

(No Model.)

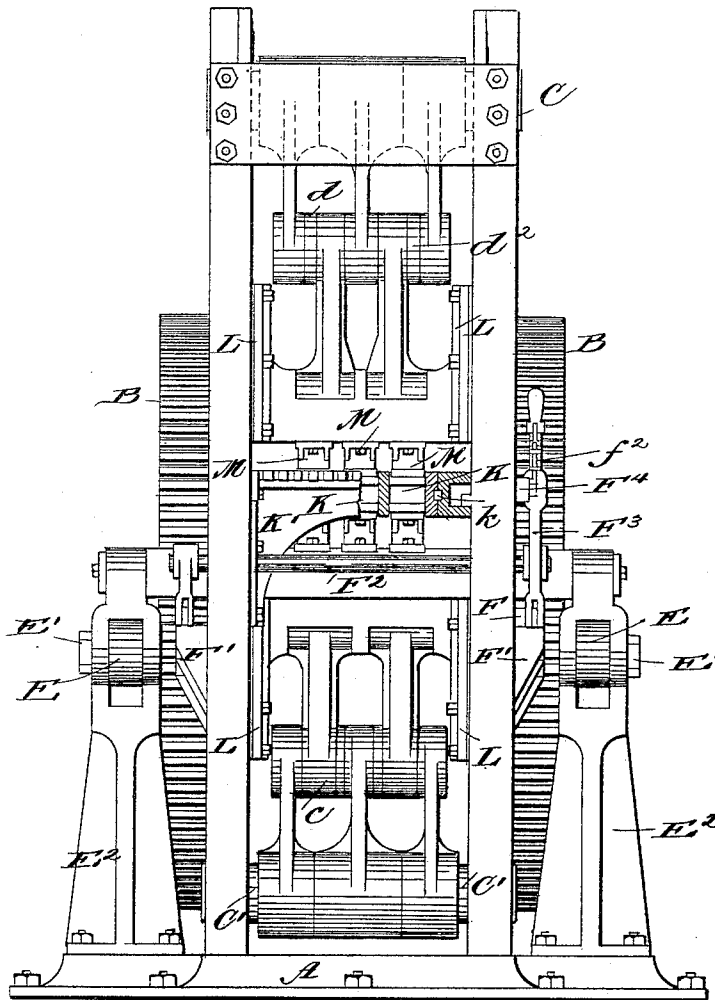
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J. H. KONEFES.
BRICK MACHINE.

No. 461,022.

Patented Oct. 13, 1891.

Fig. 1.



Witnesses

E. K. Bond
L. C. Mills

Inventor

John H. Konefes
per Chas. H. Fowler
Attorney

(No Model.)

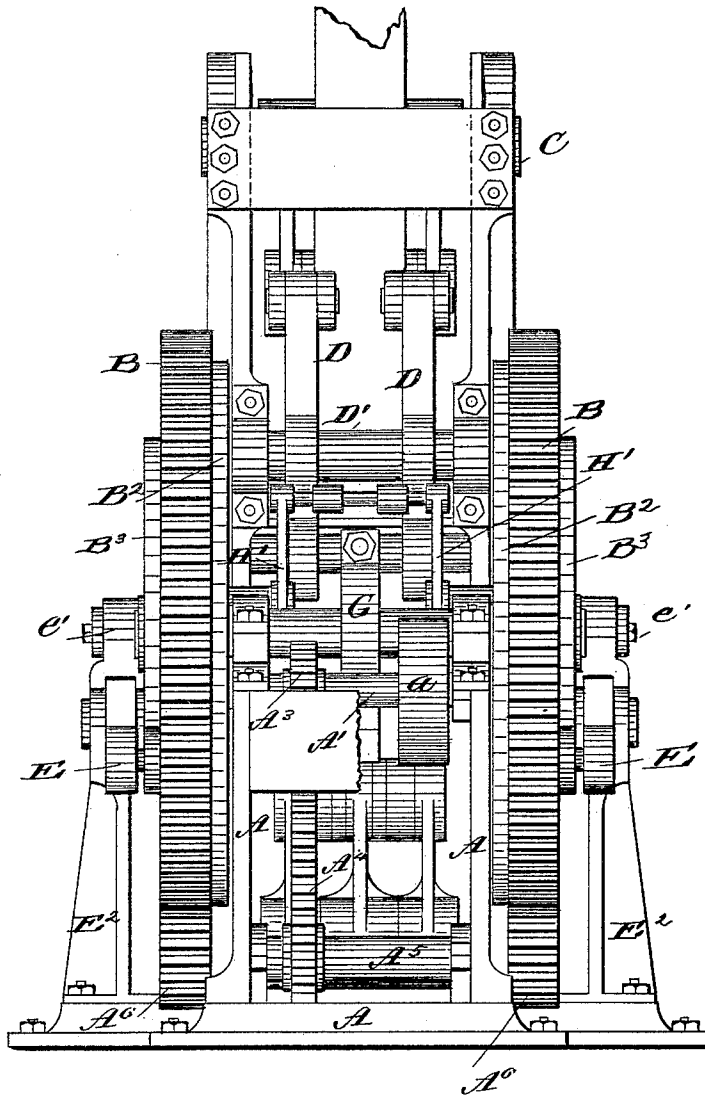
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Fig. 2.



