No. 799,871. PATENTED SEPT. 19, 1905.

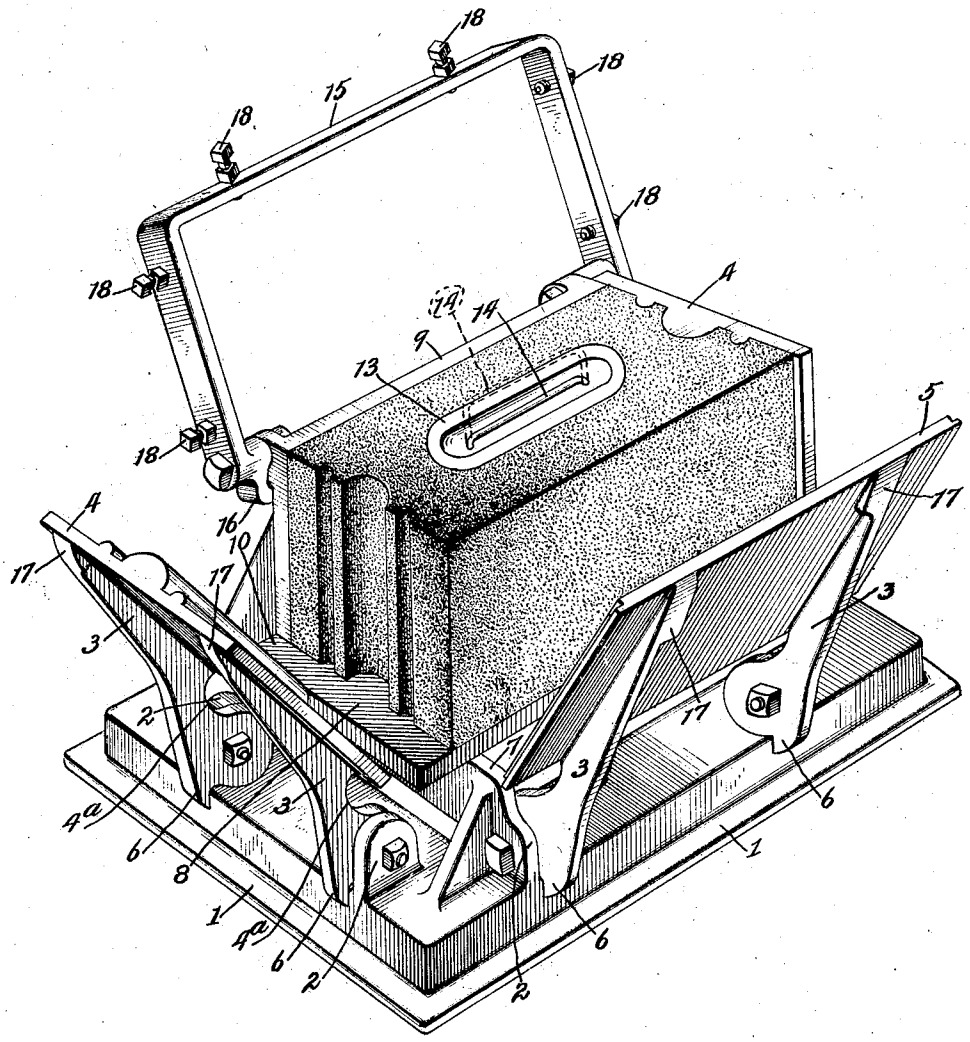
P. SAVARD.

MOLDING MACHINE.

APPLICATION FILED MAR. 6, 1905.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

