2 Sheets—Sheet 1.

H. DUEBERG.

Brick Press.

No. 71,466. Patented Nov. 26, 1867.

Fig. 1.

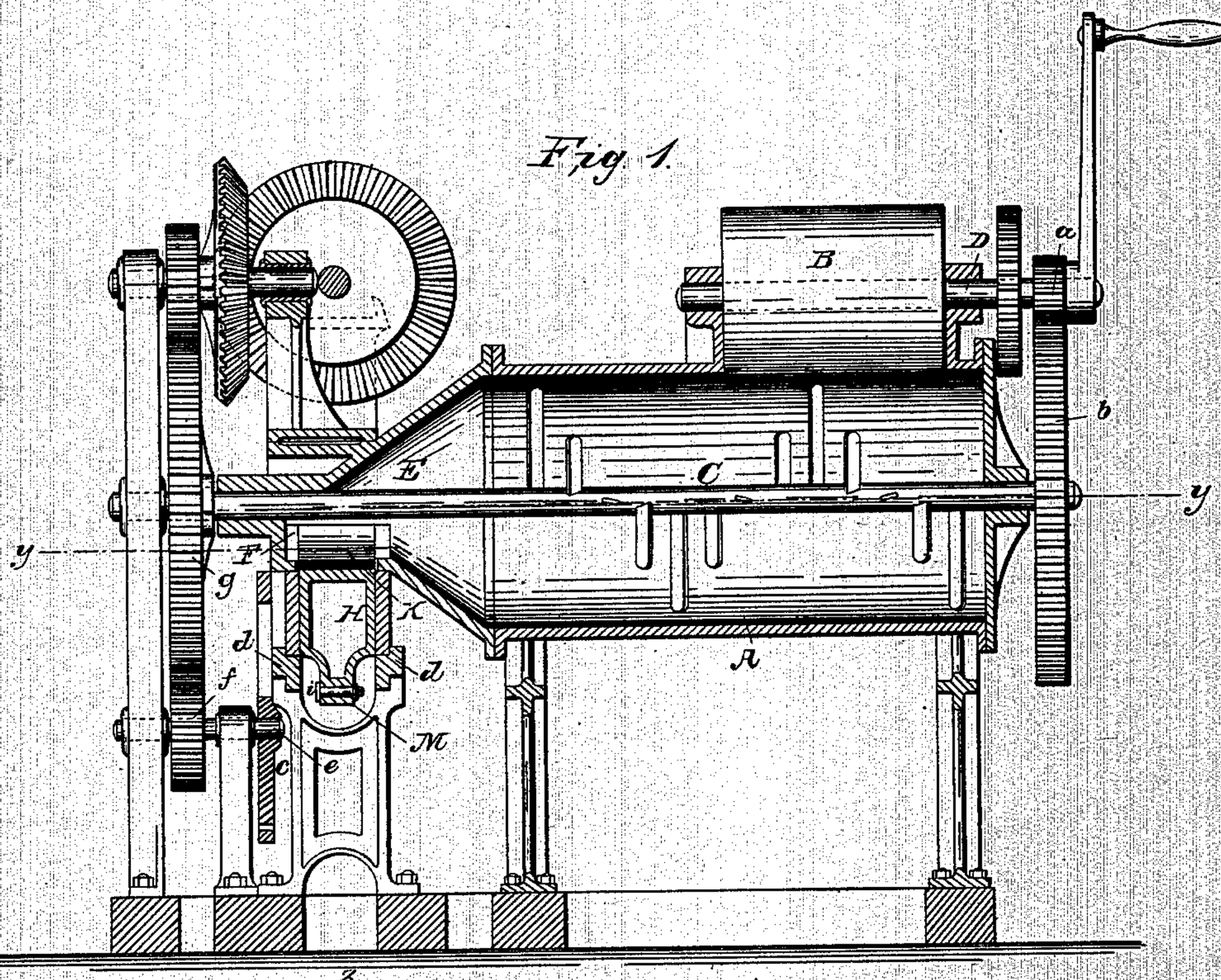
