No. 755,818. PATENTED MAR. 29, 1904.

J. H. VENABLES.

BRICK MAKING MACHINE.

APPLICATION FILED MAR. 13, 1903.

NO MODEL. 3 SHEETS—SHEET 1.

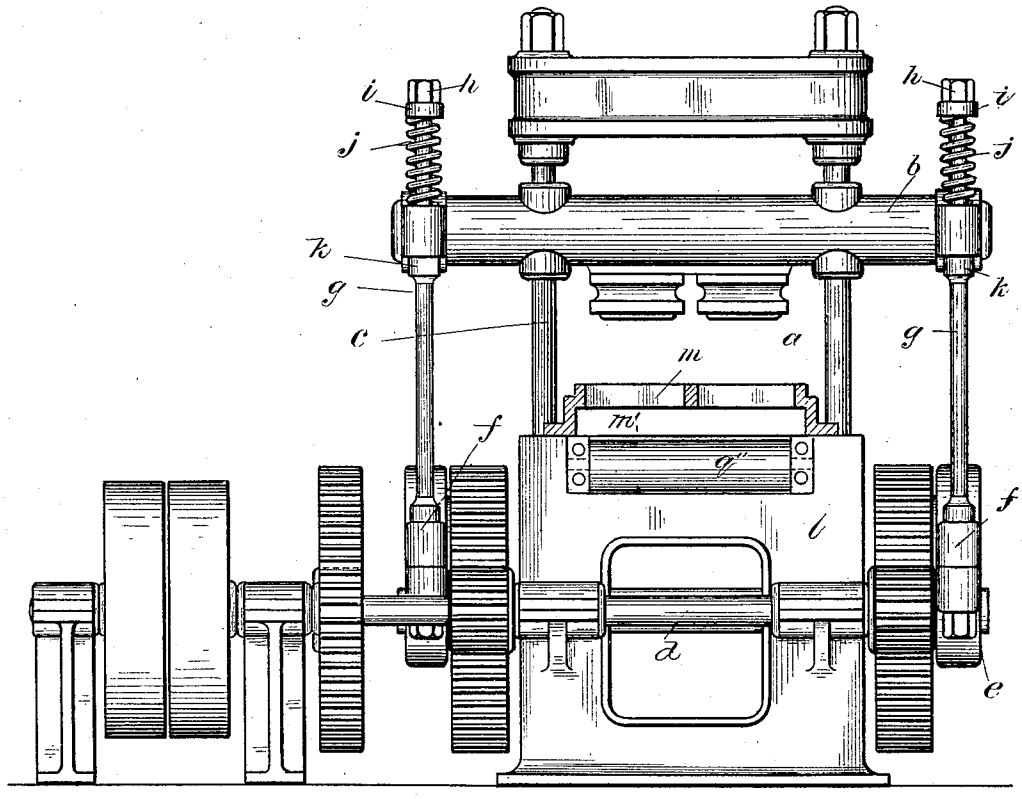


Fig. 1

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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NO MODEL. 3 SHEETS—SHEET 2.

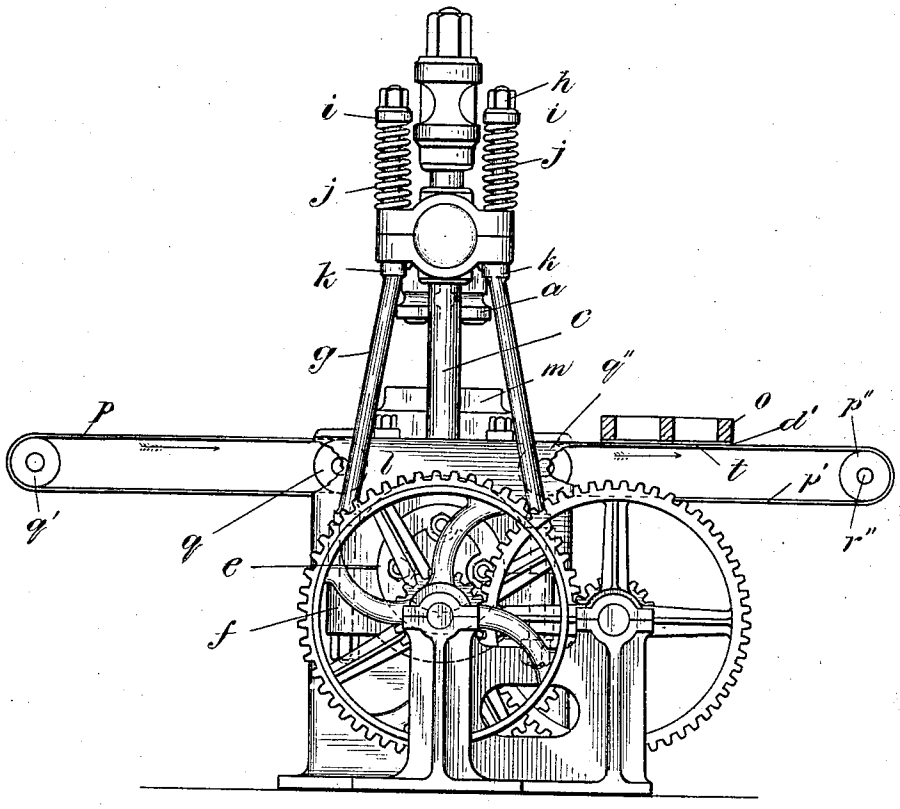


Fig. 2.

