

*J. W. Pease,
Brick Machine.*

N^o 60,050.

Patented Nov. 27, 1866.

Fig. 1.

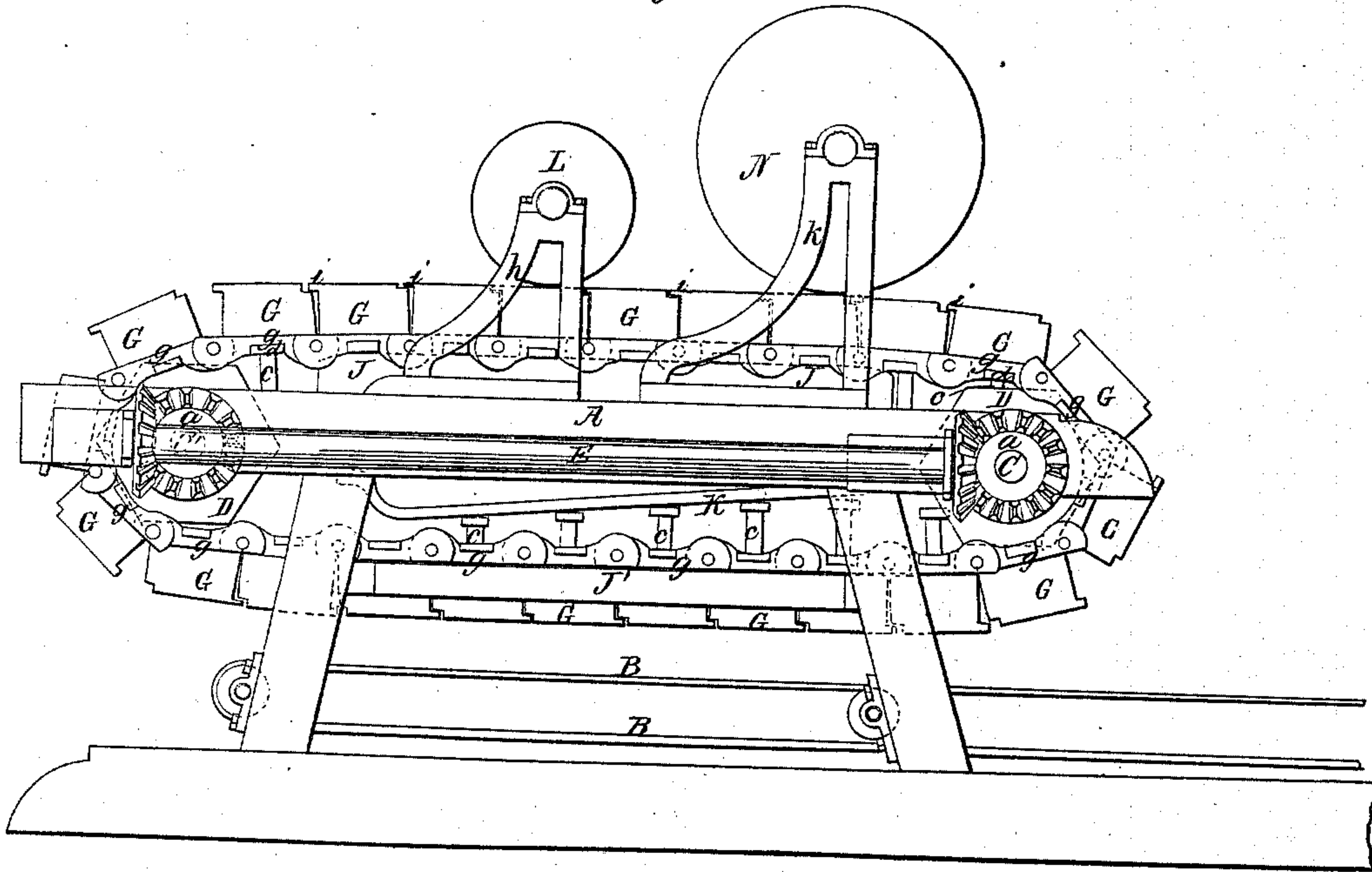
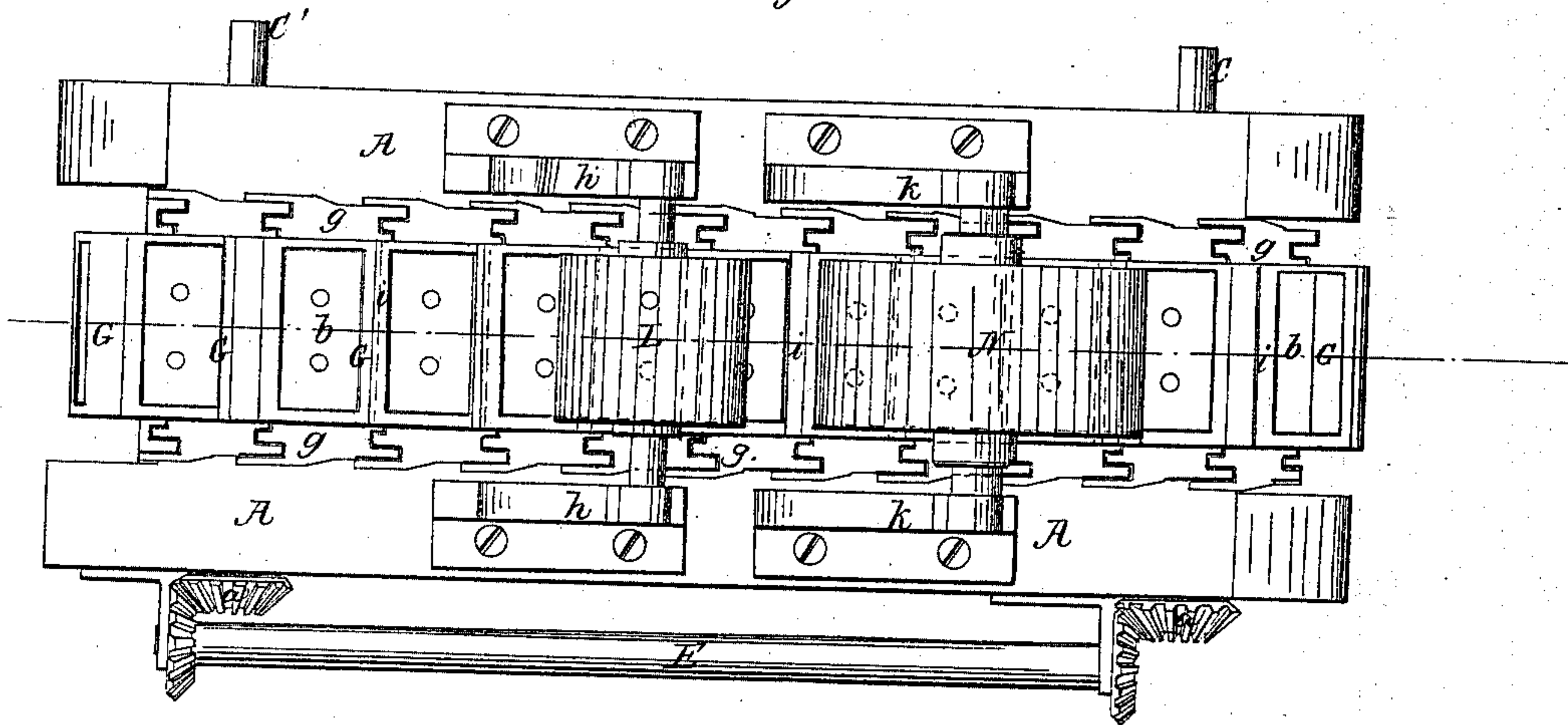