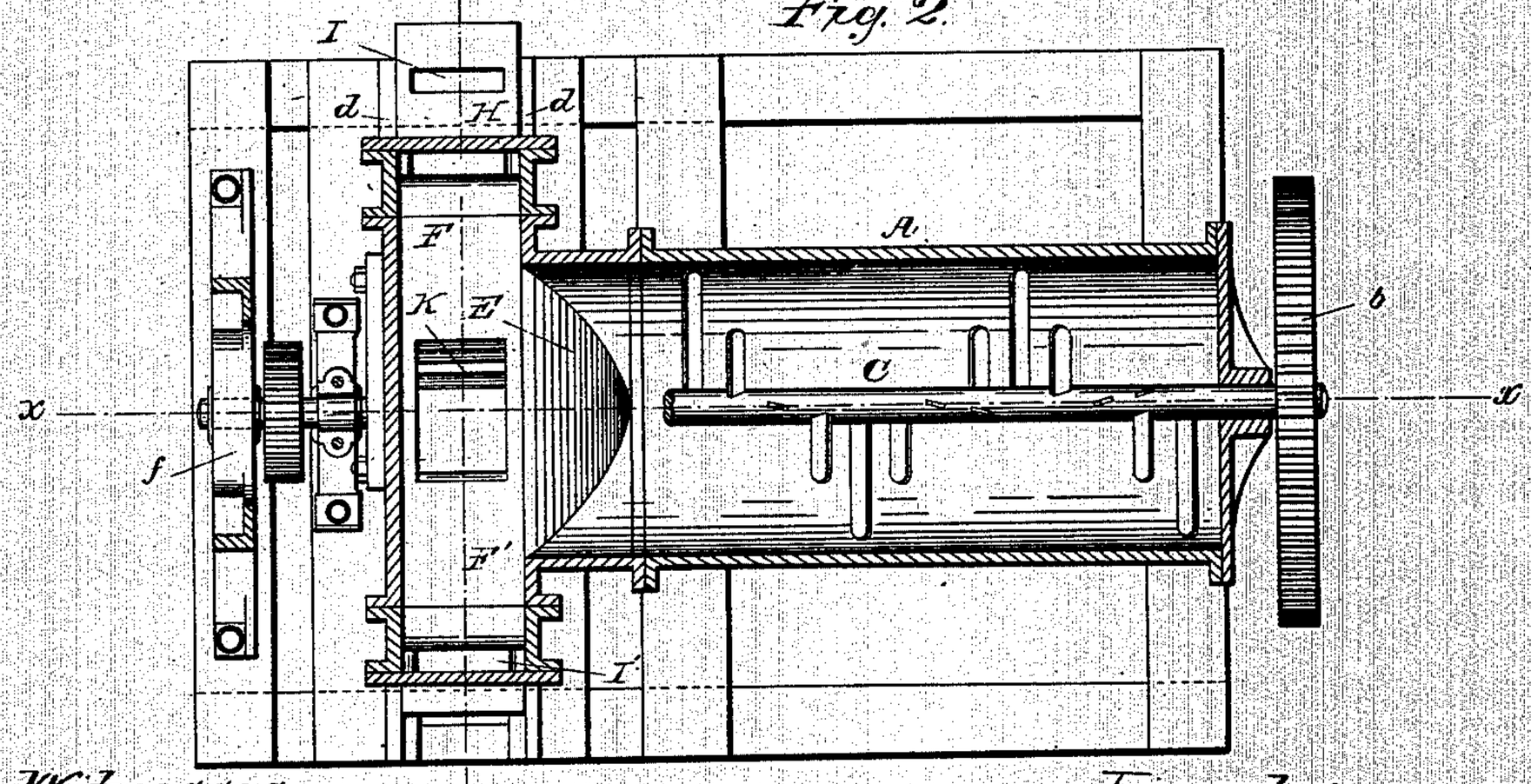


Fig. 2.



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2 Sheets—Sheet 2.

