

No. 631,630.

Patented Aug. 22, 1899.

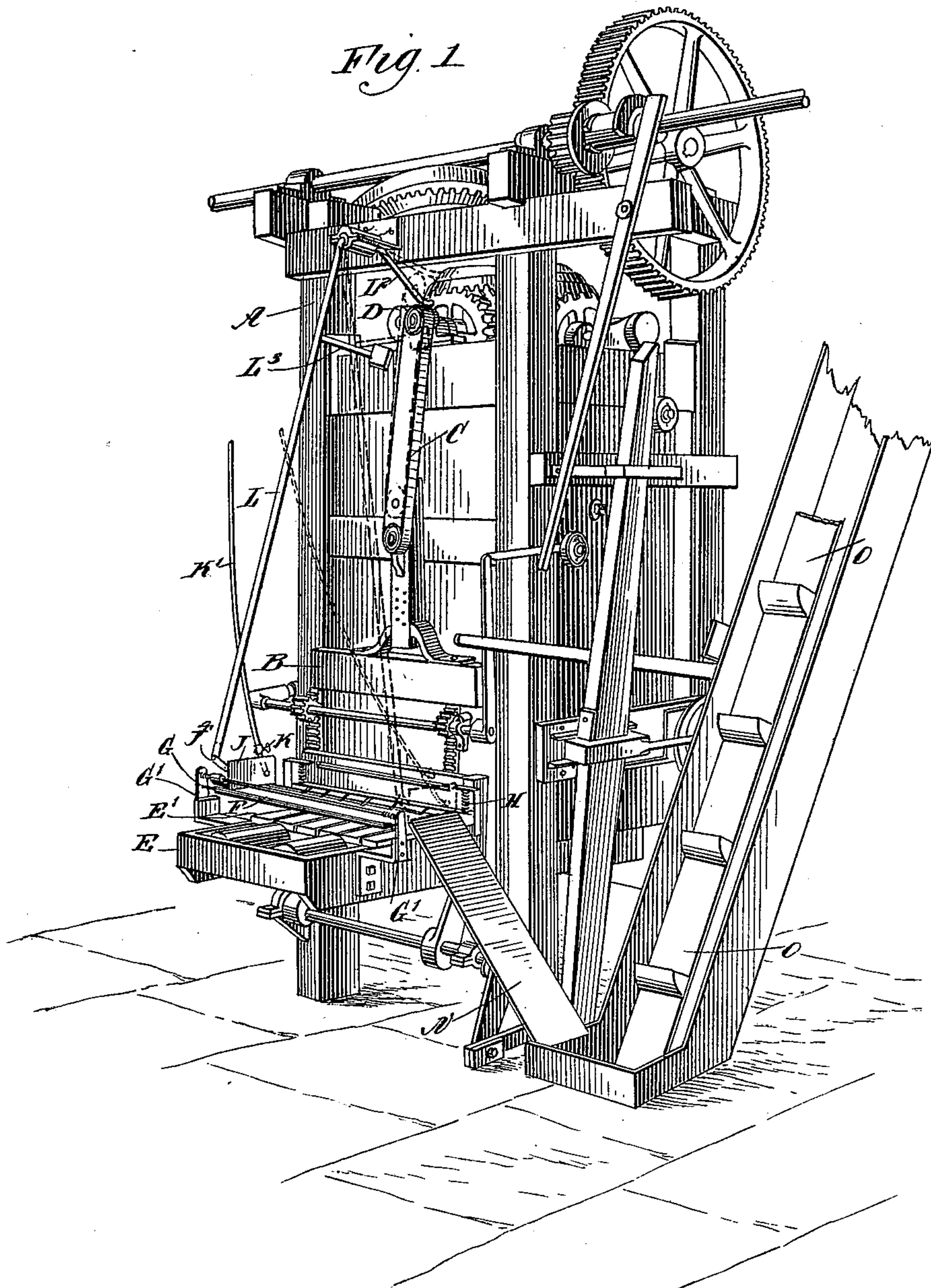
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BRICK MACHINE.

