(No Model.)

B. C. WHITE & J. A. BOYD.

MOLD TABLE FOR BRICK MACHINES.

No. 418,100. Patented Dec. 24, 1889.

Fig. 1.

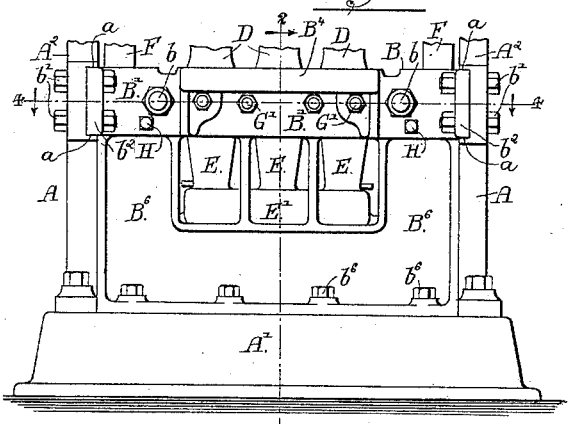


Fig. 2.

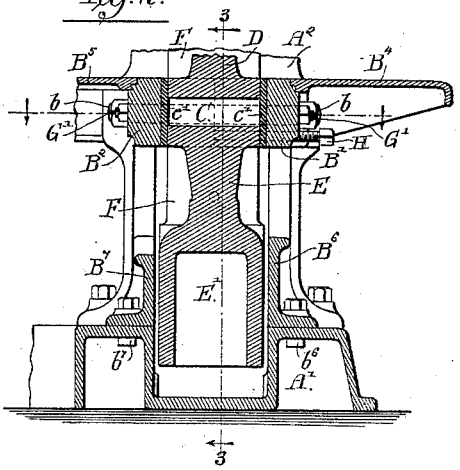


Fig. 3.

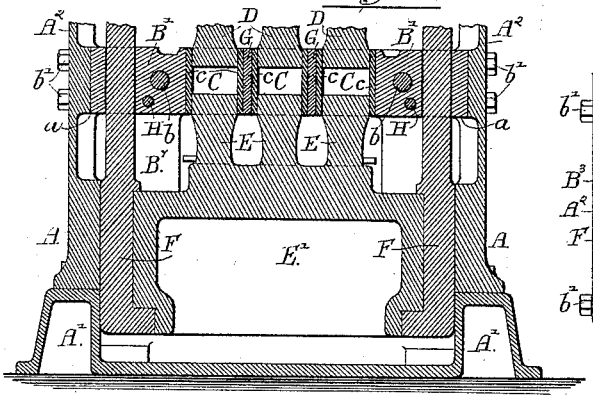


Fig. 4.

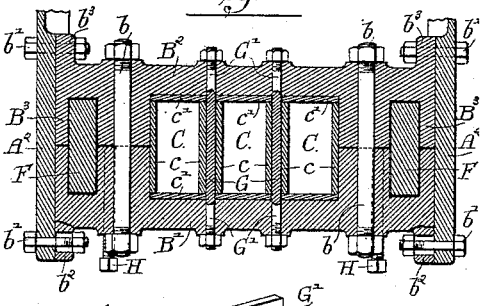


Fig. 5.

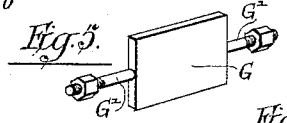


Fig. 8.

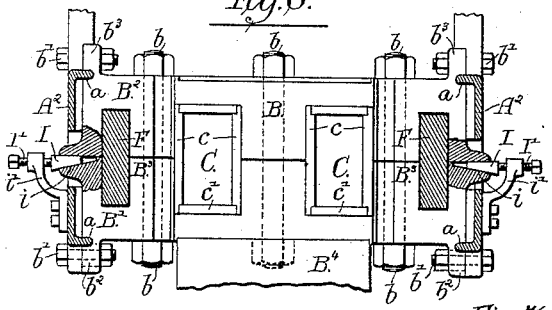


Fig. 6.