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Fig. 3

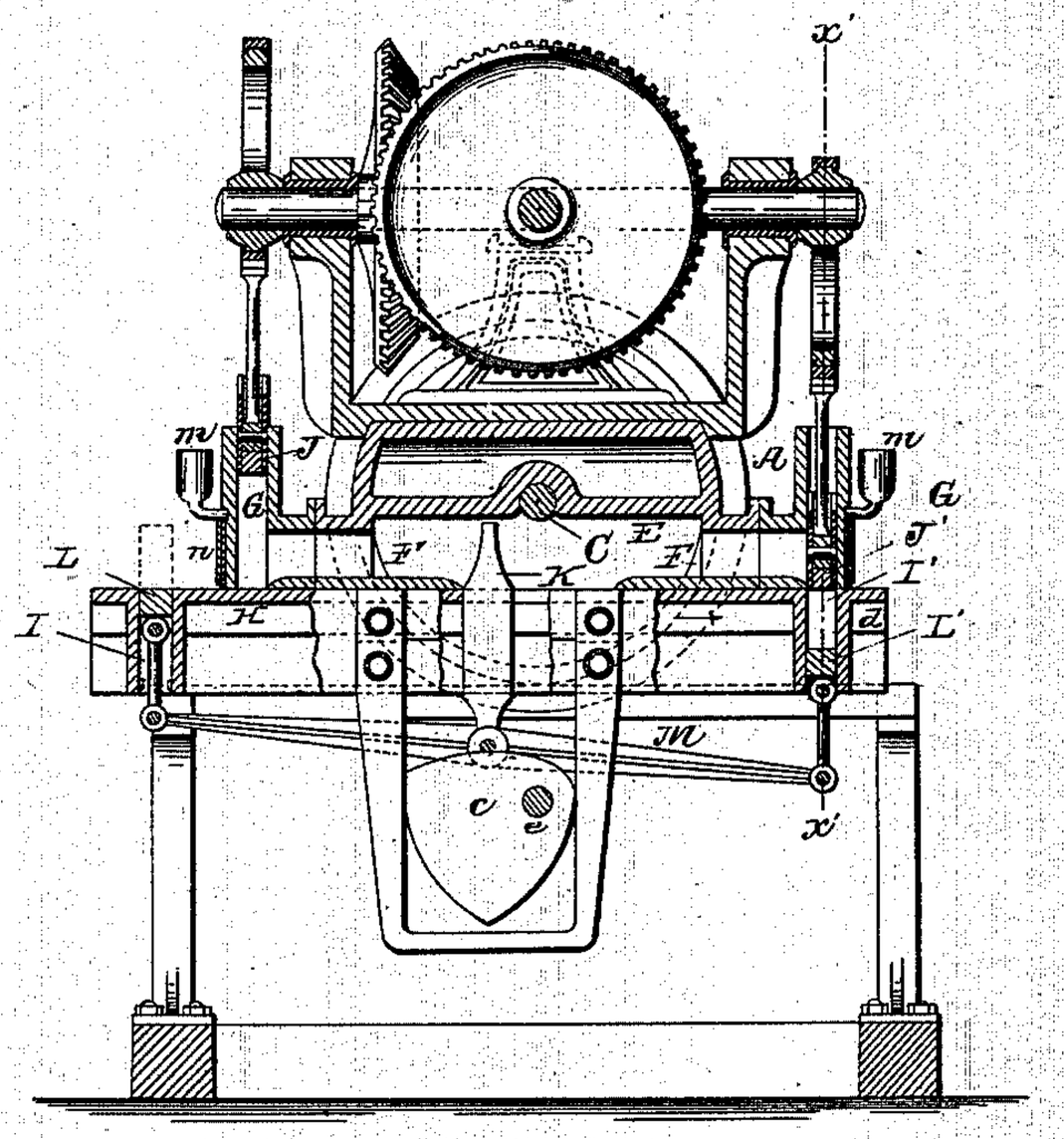
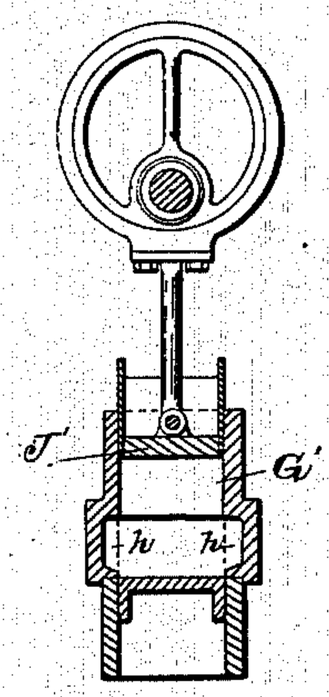