Witnesses

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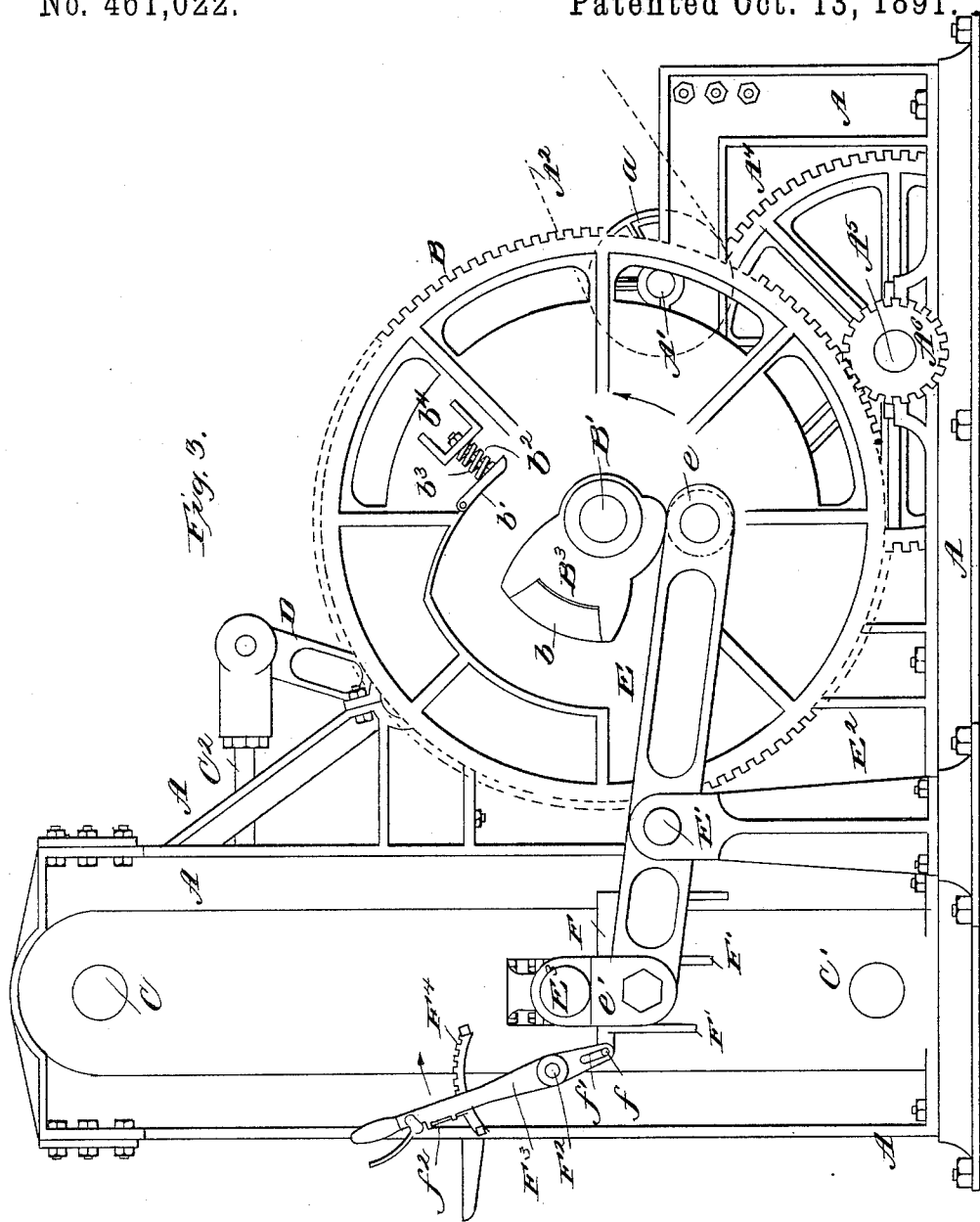
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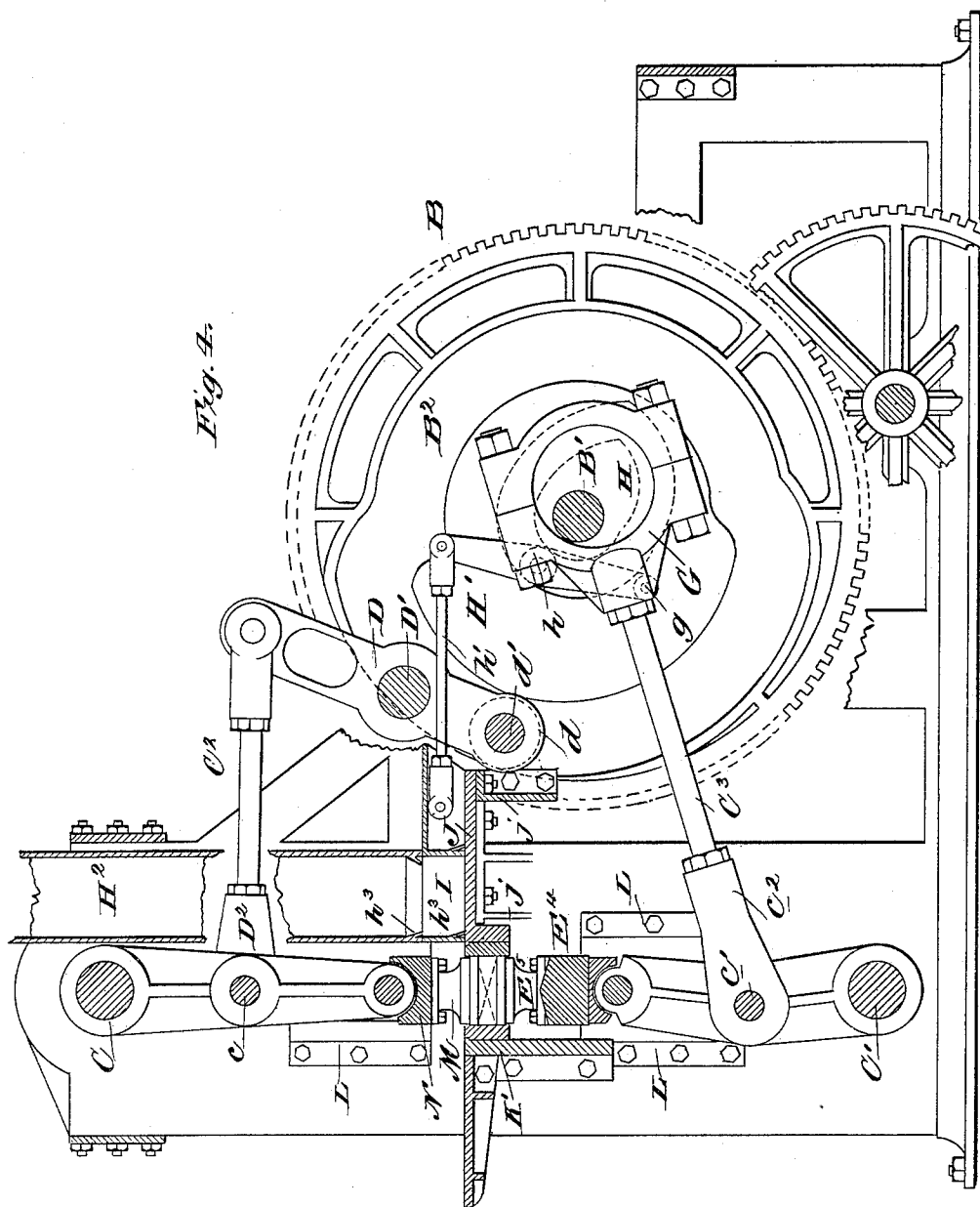
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UNITED STATES PATENT OFFICE.

JOHN HENRY KONEFES, OF QUINCY, ILLINOIS.

BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 461,022, dated October 13, 1891.