Fig. 2.



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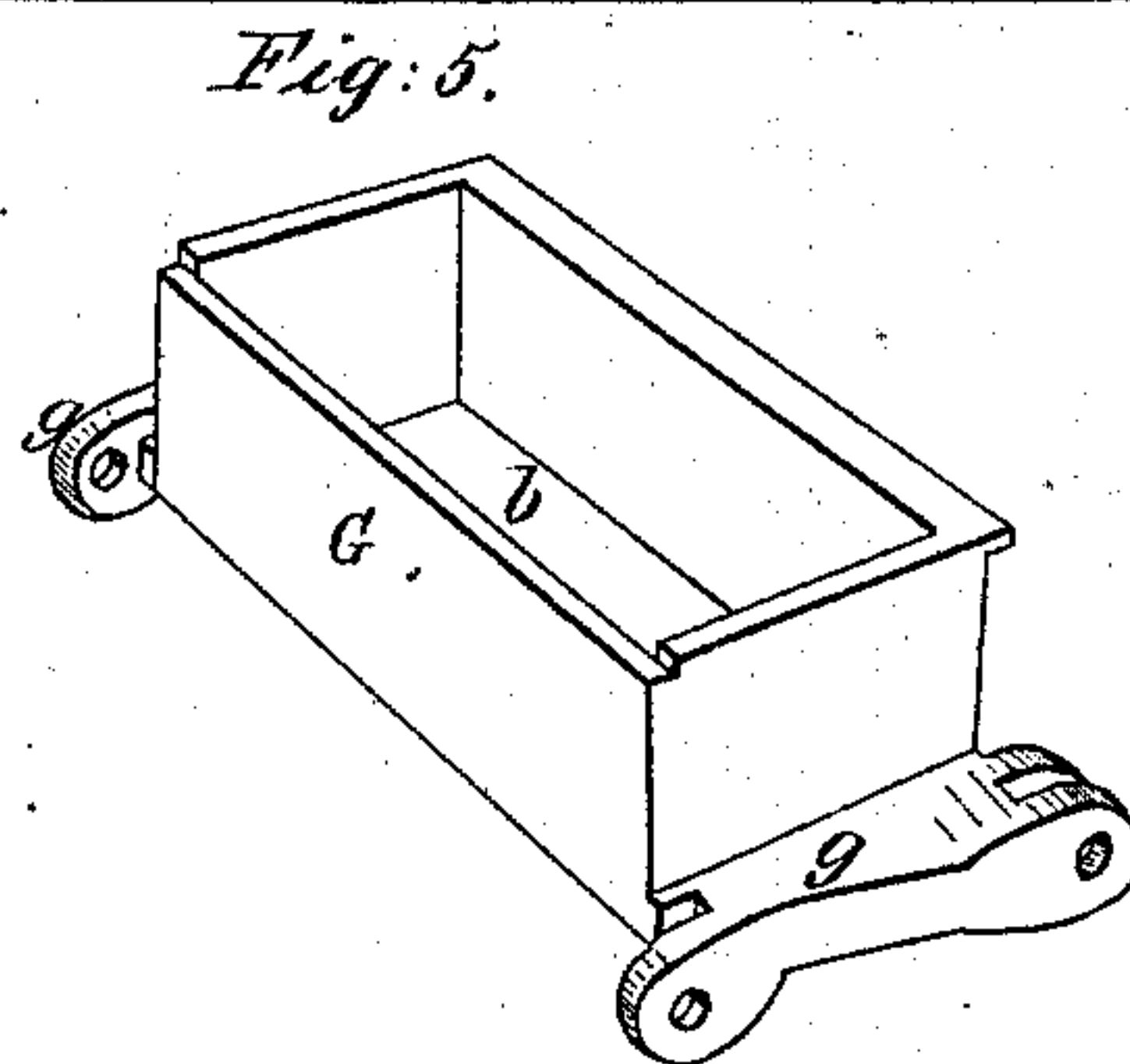
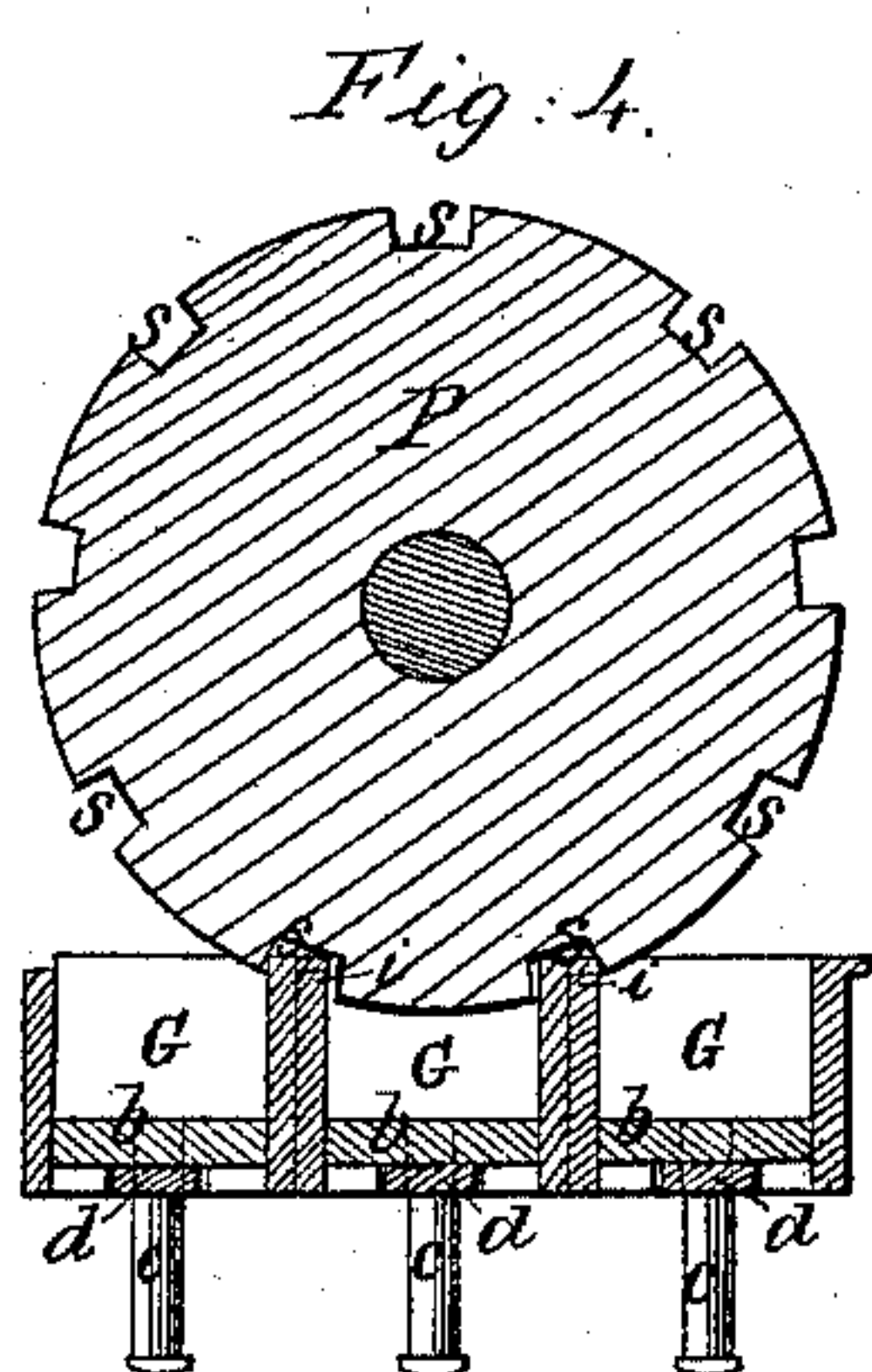
