. Adjoining the said beveled edge is formed a square shoulder, Q, which causes the dirt (the tendency of which is otherwise to adhere to the edge and accumulate under the side of the hopper, thus clogging and preventing the free motion of the cap-plate) to be precipitated into the mold. The plungers E E are connected by means of pivoted rods R with levers S, pivoted to the sides B of the main frame.

T T are pitmen connected in any suitable manner to the points at which the rods R and levers S are connected, and having their opposite ends connected adjustably to cranks U, upon the ends of a shaft, V, mounted in suitable bearings transversely in the main frame of the machine, or between the sides B of said frame. By adjusting the pitmen T in relation to the cranks the throw of levers S may be regulated, thus causing the plungers E to be drawn out or apart from each other any required distance. In this manner the size of the compressing-mold is adjusted according to the wet or dry state of the clay or dirt to be worked.

Shaft V is provided with a crank, W, working in a slot, X, in a pitman, Y, hinged or otherwise connected to slide G, to which an intermittent reciprocating motion is thus imparted.

Z Z are bell-crank levers pivoted upon the bench or table A, and having their forward projecting arms, A', connected by pivoted rods B' with the slides or plungers J, while their laterally-projecting arms C' are pivoted to a longitudinal connecting-rod, D'. One of levers Z also has a rearward-projecting arm, E', connected by a rod, F', with the sliding cap-plate K. The rear end of connecting-rod D'

is hinged or pivoted to a forked pitman, G', the prongs at the rear end of which embrace a flanged disk, H', keyed or otherwise secured upon shaft V, adjoining the crank W. Disk H' is provided with two pairs of studs, I' I² J' J², arranged on diametrically-opposite sides of the circumference of said disk, the studs I² J² slightly in advance of the others, as shown. Said studs are for the purpose of engaging slots K', formed in the prongs L' of the forked pitman G'. Long slots M' are also formed in prongs L', adjoining slots K', in order that the studs not in operation may clear the pitman.

The operation of this part of my invention is as follows: When the disk H' revolves one of the studs—say, I'—will engage the slot K' in the lower prong of the pitman, which is thus drawn back, operating the plungers J and cap-plate K. Stud I² passes through the lower slot M' without producing any effect. A moment later the stud J' engages the upper slot K' pushing the pitman forward and operating the plungers and sliding cap-plate, while stud J² passes through upper slot M' without effect. As the disk continues to revolve the stud J² next engages the lower slot K' while stud J' passes through lower slot M' without effect, and stud I² engages upper slot K' while I' passes through upper slot M' without effect. In this manner an intermittent reciprocating motion is imparted to the plungers J and cap-plate K, the periods of rest, while brief, being of sufficient duration to permit the clay to fill the mold when the cap-plate is withdrawn.

The operation of my invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. It is simple, durable, and may be easily operated at a considerable rate of speed.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

1. In a brick-machine, the combination of the bench or table A, having transverse recess C, intersected at right angles by a longitudinal recess, F, the plungers E E, the slide G, having recesses H, the sliding cap-plate K, and suitable operating mechanism, substantially as set forth.

2. In a brick-machine, the combination of the bench or table A, having transverse recesses C I I, and intersecting longitudinal recess F, the plungers E E J J, the slide G, having recesses H, the sliding cap-plate K, the hopper N, and suitable operating mechanism, substantially as set forth.

3. The combination of the plungers E, connecting-rods R, levers S, shaft V, having cranks U, and the pitmen T T, having their rear ends connected adjustably to the cranks U and their front ends to the connecting-points of rods R and levers S, substantially as set forth.

4. The combination, with the plungers J J and cap-plate K, arranged as herein described, of the bell-crank levers Z Z, one of which has an arm, E', the connecting-rods B' F' D', and mechanism for imparting to the latter an intermittent reciprocating motion, substantially as set forth.

5. The combination, with the flanged disk H', having studs I' I² J' J² arranged as herein described, of the forked pitman G', the prongs of which, L', have slots K' M', substantially as and for the purpose set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

WILLIAM WOODWARD.

ABEL BENJAMIN WOODWARD.

Witnesses:

WM. B. SINGLETON,

JNO. LANGHAM.