Application filed April 21, 1891. Serial No. 389,808. (No model.)

To all whom it may concern:

Be it known that I, JOHN HENRY KONEFES, a citizen of the United States, residing at Quincy, in the county of Adams and State of Illinois, have invented certain new and useful Improvements in Brick-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

This invention relates to certain new and useful improvements in brick-machines; and it has for its objects, among others, to provide an improved machine capable of performing better work and that with less attention on the part of the attendant. I provide improved mechanism for operating the plunger and mold-box and means for adjustment of the cam which operates the lower follower, said adjustment being provided for the purpose of taking up the wear and to regulate the throw of the cam to the proper height.

For the purpose of changing the machine from making stock-bricks or common bricks, the former being somewhat thicker than the latter, I prefer, in order to make the change, to use a sheet-metal plate of the thickness I wish to vary the sizes of the bricks, and attach the same over the cross-head of the lower toggle under the lower follower.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a front elevation of a brick-machine embodying my invention. Fig. 2 is a rear view of the same with parts broken away. Fig. 3 is a side elevation. Fig. 4 is a vertical longitudinal section through the machine.

Like letters of reference indicate like parts throughout the several views.

The supporting-frame and some of the parts common to all brick-machines of this class may be of any of the known or preferred form of construction. In the drawings this supporting-frame is designated by the letter

A. A' designates the main shaft, suitably journaled in bearings in this frame and carrying the driving-pulley *a*, which receives the belt A², driven from any suitable source of power. (Not shown.) This shaft A' carries a gear-wheel A³, which meshes with a larger gear-wheel A⁴ on the shaft A⁵, which also carries a smaller gear-wheel A⁶, which in turn meshes with the large main gear B, carried by the shaft B', there being two gears A⁶ and two main or large gears B, as seen in Fig. 2, one near each end of the shafts. The gears B are provided with cam-tracks B², as seen in Fig. 4, and in which work the rollers on the ends of the levers that actuate the upper toggles, soon to be described. On the shaft B' is a cam B³, as seen in Fig. 3, which actuates the levers that eject the bricks out of the molds, and soon to be described. This cam is provided with an adjustable acting face *b*, as shown in Fig. 3, for the purpose of taking up the wear and to regulate the throw of the cam to the proper height. These cams are preferably cast on the main gears B. *b'* is a movable and adjustable gate or flange, said flange being preferably adjusted by means of a heavy spring *b*², as seen in Fig. 3, the spring surrounding a post or pin *b*³, adjustably held in a suitable support, as *b*⁴. (See Fig. 3.) The object of this movable flange is to obtain a yielding action of the cam on the shaft B on the lever E, as will be seen from Fig. 3.

C designates a shaft to which the upper toggles are connected, and C' designates the shaft to which the lower toggles are connected. The upper toggles are of known construction. They are jointed at *c*, (see Fig. 4,) and to the upper toggles at their center are connected the pressing-rods C², which are connected at their other ends to the levers D, which are connected to the shaft D', and are provided with anti-friction rollers *d* on the shaft *d'*, said rollers working in the cams B², as seen in Fig. 4. The rods C² are connected with the toggle in any suitable manner, preferably by stirrups *d*², as seen in Fig. 1. This manner of connection, however, is immaterial. The adjustment of the flange *b'* is for the purpose of regulating the downthrow of the levers E, as will be explained hereinafter.

The levers E are carried by a shaft E', journaled in suitable bearings in the pillow-blocks E², supported on the frame, as seen in Fig. 3. At their forward ends these levers are provided with anti-friction rollers e, (see Fig. 3,) and which are acted upon by the cams B³. (See the same figure.) The other ends of these levers carry the pitmen e' and the follower-shaft E³.

E⁴ is the lower follower-block, located over the lower toggles, and to the same are attached the lower dies E⁵, the follower-shaft and pitmen being strapped over the levers E and forming a continuous link by which the bricks when pressed are to be lifted out of the molds by means of the cams B³, and when lifted out they cause the follower to be drawn down to the required depth.

F are adjustable wedge-shaped followers for the purpose of adjusting and regulating the necessary or desired amount of clay.

F' are guides for the followers. They are cast on or attached to the frame, as best shown in Fig. 3.