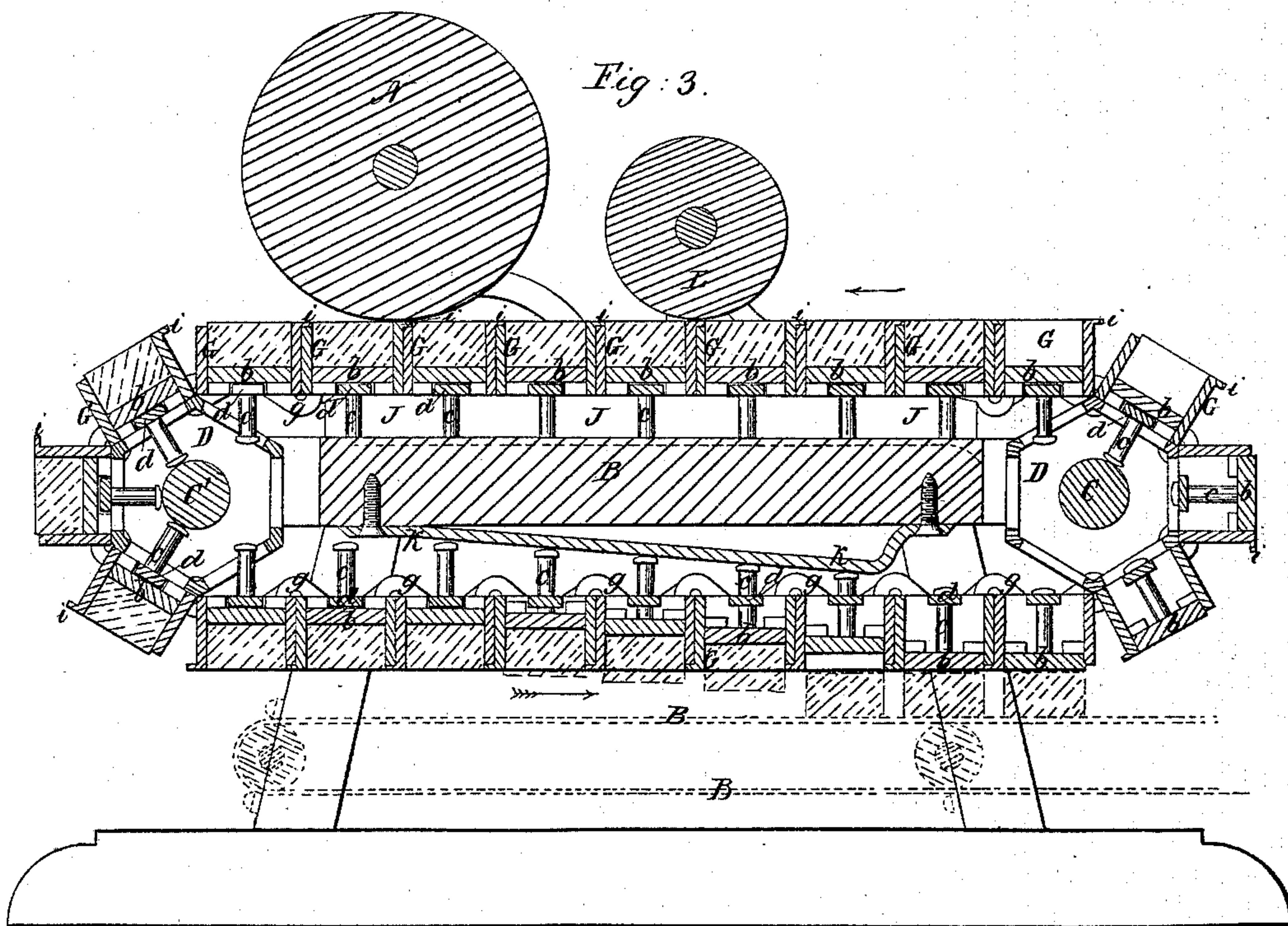
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2 Sheets. Sheet 2.

