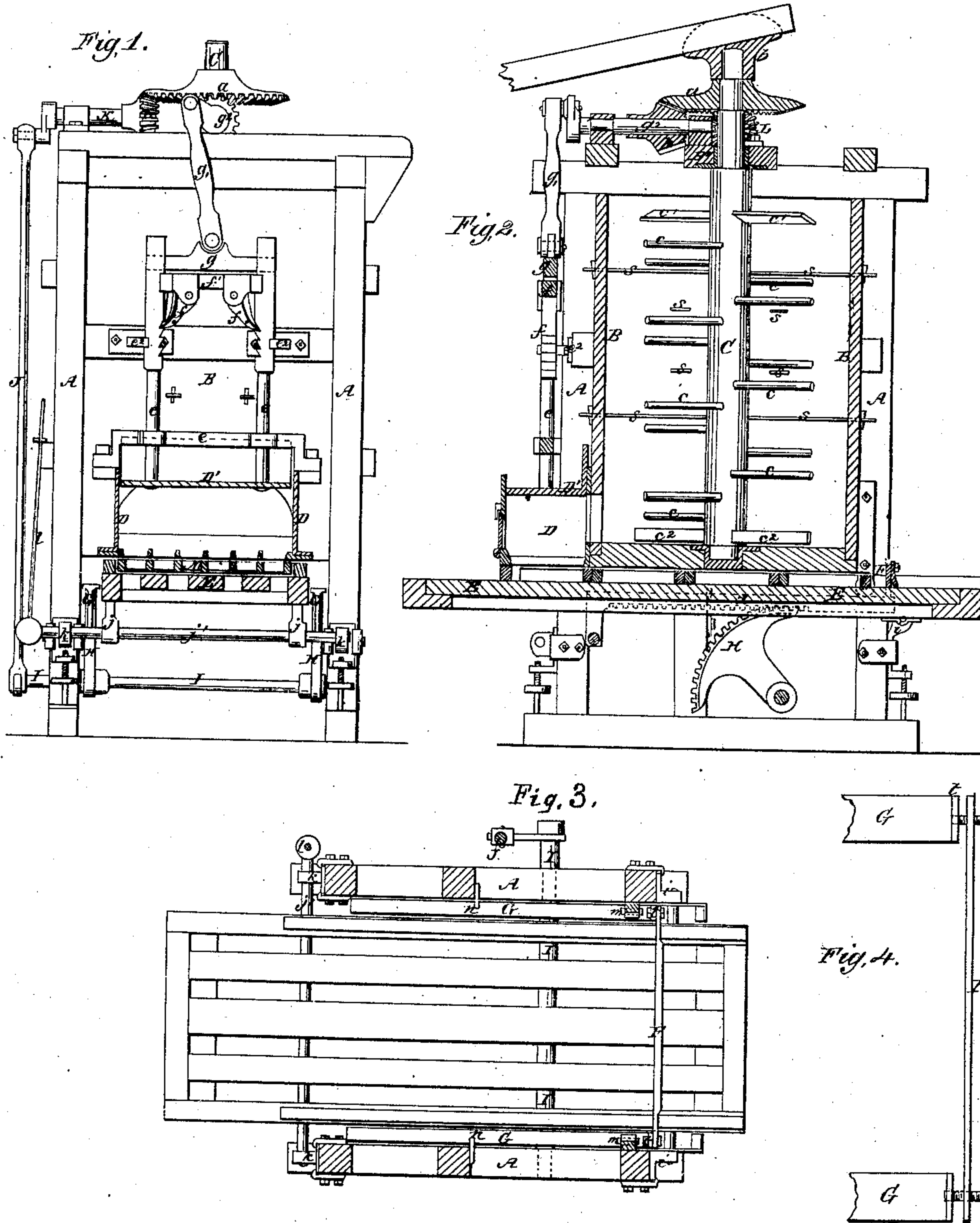


B. Van Krauken,
Clay and Peat Press.

N^o 55,748.

Patented June 19, 1866.



Witnesses,
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UNITED STATES PATENT OFFICE.

B. VAN VRAUKEN, OF SCHENECTADY, NEW YORK.

IMPROVED CLAY AND PEAT PRESS.

Specification forming part of Letters Patent No. 55,748, dated June 19, 1866.

To all whom it may concern:

Be it known that I, BENJAMIN VAN VRAUKEN, of Schenectady, in the county of Schenectady, and State of New York, have invented certain new and useful Improvements in Machinery for Pressing Clay and Peat into Molds; 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 is a front sectional view of the improved machine. Fig. 2 is a longitudinal section taken in a vertical plane through the center of the machine. Fig. 3 is a horizontal section, showing a top view of the mold-table and mold-pusher. Fig. 4 is an enlarged view of the mold-pusher and its adjusting-screws.

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

This invention relates to certain novel improvements on machinery which is intended for mixing and disintegrating clay or peat and pressing the same into mold-boxes. The invention relates particularly to improvements on those machines which have a press-box arranged on one side of a pug-mill in such manner that the clay or peat is forced from the mill directly into the press-box, and thence into mold-boxes which lie upon a table beneath it.

The nature of my invention consists in communicating a reciprocating movement to a mold-box pusher by means of oscillating toothed segments and a pitman-rod which receives its motion from the shaft of the pug-mill, said pusher being arranged to work over a table so as to move the empty mold-boxes from the rear part of the machine up to and beneath the press-box, and when the boxes are filled to force them successively out in front of the machine to be removed and emptied, as will be hereinafter described.

It also consists in providing a means for adjusting the mold-box pusher so that it shall always bring the mold-boxes in proper position beneath the press-box to receive the clay or peat, said boxes being placed upon the table and moved from the rear to the front end thereof, as will be hereinafter described.