Fig 4.



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United States Patent Office.

HELMUTH DUEBERG, OF NEW YORK, N. Y.

Letters Patent No. 71,466, *dated November* 26, 1867.

IMPROVED BRICK-MACHINE.

The Schedule referred to in these Letters Patent and making part of the ~~...~~ R D

TO ALL WHOM IT MAY CONCERN:

Be it known that I, HELMUTH DUEBERG, of New York city, 319 Third street, in the county and State of New York, have invented a new and improved Brick-Press; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a longitudinal vertical section of this invention, taken in the plane indicated by the line *x x*, fig. 2.

Figure 2 is a horizontal section of the same, the plane of section being indicated by the line *y y*, fig. 1.

Figure 3 is a transverse section of the same, the line *z z*, fig. 2, indicating the plane of section.

Figure 4 is a transverse section of one of the cylinders, the line *x' x'*, fig. 3, indicating the plane of section.

Similar letters indicate corresponding parts.

This invention relates to a brick-press, which is provided with a reciprocating table, containing two or more moulds, which are arranged in pairs, and alternately carried under the press-boxes by the motion of the table, so that one receives clay while the other discharges the pressed brick. The clay passes to the table through a spout, which increases in one and diminishes in the other direction, so that the same, while passing through said spout, is compressed to a comparatively thin layer or sheet. A feeder, which rises from the reciprocating table, serves to carry the clay into the moulds, and the bricks are pressed from their edges instead of from their flat sides, as usual, and after the clay in the moulds has been pressed, the pressed bricks are discharged by the action of plungers, which are secured to a rocking-lever in such a manner that while one plunger is depressed the other rises, and *vice versa*. The press-boxes are provided with recesses, so as to allow the surplus clay to escape and prevent injury to the machinery; and self-acting lubricators, which are applied to the press-boxes, facilitate the operation of the press.

A represents a pug-mill, of any desired construction, to which the clay is fed through a hopper, (not shown in the drawing,) said clay being made to pass through between two rollers, B, which serve to break up stones or other impurities that may be mixed with the clay. After the clay reaches the cylinder of the pug-mill it is forced along by oblique blades or spiral flanges, which are secured to the shaft C, that passes in a longitudinal direction through the cylinder of the pug-mill, and to which a revolving motion is imparted from the driving-shaft D, with which it connects by gear-wheels *a b*. The cylinder of the pug-mill is provided with a spout, E, which is flattened down on its upper and lower surface, so that it gradually decreases until it joins the channels F F', which extend from the spout at right angles to the shaft C, and which may be said to form an integral part of the spout, so that actually the spout increases in one direction, while it decreases in the other. To the ends of the channels F F' are secured the press-boxes G G', and under their bottom is situated the table H, which moves in guides *d*, a reciprocating motion being imparted to it by a cam, *c*, which is mounted on a shaft, *e*, connecting by cog-wheels *f g*, with the main shaft C. In the ends of the table are notches I I', which are arranged in pairs, one or more moulds being at each end of the table, and the cam *c*, which acts on a cage secured to the table, is so shaped that it carries the moulds I I' alternately under the press-boxes G G', leaving the table at rest for a short period at each end of its stroke to give time for pressing. The operation of pressing the clay is effected by plungers J J', which are fitted into the press-boxes G G', and to which a rising and falling motion is imparted by eccentrics or other suitable means. In order to permit the surplus clay to escape between the plungers and press-boxes, and to prevent injury to the working parts of the press, the press-boxes are provided with recesses, *h*, as shown in fig. 4 of the drawing. From the centre of the table H rises the feeder K, and as the table moves from one side to the other, the feeder carries the clay, which discharges from the pug-mill, alternately into the press-boxes G G'. As the plungers in the press-boxes descend, the clay is pressed into the moulds, which are provided with movable bottoms or followers L L', and which are so situated that the bricks are pressed from their edges instead of from their flat surfaces, as usual. By doing so the edges of the bricks are rendered perfectly flat and uniform, and a wall built up with my bricks presents a better appearance than a wall built of bricks pressed in the usual manner, unless such bricks are carefully picked out or made expressly for the purpose of producing a wall of good appearance. The followers L L' are secured to the ends of a lever, M, which has its fulcrum on a pivot, *i*, secured in the under surface of the table. When the plunger J descends, and forces the clay into the mould I, the follower L of this mould descends, and consequently the follower L'