(Application filed Nov. 19, 1898.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:  
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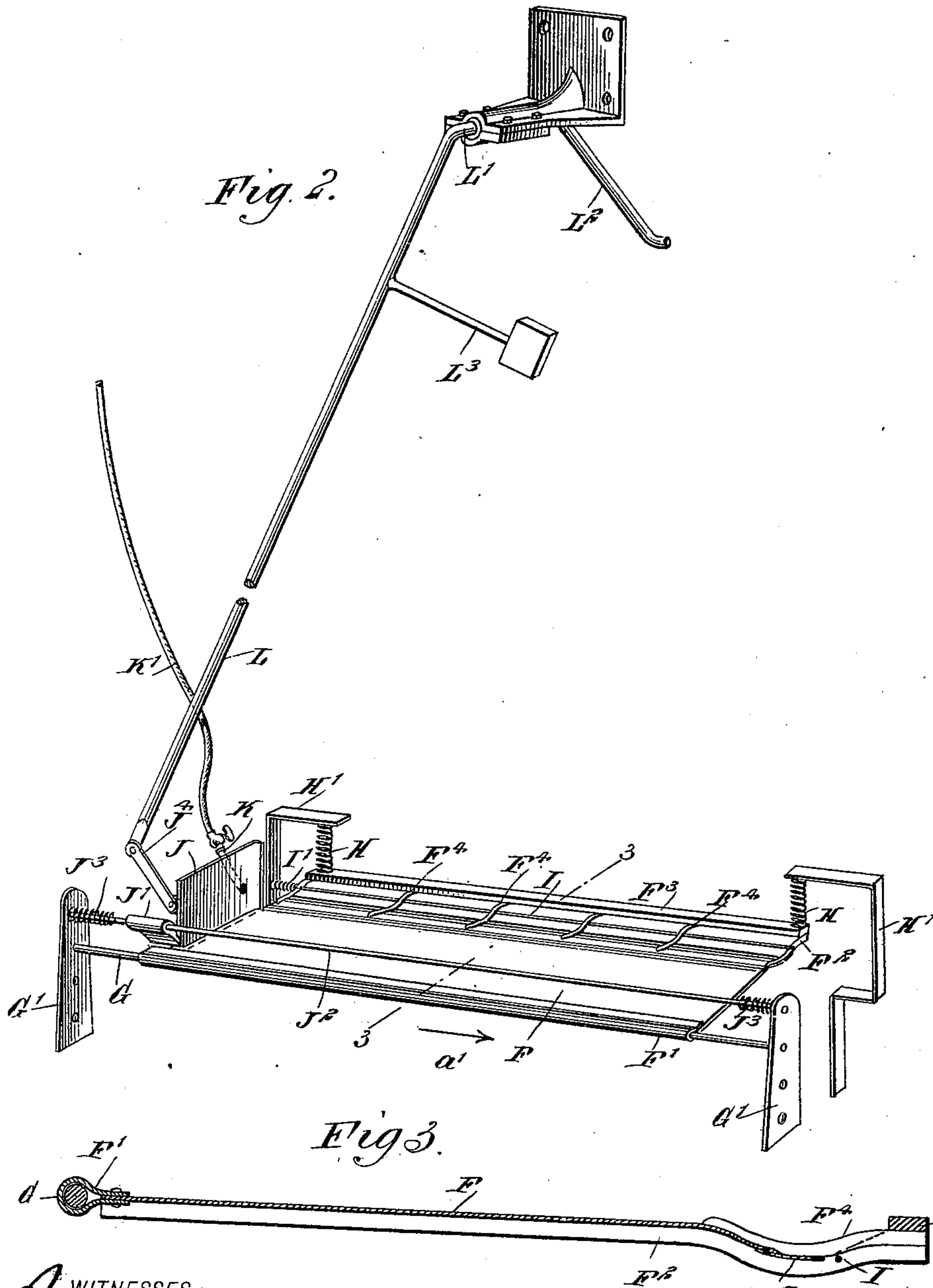
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# UNITED STATES PATENT OFFICE.

JAMES GARRETT AND JAMES H. WELCH, OF MONACA, PENNSYLVANIA.

## BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 631,630, dated August 22, 1899.

Application filed November 19, 1898. Serial No. 696,871. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES GARRETT and JAMES H. WELCH, both of Monaca, in the county of Beaver and State of Pennsylvania, have invented a new and Improved Brick-Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved brick-machine more especially designed for working soft clay and arranged automatically to cut off and remove the surplus material from the top of the molds during the passage of the latter from the machine.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of a brick-machine having the improvements applied. Fig. 2 is a perspective view of the improvements detached from the machine, and Fig. 3 is an enlarged transverse section of the table on the line 3 3 in Fig. 2.