To enable others skilled in the art to under-

stand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents an upright plane, having a box, B, which is open at top, and which is the pug-mill. C is a vertical shaft, which is arranged in the center of the box B and stepped upon the bottom of this box so as to rotate freely. The upper portion of this shaft C is supported in bearings in a horizontal beam, B', and this shaft has a large beveled spur-wheel, *a*, and a flanged box, *b*, applied to its upper end, as shown in Figs. 1 and 2. The shaft C is armed with a number of radial arms, *c c*, and also with flat blades, *c' c'*. The flat blades *c c* are feathered so as to feed the clay or peat downward toward the bottom of the box B. The blades *c' c'* are used at the bottom of the pug-mill box for forcing the material into the press-box D through an opening which is made through the side of the box B, as shown in Fig. 2. The press-box D is constructed with an open grating in its bottom, between the bars of which the clay or peat is forced by means of a vertically-reciprocating plunger, D'. This plunger is constructed of a vertical and a horizontal plate, the former serving to close the opening through the box B and to prevent the escape of the material above the horizontal portion of this plunger. Two vertical rods, *e e*, are conducted to the plunger and guided by a bridge, *e'*, and two slotted brackets, *e² e²*. The inner opposite surfaces of the rods *e e* are notched to receive spring-pawls *f f*, which are connected to an adjustable cross-head, *f'*, and above this head is another cross-head, *g*, to the center of which a pitman-rod, *g'*, is pivoted, as shown in Fig. 1. The upper end of the pitman-rod *g'* is connected to a crank which is on the front end of a shaft, *g²*, which shaft is rotated by means of a pinion spur-wheel, *h*, that engages with a spur-wheel, *a*. (Shown in Fig. 2.)

By adjusting the cross-head *f'* up or down the strokes of the plunger D' can be lengthened or shortened, and in proportion as the strokes of the plunger are lengthened so will the amount of clay or peat which is forced out of the press-box be increased.

Beneath the pug-mill and press-box is a table, E, which is supported near its rear end by

means of pivot-bearings in vertically-adjusted brackets *i i*, applied to the upright posts of frame A.

The forward part of the table E is sustained upon cams *j j*, which are on an oscillating rod, *j'*, that has its end bearings in vertically-adjustable brackets *k k*. These brackets *k k* are applied to the front upright posts of frame A, and, like the brackets *i i*, they have adjusting-screws beneath them for elevating or depressing the table E and adjusting its upper surface in planes parallel to the bottom surface of the press-box D. This table projects out in front and rear of the machine, so that mold-boxes can be put upon its rear end and delivered at its front end. The cam-rod *f'* has a handle, *l*, applied on one end, by means of which the rod *j'* can be oscillated and the front end of the table E raised or lowered.

F represents what may be termed a "pusher." It is a flat plate extending transversely over the table E, and secured at its extremities to standards *t t*, which project up from two longitudinal and parallel rack-bars, G G, which bars have teeth on their lower edges, and they are arranged on the sides of the table E, and connected together at their front ends by means of a bar which is located beneath the table E. The racks are supported upon toothed sectors H H, which are keyed to an oscillating shaft, I, that carries on one end a crank-arm. Said racks are held down in place upon the sectors by means of rollers *m m* and guides *n n*, as shown in Fig. 3. I desire to communicate motion to the sectors and their racks, and through these parts to the pusher F, by means of a pitman-rod, J, which is pivoted at its lower end to the crank-arm on the shaft I, and at its upper end to a crank which is on the outer end of a horizontal shaft, K. This shaft K has its bearings on top of the pug-mill frame A, and receives a rotary motion from the large spur-wheel *a* by means of a pinion spur-wheel, L, as shown in Fig. 1. By this arrangement the shaft *c* of the pug-mill is made to communicate a reciprocating movement to the pusher F, which movement should be properly timed with respect to the reciprocating movement which said shaft *c* also communicates to the plunger D'.

As the mold-boxes are moved up to and beneath the press-box D by the pusher F, it is desirable that the movement of this pusher

should be so adjusted that the mold-boxes shall be left directly beneath the press-box in a proper position to receive the clay or peat. To effect this adjustment to a nicety I attach the ends of the pusher F to its end supports *t t* by means of adjusting-screws *p p*, as shown in Fig. 4, by which means the pushing-plate F can be adjusted squarely and set either forward or backward more or less, as may be required.

The pug-mill box B has a number of horizontal blades, S S, extending across it, which are arranged in such relation to the radial stirring-arms *c c c c* on the shaft C that these arms are caused to cut and tear the fibers of peat and to break up the lumps thereof, and thus finely disintegrate it before it is forced by the radial blades into the press-box D. The narrow blades S S may be removed, if desired, when clay is the substance passed through the pug-mill.

It is intended to construct the mold-boxes M with cells in them corresponding in number and width to the spaces between the bars which constitute the bottom of the press-box D, as shown in Fig. 1. These boxes are placed one at a time upon the table E, in front of the pusher F, and when several boxes have thus been put upon the table the pusher will force them beneath the press-box one at a time, and then retreat to receive another box in front of it. As the pusher advances it forces the filled box from beneath the press-box, and at the same time forces an empty box in position beneath the press-box.

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

1. In a machine for molding clay and peat, employing a vertical pug-mill or mixing-box, B, and a press-box, D, the adjustable pusher F, applied to a table, E, for moving the mold-boxes from the rear to the front end of said table, substantially as described.

2. The combination, with an upright pug-mill B, press-box D, and a table, E, the rack-bars G G, oscillating sectors, H H, and a pitman-rod, J, connecting with the main shaft C, substantially as described.

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Witnesses:

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DANL. A. ATWELL.