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United States Patent Office.

IMPROVED BRICK MACHINE.

JOHN W. PEASE, OF BELMONT, NEW YORK.

Letters Patent No. 60,050, dated November 27, 1866.

SPECIFICATION.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN W. PEASE, of Belmont, in the county of Alleghany, and State of New York, have invented certain new and useful improvements in Machinery for Making Bricks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, sheet 1, is an elevation of one side of the machine.

Figure 2 is a top view.

Figure 3, sheet 2, is a longitudinal section, taken in a vertical plane through the centre of the machine.

Figure 4 is a view in detail, showing the revolving pressure roller and brick moulds for making press bricks.

Figure 5 is a perspective view of one of the brick moulds.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain novel improvements on brick-making machinery, which is designed for making common or hard-pressed bricks.

The main object of my invention is to have an endless chain of horizontal mould-boxes, arranged so as to be moved by drums, which are supported upon a suitable frame, and to provide these boxes with movable bottoms or followers, which are caused to discharge the bricks when the boxes are moved beneath the drums and assume an inverted position, as will be hereinafter described.

Another object of my invention is to employ, in conjunction with an endless chain of mould-boxes, which move over drums, one or more pressure rollers, which are so arranged as to press the clay into the boxes as they successively pass beneath such rollers, and also to so construct the boxes that the clay shall be prevented from getting between them as they pass around, as will be hereinafter described.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

The frame upon which the brick-making machinery is mounted consists of a horizontal table, A, which may be made of any desirable length, according to the number of mould-boxes which it may be desired to employ. This table is mounted upon standards, so as to leave sufficient space beneath it for arranging an endless carrier, B, that receives the bricks as they fall from the mould-boxes, and conducts them away from the machine. Near the ends of the table A, and supported in suitable bearings applied to the longitudinal side-bars of this table, are horizontal transverse shafts, C C, to which are secured hexagonal drums, D D, which consist of regular hexagonal heads connected together by bars, as shown in the drawings. These drums are made in this manner for the purpose of allowing the follower stems of the mould-boxes to pass around without obstruction, and also for the purpose of supporting and giving motion to an endless chain of mould-boxes, in which the bricks are formed and pressed. On one end of each drum-shaft a bevel spur-wheel, *a*, is keyed, outside of the frame A, which wheels engage with corresponding ones that are keyed on a longitudinal shaft, E. The driving power is applied to the drum-shaft C in any convenient manner, and the motion of said shaft is transmitted, by means of the gearing and the shaft E above described, to the drum-shaft C', so that both of these drum-shafts move with the same speed and in the same direction, indicated by the red arrows in figs. 1 and 3. The rectangular mould-boxes G are all made alike, and each box is provided with a movable bottom, *b*, which has two studs or stems, *c c*, projecting from its lower side, and passing through holes made through bars, *d d*, that are secured to the lower edges of the vertical sides of the box. The ends of the stems *c c* have heads formed on them, which prevent their follower, *b*, from dropping out of its box when the latter is inverted, but which allow said follower to drop down to the position shown in fig. 3. Each mould-box, G, has two offsets, *g g*, formed on its ends, the ends of which project beyond the sides of the box, and are perforated and otherwise adapted to form connecting links for forming connections with corresponding links on the other boxes which make up the endless chain, as shown in the drawings. This endless chain of mould-boxes is applied over the drums D D, so as to be moved by them in one direction. The mould-boxes G are supported, when in an upright position for receiving the clay, by means of two parallel ways J, which are supported upon the top of the table A in a horizontal plane, and upon which the offsets *g g* bear during the filling and pressing operation. When the boxes G pass beneath the table A for discharging the bricks upon the endless carrier B, they are supported by their offsets *g g* upon the horizontal bars or ways J', which project from the standards of the table and prevent the boxes, or chain of boxes, from sagging. These lower supporting bars J' resist the pressure which is applied to the followers for discharging the bricks by an inclined plate, K, which is secured beneath the table B, as