The upright brick-machine (illustrated in Fig. 1) is provided with the usual framework A, in which reciprocates a plunger B, connected by a pitman C with a crank-arm D, rotated in the usual manner to impart a reciprocating motion to the plunger B and press the material into the molds E', arranged on the under side of the framework A. The means for filling the molds with material and for pressing the material in place may be of any approved construction, and hence further description of the same is not deemed necessary.

On the discharge side—that is, on the front of the machine and directly over the discharged molds E'—is arranged a table F, hung at F' on a rod G, carried by brackets G', attached to the sides of the mold-carrier E. The table F is reinforced at its sides by transversely-extending ribs F<sup>2</sup>, projecting beyond the inner or free end of said table F to be attached to a tie-rod F<sup>3</sup>, held on springs H, suspended from brackets H', likewise secured to the mold-carrier E. The ribs F<sup>2</sup> extend on

the outer side of the table beyond the ends of the molds, so as not to come in contact with the material contained in the molds, and on the top of the table F, at the free end thereof, are arranged similar ribs F<sup>4</sup>, also leading to the tie-rod F<sup>3</sup>, said ribs being spaced according to the partitions in the molds, so as not to come in contact with the material contained in the molds. The free end of the table F is bent downward and outward, as is plainly shown in Fig. 2, and a receiving-plate F<sup>5</sup> is riveted to the end of the table, and somewhat in front of the edge of said plate F<sup>5</sup> is arranged a cut-off device I in the form of a wire held in the ribs F<sup>2</sup> of the table, one end of the wire being drawn on by a spring I', which serves to hold the wire tight across the table and to permit the wire to yield when striking an obstruction.

From the foregoing it is evident that the table F is mounted to swing up or down on the rod G, and its free end is spring-supported, so as to permit the table to yield upward when the filled molds are pushed out of the machine, and the rod forming the cut-off device I strikes off the surplus material from the molds and causes the said material to pass up the plate F<sup>5</sup> and upon the table F. Thus when the filled molds are pushed out of the machine by the action of the empty molds in the brick-press then the cut-off device I removes the surplus material from the molds and delivers this material upon the table F, extending over the filled molds.

In order to remove the surplus material from the table, we provide a sweep J in the shape of a plate set vertically on one end of the table F and adapted to travel over the same, together with a pipe K, attached to the sweep and connected by a flexible hose K' with a water or other liquid supply for supplying the table F with water to insure a proper removal of the material when the sweep J moves over the table from one end thereof to the other. The sweep J is provided with a bearing J', engaging a guide-rod J<sup>2</sup>, secured in the brackets G' directly above the rod G, so that the said sweep J reciprocates over the table F in the direction of said rods G and J<sup>2</sup>. Buffer-springs J<sup>3</sup> are coiled on the guide-rod J<sup>2</sup> next the brackets G', so as to ease the movement of the sweep



on nearing the end strokes. The sweep J is pivotally connected at its back by a link J<sup>1</sup> with an arm L, secured to or formed on a shaft L', journaled in suitable bearings on the upper end of the framework A, said shaft also having an arm L<sup>2</sup> in the path of and actuated by the crank-arm D, connected with the pitman C, as previously explained. On the arm L is arranged a weighted arm L<sup>3</sup> for insuring a rapid return movement of the sweep J after the said sweep has been pushed over the table in the direction of the arrow a' to remove the surplus material and push the same over a chute N into an elevator O of any approved construction for conveying the material to a suitable place of discharge. It is evident that after the molds are filled in the machine and the pitman C rises to its first position then the crank-arm D imparts a swinging motion to the arm L<sup>2</sup> to turn the shaft L', so as to cause the arm L to move the sweep J forward in the direction of the arrow a' for removing the surplus material of the last-filled mold from the table F. When the pitman C is on its downward movement to cause the plunger to fill the next mold with clay, then the crank-arm D releases the arm L<sup>2</sup>, and the weighted arm L<sup>3</sup> now causes a return movement of the arms L and L<sup>2</sup> to draw the sweep J back to its previous position, as illustrated in Figs. 1 and 2. As the filled molds move out of the machine the cut-off device I removes the surplus material, as previously described, and as this material passes upon the table F it is removed therefrom by the next movement of the sweep J, as previously explained.

The free end of the table F is curved downward and forward, so as to press firmly upon the top of the mold and cause the wire I to remove all the surplus material from the mold and cause said material to pass upon the table F.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. A brick-machine attachment, comprising an upwardly-yielding table, and a cut-off device for removing surplus material from molds, the surplus material passing upon the table, a space being provided beneath said table to permit the passage of the filled molds, substantially as described.