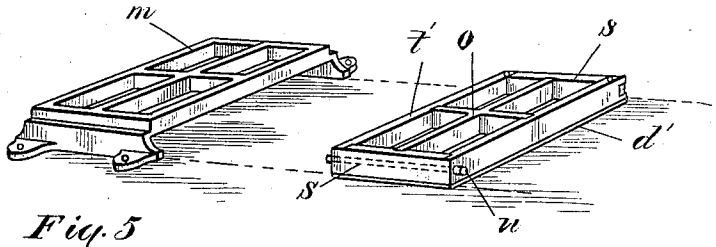


Fig. 5. Fig. 4.

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NO MODEL. 3 SHEETS—SHEET 3.

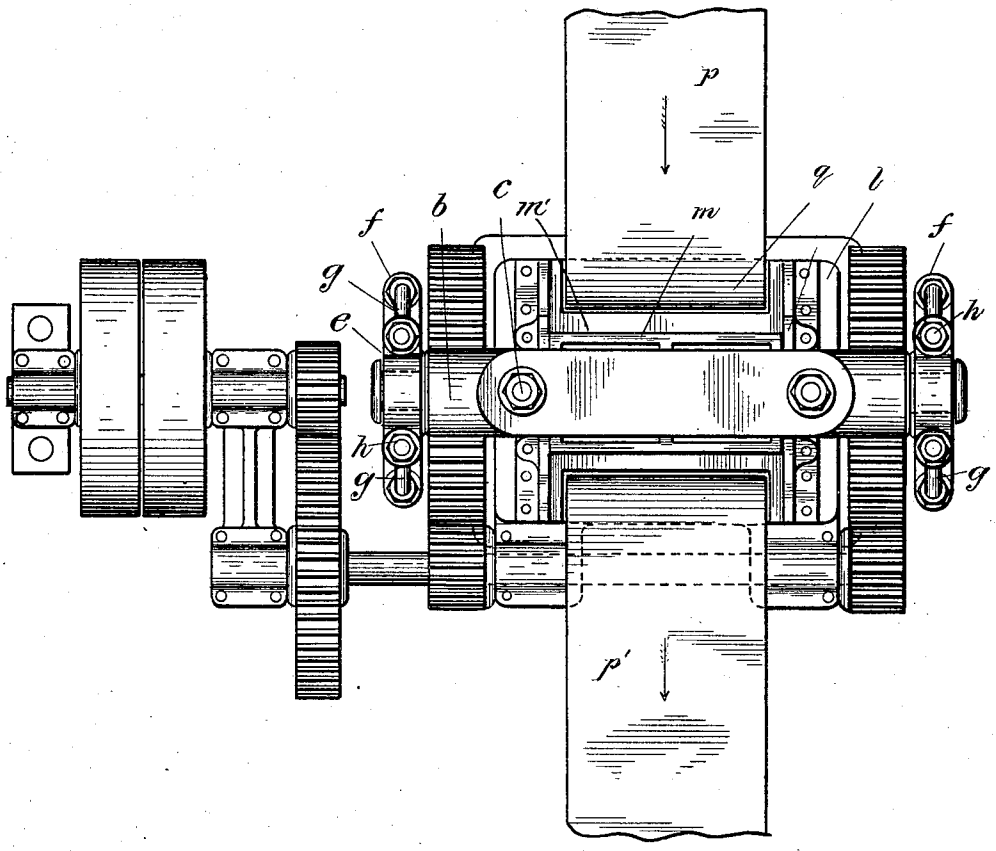


Fig. 3

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No. 755,818. Patented March 29, 1904.

UNITED STATES PATENT OFFICE.

JOHN H. VENABLES, OF TORONTO, CANADA, ASSIGNOR TO WILLIAM J. McMURTRY, OF TORONTO, ONTARIO, CANADA.

BRICK-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 755,818, dated March 29, 1904.

Application filed March 13, 1903. Serial No. 147,682. (No model.)

To all whom it may concern:

Be it known that I, JOHN HANSOM VENABLES, of the city of Toronto, in the county of York and Province of Ontario, Canada, have invented certain new and useful Improvements in Brick-Making Machines, of which the following is a full, clear, and exact description.