F² is a shaft on the frame A, and on this shaft the lever F³ is fulcrumed, as seen in Fig. 3, said lever being loosely connected with one end of the follower or followers F by means of the pin f and elongated slot f', as seen in Fig. 3, the said lever being provided with a suitable spring-locking device f², adapted to engage any one of the notches in the notched segment or rack-bar F⁴ on the frame A, whereby the lever can be held in any one of its adjusted positions. The manipulation of the lever forward will draw the wedge-shaped follower in the direction of the arrow in Fig. 3 and reduce the amount of clay, while movement in the opposite direction will increase the amount of clay.

The lower toggle-levers are jointed at c', (see Fig. 4,) and C³ is a pressing-rod attached to the central shaft c' by the stirrup c², and the other end of this rod is connected to the eccentric G on the shaft B', as seen in Fig. 4, whereby the said eccentric, through the medium of the said rod and stirrup, operates the lower toggles.

H are cams on the gears B, as seen best in Fig. 4, and H' is a lever pivoted at g, as seen in the said figure, and near the center of its length carrying an anti-friction roller h, which works in the cam H, the other ends of the levers being connected by the pitmen h' with the draw-hopper I, as shown in Fig. 4.

H² is the hopper, suitably supported on the frame. Within the hopper and draw-hopper I cast flanges h³, as shown clearly in Fig. 4, thus forming a vacuum between the inner and outer parts of the said hoppers, thus preventing the dust from penetrating through when the draw-hopper is being filled.

J is the mold-table, the same having a mold-box cast into the same, said table being bolted onto flanges j, cast onto or fixedly secured to the frame A, as shown in Fig. 4.

K are the molds, which are secured in the mold-box by means of wedge-shaped tongues or keys k, as shown in Fig. 1, which are inserted partly in grooves in the mold-box and partly in the molds, as shown in said Fig. 1, and extending through the brace K', Fig. 4, and having threads at the ends by which they can be drawn out, and thus loosen the mold from the mold-box.

L are guides for the upper and lower toggles, as shown best in Fig. 4.

M are the upper plungers or dies, carried by the upper pillow-block N.

The operation will be readily understood from the above description when taken in connection with the annexed drawings, and, briefly stated, is as follows: The arrows on the gear B indicate the direction in which it travels. The cams B² are so shaped that they will operate the upper toggles rapidly in the start until the plunger will have entered the molds, then will descend very slowly until about to a finishing-point, and then will remain stationary, and thus form a pillow-block for the lower toggles, until the latter have been brought to the fulcrums by the eccentric G and connections, thus pressing the bricks to the proper size. The cams B³ then operate the levers E, which, through the connections above described, will raise said follower to the top of the mold-table, and in so doing will eject the bricks out of the molds, at which point the cams H will operate on the lever H', thus drawing the draw-hopper and the bricks forward. In the meantime the cams B³ will have operated the levers E and the lower follower dropped downward, so as to give space for the refilling of the molds. The cams H will then come into action to cause the draw-hopper to be withdrawn, and in so doing will recharge or refill the molds. The operation is continuous and automatic, all the parts being so timed as to come into action at the required time.

For the purpose of changing the machine for making bricks of one thickness to those of a different thickness I employ a sheet-metal plate of the thickness I desire to vary the thickness of the bricks and attach the same over the cross-head of the lower toggle between the same and the lower follower. After having pressed the bricks the lower toggles will recede and the follower be carried up by the lever E, operated by the adjustable cam B³. The sheet-metal plate can be readily taken out and changed for one of a different thickness.

What I claim as new is—

1. In a brick-machine, the combination, with the main gears and their shaft, of the cam on the said shaft and the movable flange, as set forth.

2. In a brick-machine, the combination, with the main gears and their shaft, of the cam on the said shaft, the lever connected with the lower follower, and the movable and

spring-actuated flange, arranged and operating substantially as and for the purpose specified.

5 3. In a brick-machine, the combination, with the main gear and its shaft, of the cam on the shaft, the lever and the lower follower connected therewith, and the movable adjustable spring-actuated flange, arranged and operating substantially as set forth.

10 4. In a brick-machine, the combination, with the main gear and its shaft, of the adjustable cam on the said shaft and the movable and adjustable flange, substantially as specified.

5. In a brick-machine, a draw-hopper provided with flanges h^3 , substantially as and for the purpose specified. 15

6. In a brick-machine, the combination, with the hopper, of the draw-hopper, each formed with flanges to create a vacuum, substantially as and for the purpose specified. 20

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN HENRY KONEFES.

Witnesses:

AUGUST B. HELLHASER,
HENRY DAMHORST.