in the mould I′ rises, and the pressed brick contained in this mould is pushed out, so that it can be conveniently removed from the table, either by hand or by a suitable mechanism. The followers L L′ are prevented from descending beyond the desired point by projections *k* in the moulds, and they rise level to or a little above the surface of the table. To prevent the bricks from adhering to the followers, said followers are oiled after every action of the plungers, the oil being introduced automatically from cups *m*, from which it passes down through suitable channels to pieces *n*, of flannel or other absorbent material, and as the table reciprocates under these pieces of flannel, the followers are oiled. Instead of connecting the followers by a lever, M, as shown in the drawing, they might be connected by toothed segments and racks, or by any other suitable mechanism.

The operation is as follows: By the action of the pug-mill the tempered clay is continually forced out through the spout E, and after reaching the channels F F′ the clay remains for a short time at rest. As the table moves in the direction of the arrow marked thereon in fig. 3, while at the same time the plunger J′ rises and the plunger J descends, the clay which has accumulated before the feeder K is pushed along in the direction of said arrow, and a portion of the same is forced into the press-box G′, which fills with clay as its plunger rises. When said plunger has travelled through one half of its stroke, the table, with the feeder, remains stationary, and no more clay is fed to the press-box G′. During this time, and while the table remains stationary, the empty space behind the feeder is charged with clay, and as the table recedes, this clay is forced into the press-box G, and at the same time the plunger J′ descends and cuts off the clay contained in the press-box G′ from the channel F′, just enough being retained in said box to form a brick. In the mean time, the mould I′ is carried under the press-box G′, and as the plunger J′ continues to desend, this clay is forced into said mould, and thereby a brick is finished. At the same time the follower L′ descends to make room for the clay, and the follower L rises. At this moment the table returns again in the direction of the arrow marked on it, and the plunger J descends, and as the mould I arrives under the press-box G, the follower L is depressed and the follower L′ rises, thereby pushing out the brick previously formed in the mould I′. It is obvious, that instead of arranging only one pair of moulds in the reciprocating table, two or more pairs might be arranged in one and the same table, to operate in combination with a corresponding number of press-boxes.

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

1. The channels F F′, extendiug in opposite directions from the tapering spout E, and carrying the compressed clay to the reciprocating table H, substantially as and for the purpose set forth.

2. The feeder K, in combination with the reciprocating table H, moulds I I′, and press-boxes G G′, constructed and operating substantially as and for the purpose set forth.

3. The rocking-lever M, carrying the followers L L′, and operating in combination with the reciprocating table H, moulds I I′, and press-boxes G G′, substantially as and for the purpose described.

4. The recesses *h* in the press-boxes G G′, to allow the surplus clay to escape, as set forth.

5. The pieces of flannel, or other absorbent material, supplied with oil from cups *m*, in combination with the reciprocating table H, moulds I I′, and followers L L′, constructed and operating substantially as and for the purpose described.

This specification signed by me, this 5th day of June, 1867.

HELMUTH DUEBERG.

Witnesses:

W. HAUFF,

GUSTAV BERG.