2. A brick-machine, provided with a table for receiving surplus material, a sweep adapted to operate over said table, and a chute into which the surplus material is discharged from the table by said sweep, substantially as shown and described.

3. A brick-machine, provided with a table for receiving surplus material from the molds, a sweep reciprocating over said table, and an elevator into which passes the material pushed over the table by said sweep, substantially as shown and described.

4. A brick-machine, provided with a table mounted to swing and having its free end

spring-supported, a cut-off device carried by said table beyond the free edge thereof, to remove the surplus material from the mold and cause it to pass upon said table, a sweep reciprocating over said table, a chute into which passes the surplus material from said table, and a conveyer into which discharges said chute, substantially as shown and described.

5. A brick-machine, provided with a table mounted to swing and spring-supported at its free end, and a cut-off device in advance of the free edge of the table, and adapted to strike off the surplus material from the mold and cause it to pass upon the table, substantially as shown and described.

6. A brick-machine, provided with a table mounted to swing and spring-supported at its free end, and a cut-off device in advance of the free edge of the table, and adapted to strike off the surplus material from the mold and cause it to pass upon the table, the table being curved downward and outward at its free end, substantially as shown and described.

7. A brick-machine, provided with a press and molds, a table arranged over the discharge end of the press directly above the filled molds as the latter pass from the press, springs for supporting the free end of said table, strengthening-ribs on the free end of the table, and a wire carried by some of the strengthening-ribs and arranged in advance of the free edge of the table, substantially as shown and described.

8. A brick-machine, provided with molds, a plunger for pressing the material into the molds a receiving-table having a cut-off device for striking off the surplus material from the filled molds and delivering the material upon said table, a reciprocating sweep operating over said table, and actuated in unison with the plunger, and a supply-pipe carried by said sweep, to deliver a lubricant to the table, substantially as shown and described.

9. The combination with a cut-off device for removing surplus material from the molds of a brick-machine, of a receiving-table upon which passes the surplus material, and a sweep adapted to operate over the said table, substantially as shown and described.

10. The combination with a table mounted to swing at one end, and spring-supported at its free end, and a receiving-plate at the end of the table, of a cut-off device located in front of the edge of the receiving-plate for removing surplus material from molds and causing it to pass over said receiving-plate and upon the table, substantially as shown and described.

11. The combination with a table having a cut-off device and adapted to receive surplus material, from the molds of a brick-machine, of a sweep adapted to operate over said table, a guide-rod engaged by a bearing on the said sweep, and buffer-springs at the end of



the guide-rod, substantially as shown and described.

12. The combination with a table for receiving surplus material from the molds of a brick-machine, the said table being mounted to swing, springs for supporting the free end of the table, and strengthening-ribs on the free end of the table, of a wire carried by some of the strengthening-ribs and arranged in advance of the free edge of the table, substantially as shown and described.

13. The combination with a table for receiving surplus material from the molds of a brick-machine, a rod on which one end of said table is hung, transversely-extending ribs at the sides of said table and projecting beyond the free end thereof, a tie-rod to which the ends of said ribs are attached, and springs supporting said tie-rod, of a cut-off device for the material arranged in front of the free edge of the table, and a sweep adapted to operate over said table, substantially as shown and described.

14. In a brick-machine, the combination with the framework, molds arranged on the under side of the framework, and a plunger reciprocating in the framework and adapted to press the material into the molds, of a receiving-table mounted to yield upward when the filled molds are pushed from the machine, the said table having a cut-off device for striking off the surplus material from the filled

molds and delivering the material upon the table, and a reciprocating sweep operating over said table and actuated in unison with the plunger, substantially as shown and described.

15. In a brick-machine, the combination with the molds, a reciprocating plunger for pressing the material into the molds, and a crank-arm mounted to rotate and connected by a pitman with the said plunger, of a receiving-table having a cut-off device for removing the surplus material from the filled molds and delivering the material upon the table, a sweep operating over said table, and a shaft journaled in suitable bearings on the framework of the machine and provided with an arm connected by a link with the said sweep, the said arm having a weight, the said shaft being also provided with an arm extending in the path of the crank-arm, substantially as shown and described.

16. A brick-machine attachment, comprising an upwardly-yielding table, the said table being curved downward and outward at one end, and a cut-off device at said end of the table for removing surplus material from molds, substantially as described.

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JAMES H. WELCH.

Witnesses:

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