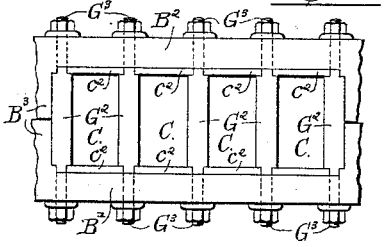
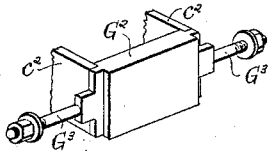


Fig. 7.



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UNITED STATES PATENT OFFICE.

BRUCE CLARK WHITE AND JAMES A. BOYD, OF CHICAGO, ILLINOIS, ASSIGNORS TO CHISHOLM, BOYD & WHITE, OF SAME PLACE.

MOLD-TABLE FOR BRICK-MACHINES.

SPECIFICATION forming part of Letters Patent No. 418,100, dated December 24, 1889.

Application filed January 2, 1889. Serial No. 295,159. (No model.)

To all whom it may concern:

Be it known that we, BRUCE CLARK WHITE and JAMES A. BOYD, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Mold-Tables for Brick-Machines; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in mold-tables for brick-machines; and it consists in the matters hereinafter described, and pointed out in the appended claims.

The mold-table herein shown is designed to form part of a brick-machine of the character illustrated in a prior application, Serial No. 270,210, made by B. Clark White and James A. Boyd, April 10, 1888. The features of construction herein illustrated and claimed may, however, be employed in the mold-tables of other forms of brick-machines.

In the accompanying drawings, illustrating the invention, Figure 1 is a front elevation of the parts of the brick-machine adjacent to the mold-table. Fig. 2 is a cross-section of the same taken upon line 2 2 of Fig. 1. Fig. 3 is a vertical cross-section of the same taken upon line 3 3 of Fig. 2. Fig. 4 is a horizontal section of the same taken upon line 4 4 of Fig. 1. Fig. 5 is a perspective view of a partition-plate separating two of the molds. Fig. 6 is a plan view of the mold-table, showing a somewhat different construction therein. Fig. 7 is a perspective view of the lining-plates and partition shown in Fig. 6. Fig. 8 is a plan view of a mold-table having two molds.

As illustrated in the said drawings, A A are two side frame-plates of the machine, which are arranged parallel with each other and are attached to a massive base A′, which connects said frame-plates at the bottom of the machine.

B is a mold-table, which is located at a convenient distance above the base A′, and is arranged horizontally between and bolted at its ends to the vertical standards A^2 A^2 of the frame. Within the said mold-table are located molds C C C, of which the machine shown is provided with three. Said mold-table consists of two separate castings B′ B^2, located at the front and at the rear of the molds, which latter are formed by means of inwardly-projecting parts B^3 B^3, cast upon the front and rear portions B′ B^2 of the table and meeting at the center line of the table. The castings B′ B^2 are held together by means of horizontal bolts *b b*, passing through said castings between the molds and the ends of the castings in the manner shown. The castings B′ B^2 are secured to the frame-standards A^2 A^2 by means of horizontal bolts *b′ b′*, inserted through wings b^2 b^3 at the ends of said castings B′ B^2, and through said frame-standards. Said parts B′ B^2 of the mold-table are provided with vertical webs B^6 B^7, which extend downwardly to and rest or bear throughout their entire length upon the frame-base A′ and are bolted to the latter. This construction gives a rigid and unyielding support to the said table and prevents the same from springing or yielding at its center under the heavy strain incident to pressing the brick. The said webs B^6 B^7 are desirably provided at their lower edges with horizontal flanges, through which flanges and the base are inserted bolts b^6 b^7, affording a rigid connection between the parts. The webs B^6 B^7, bolted to the frame-base in the manner shown, serve to transmit to said base a part of the strain coming upon the table and at the same time hold the adjacent parts rigidly and strongly from either lateral or vertical displacement when the machine is in action. Said webs B^6 B^7 are provided with openings at points beneath the mold-table in the manner illustrated to afford access to adjusting devices connected with the lower plunger when such adjusting devices are present, as shown, for instance, in said prior application hereinbefore referred to. The frame-standards A^2 A^2 are preferably provided with notches or mortises *a a* at their inner faces, within which notches or mortises the ends of the castings B′ B^2 are inserted, and within which they are held by means of the bolts *b′ b′*. This construction affords a strong connection between the mold-table and frame-standards for holding the mold-table from vertical movement. The castings B′ B^2 in the particular construc-