This invention relates to certain new and useful improvements in that class of brick-making machines having one or more compressing-plungers connected to a movable cross-head having reciprocating motion in a fixed path; and it relates more particularly to the mechanism by means of which the mold-boxes are carried from the filling apparatus to the plungers and delivered therefrom.

In carrying out the invention I employ a peculiarly-constructed mold which is filled with material and then carried by a conveyer table or belt from the filling apparatus to the compressing-plungers, where it is deposited and held stationary during the forward and return strokes of the reciprocating cross-head. On the completion of the stroke of the reciprocating cross-head it is carried by a conveyer table or belt from the compressing-plungers to the delivery end of the machine, from which it is carried to the drying-chamber, where the molded contents are ejected from the mold in the manner hereinafter more fully set forth, and more particularly pointed out in the claim.

In the drawings, Figure 1 is a front elevation of the machine. Fig. 2 is a side elevation of the same. Fig. 3 is a plan view of the machine looking at it from the top. Fig. 4 is a perspective view of one of the mold-boxes. Fig. 5 is a perspective view of the guide for the compressing-plungers.

Like letters of reference refer to like parts throughout the specification and drawings.

The compressing-plungers *a* are rigidly connected to a reciprocating cross-head *b*, vertically movable on the rigid guide-rods *c*, connected to or forming part of the main frame of the machine. To actuate the reciprocating cross-head, the main shaft *d* is fitted with eccentrics *e*, encircled by eccentric-straps *f*, to which are connected the eccentric-rods *g*, the upper ends of the eccentric-rods extending through the reciprocating cross-head and being fitted with nuts *h* and washers *i*, against which abut the upper ends of the cushioning-springs *j*, the lower ends of the cushioning-springs contacting the top surface of the reciprocating cross-head to forcibly lower and cushion the impact of the plungers. To raise the reciprocating cross-head and compressing-plungers, the eccentric-rods are fitted with shoulders *k*, which engage the lower surface of the reciprocating cross-head and raise it on the return stroke of its reciprocating movement.

Bolted to the top of the main frame *l* in vertical alinement with the compressing-plungers *a* is a guide *m*, having a series of apertures corresponding with the compressing-plungers, through which the compressing-plungers move during their forward and return strokes.

The conveyer-belt *p* passes around a roller *q*, journaled in the top of the main frame *l* at the feed side of the machine and around a suitably-driven roller *q'*, journaled in bearings located convenient to the filling apparatus, and this conveyer-belt *p* carries the mold-box *o* from the filling apparatus and deposits it in front of the guide *m*, beneath which it is operated by the operator to the rigid top *m'* of the main frame *l*, where it remains stationary until the compressing-plungers and cross-head have completed their forward stroke. On the return stroke of the compressing-plungers and cross-head the mold-box is pushed by the operator from beneath the guide *m* and delivered to a second conveyer-belt *p'*, which carries it to the drying-chamber or to a point convenient thereto. The conveyer-belt *p'* passes around a roller *q''*, journaled in the top of the main frame *l* at the delivery side of the machine, and around a suitably-driven roller *p''*, journaled in bearings placed convenient for the delivery of the mold-boxes. Each mold-box *o* has one or more compartments, corresponding in number to the plungers, and is fitted with a detachable bottom *d'*, upon which the material is supported during its carriage to and away from the plungers. To facilitate the removal of the

sides and ends of the mold-box from the molded contents, the ends *s* of the mold-box are connected to the sides *t'* by tapering screws *u*, the release of which permits of the expansion of the ends *s*. This expansion releases the molded material from the pressure of the mold-box ends and permits of the removal of the mold-box without disturbing the homogeneity of the molded mass.

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

In a machine for making bricks the combination of a main frame having a rigid table-surface, a main shaft journaled therein, eccentrics mounted on the main shaft, eccentric-straps encircling the eccentrics, guide-rods for the main frame, a reciprocating cross-head having compressing-plungers movable on the guide-rods, connecting-rods for the eccentric-straps extending through the cross-head and having supporting-shoulders to engage its under side, adjustable nuts fitted to the free ends of the connecting-rods, cushioning-springs encircling the connecting-rods and bearing against the cross-head and nuts, a plunger-guide stationarily connected to the main frame above the rigid table-surface, a movable mold-box arranged to be supported upon the rigid table-surface beneath the guide during the descent of the cross-head and plungers, and two conveyer-belts arranged to respectively deliver the movable mold-box with its contents to be compressed in front of the guide and carry it away therefrom when its contents have been pressed into shape.

January 23, A. D. 1903.

JOHN H. VENABLES.

In presence of—
C. H. RICHES,
L. F. BROCK.