shown in figs. 1 and 3. When the boxes G are brought above the table B in upright positions, and receive the clay in them, their followers are forced down, as shown in fig. 3. As the boxes move along beneath the inclined plate K, the follower stems *c c* are brought in contact with said plate, which will gradually force the bricks out of their boxes upon the endless carrier B, so that the boxes rise above the table empty. After the mould-boxes receive the clay on top of the table A, they successively pass beneath two cylinders, L and N, which are supported above the table A by means of standards *h k*. The small roller L is used for levelling the surface of the clay in the boxes and filling up spaces therein, and the periphery of this roller does not move in contact with the upper edges of the boxes, but merely keeps back a superfluity of clay. The larger roller N is designed for pressing the clay into the boxes and leaving the surface of the clay level with the upper edges of the boxes. This roller N presses into the boxes the clay which is left by the roller L projecting above the upper edges of these boxes. If desirable, stationary scrapers may be applied to the peripheries of the rollers L N, for keeping them clear of adhering clay. To prevent any liability of the clay being pressed between the sides of the mould-boxes which are above the table B, during the operation of filling and pressing the clay in the boxes, I construct upon one edge of each box a lip, *i*, which is received by a corresponding depression in the opposite edge of the adjacent box, thus closing the joints between the boxes, as shown in the drawings. In practice, I shall employ stationary side-plates applied on top of the table B, and so arranged as to prevent the escape of clay laterally from the surface of the chain of boxes. Such plates would fit snugly against the ends of the boxes and extend from the point where the clay is fed to the boxes beyond the pressure roller N. Fig. 4 shows a pressure roller, P, which is employed instead of the smooth-faced roller N for making hard-pressed bricks. As no portion of the surface of the pressure roller N enters the brick moulds there is very little pressure upon the clay. With such roller the machine produces common bricks. The circumference of the pressure roller P has grooves or channels, *s s*, formed in it at regular intervals apart, which receive within them the upper edges or partitions of the mould-boxes, and allow the intervening projections on said roller to enter the boxes and press the clay firmly therein. The roller N is so applied upon its standards that it can be removed and the grooved roller P applied in its stead. This roller, P, is rotated by the action of the boxes upon it. The clay may be fed to the mould-boxes in any convenient manner. I employ a hopper, which is arranged over the boxes in front of the pressure rollers, and which receives the mixed clay directly from a pug-mill by means of conveyers.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The employment, in conjunction with an endless chain of mould-boxes, G, of the levelling roller L, and a pressure roller N, arranged and operating substantially as described.
2. The grooved face pressure roller P, constructed and operating substantially as described, for pressing the clay into the mould-boxes.
3. Sustaining the endless chain of mould-boxes G upon the supporting bars J and J', by means of offsets, *g*, on the ends of said boxes during the filling of the boxes, and also during the discharging of the bricks therefrom.
4. Discharging the bricks from the endless chain of boxes by means of an inclined plate, K, acting upon the stems *c* of followers *b*, substantially as described.
5. Constructing the mould-boxes with offsets on their ends, which are adapted to form connections for said boxes, and also means for sustaining the boxes upon the bars J and J', substantially as described.
6. Preventing clay or other substance from getting between mould-boxes, which are connected together in the form of a chain by means of lips *i*, substantially as described.

JOHN W. PEASE.

Witnesses:

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EDW. SCHAFER.