tion shown form the parts of the mold-table immediately adjacent to the molds. Horizontal extensions of said table are provided at the front and rear of the molds by means of a plate B^4 at the front and by a second plate B^5 at the rear of the mold. Said horizontal extensions are for the purpose of supporting the feeding devices for the clay and the finished brick.

D D are the upper plungers, which enter and slide within the molds, and E E are lower plungers, which also enter and slide in the molds and are attached to a rigid cross-head E′, located beneath the mold-table.

F F are heavy vertical bars, by which the lower cross-head is actuated. Said bars are attached at their lower ends to the cross-head and pass through the mold-table adjacent to its ends. At their upper ends said bars F F are connected with actuating devices, by which the lower cross-head is moved.

The molds C C are provided with side lining-plates *c c* and end lining-plates *c′ c′*, the end lining-plates being extended past the ends of the side lining-plates, so that all the lining-plates are held in position by the clamping action of the horizontal bolts *b b*, by which the two castings B′ B^2 are held together.

In the case of a machine having one or two molds the molds will commonly be located at such distance apart as to enable the castings B′ B^2 to be made with projecting parts B^3 B^3, which enter between the molds and meet at the center line of the table, horizontal bolts *b b* being inserted between the molds, as clearly shown in Fig. 8. In a narrower machine, or a machine having three or four molds or more, the molds are placed closer together; but when the molds are thus placed close together it has been found difficult in constructions heretofore employed to properly bolt to each other the parallel castings B′ B^2, forming the main parts of the molds, by reason of the narrow spaces between the latter. To avoid this difficulty, the molds, as illustrated in Figs. 1 to 5, are divided by transverse partitions G G, the ends of which engage the castings B′ B^2, which in this instance are arranged to come in contact with each other only at their end portions adjacent to the sides of the machine. Said partitions G G are provided at their ends with cylindric stems or prolongations G′, adapted to extend through opposite apertures in the castings B′ B^2, said cylindric prolongations being screw-threaded and provided with nuts upon their outer ends, or having other holding devices engaged with the said castings to hold the latter from spreading apart. When this construction is employed, the stems G′ G′ can be made of a diameter equal to or greater than the thickness of the partitions, so that a suitably-strong connection may be provided without decreasing the strength of the partitions. It will of course be seen that by this construction the machine may be made narrow with the same number of molds, or a greater number of molds may be placed in a machine of the same width than would be possible by the use of partitions having tie-bolts passing through them, it being obvious that the partitions would have to be of considerable thickness to allow the passage of separate horizontal tie-bolts through them, while at the same time giving sufficient strength in the partitions themselves.

As illustrated in Figs. 1 to 5, the molds are provided with lining-plates *c c c′ c′* upon all of their four sides, the side lining-plates of the adjacent molds being located at opposite sides of the partitions G. We have, however, shown in Figs. 6 and 7 a construction in the molds wherein partitions G^2 G^2 themselves form the sides of the molds, while end lining-plates c^2 c^2 are placed across the ends of the molds between said partitions, and are held in place by engagement with the rabbeted edges of the partitions. When the parts are thus constructed, the partitions will of course be made of metal sufficiently hard to afford suitable wearing-surfaces for the molds.

A construction of the lining-plates in which the end lining-plates, or those plates which are parallel with the front and rear edges of said castings, has the important advantage that when the two castings forming the mold-table are drawn together by the horizontal bolts *b b* and by the nuts upon the stems of the partitions G G, when the latter are present, the said plates, which are parallel to the sides of the castings, are drawn or forced into close contact with the end surfaces of the two other lining-plates, thereby enabling tight joints to be easily made and maintained at the corners of the mold. This same general feature of construction and the advantages arising therefrom is present in the molds constructed as shown in Figs. 6 and 7, wherein the end lining-plates c^2 c^2 are fitted in rabbets in the partitions G^2 G^2, and may thus be brought to a firm and close bearing against the faces of the rabbets when the nuts are tightened upon the stems G^3 G^3 of said partitions.

In the employment of a two-part mold-table the end lining-plates, which overlap the ends of the side lining-plates in the manner above described, the lining-plates may be easily removed from the molds by loosening up the bolts *b b* and the nuts upon the stems of the partitions when the latter is present. It is obviously desirable, however, that some means should be provided for moving apart or separating the two castings B′ B^2 after the bolts have been loosened up. In order therefore to provide for a bodily movement of the casting B′, for the purpose described, we provide a screw-wedge or other equivalent device adapted to act upon said plate B′ in such manner as to shift or move the same outward from its position against the casting B^2. As a simple and convenient construction for this purpose, said plate B′ is herein shown as provided with set-screws H H, which pass

through said casting B′ and abut against the the inner surface of the casting B^2. Said set-screws H H are herein shown as located between the molds and the bars F F; but they may be otherwise placed, as found convenient or desirable.

To enable the part B′ of the table to be moved outwardly in the manner described, we make the bolt-holes in the vertical end flanges b^2 b^2 larger than the bolts, or slotted or of elongated form, as illustrated, Fig. 4, it being of course necessary to loosen up the bolts b b, which pass through said flanges before the casting can be moved.

It will of course be understood that the construction in the mold-table and molds above described may be employed as well in cases where the mold-table is without the vertical webs B^6 B^7, extending downward to the bottom of the machine frame, as when such webs are present. When such webs are employed, however, we make the bolt-holes in the same, through which pass the bolts b' b', which secure said flanges to the side frame-plates and frame-base, of elongated form to allow the casting B′ to be shifted bodily forward in the manner above described.

In Fig. 8 we have shown wedges applied to separate the castings B′ B^2 for taking out the lining-plates in place of the set-screws H above described. In this instance I I are wedges inserted between the end of the castings B^2 and inclined or wedge surfaces i i at the end of the casting B′, set-screws I′ I, inserted through brackets i' i' on the frame, being arranged to engage the said wedges to thrust the latter inwardly.

We claim as our invention—

1. In combination with the frame of a brick-machine, a mold-table therefor, comprising two castings B′ B^2, secured at their ends to the machine-frame, and horizontal bolts connecting said castings, side and end lining-plates for the molds, the lining-plates parallel with the sides of the table being extended at their ends past or over the end surfaces of the lining-plates at right angles thereto, whereby the tightening of the bolts connecting the casting B′ B^2 will close the joints at the corners of the molds, substantially as described.

2. A mold-table for brick-machines, comprising two castings B′ B^2, transverse partitions located between said castings, said partitions being provided with prolongations or stems passing through the said castings and having nuts or other fastening devices at their ends exterior to the castings for holding the same together, substantially as described.

3. The combination, with upper and lower plungers and a machine-frame comprising parallel vertical side plates, of a two-part mold-table, horizontal bolts connecting the parts of the table, side and end lining-plates for the mold, the end lining-plates being extended at their ends past or over the end surfaces of the side lining-plates, and means for separating the two parts of the mold, comprising set-screws or equivalent devices acting upon one part to thrust it away from the other part, substantially as described.

In testimony that we claim the foregoing as our invention we affix our signatures in presence of two witnesses.

B. CLARK WHITE.
JAMES A. BOYD.

Witnesses:
TAYLOR E. BROWN,
GEO. W. HIGGINS, Jr.