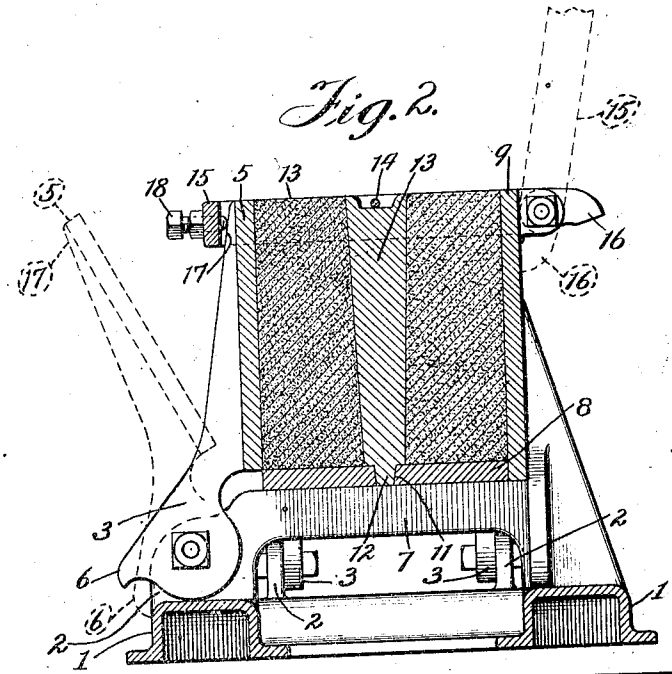


Fig. 3.

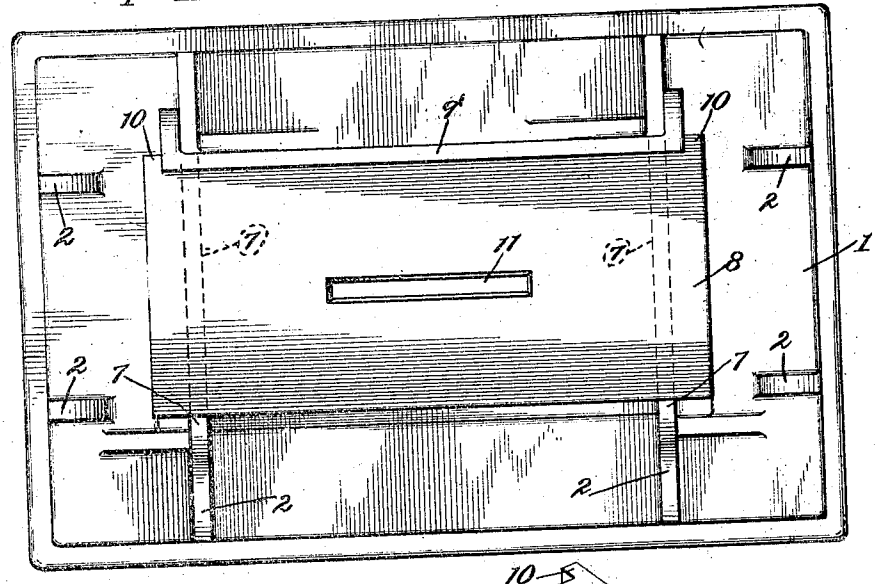
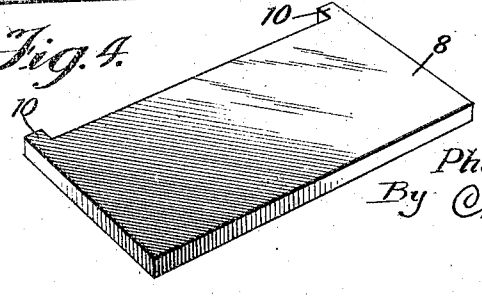


Fig. 4.



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UNITED STATES PATENT OFFICE.

PHILLIP SAVARD, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO ROBERT C. W. TIMM, OF CHICAGO, ILLINOIS.

MOLDING-MACHINE.

No. 799,871. Specification of Letters Patent. Patented Sept. 19, 1905.

Application filed March 6, 1905. Serial No. 248,679.

To all whom it may concern:

Be it known that I, PHILLIP SAVARD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Molding-Machines, of which the following is a specification.

My invention relates to molding-machines—such, for example, as are employed in producing blocks of cement, concrete, or other plastic material; and the objects of the invention are, first, to provide a machine having walls which may be swung back about a horizontal axis to open position after the block has been formed, the walls being pivoted to the machine-frame, and consequently in readiness to be subsequently brought together and clamped; second, to provide means for limiting the backward swing of said walls; third, to provide means for drawing the walls tightly together and firmly holding them in closed position; fourth, to provide means for independently adjusting each extremity of each of the pivoted walls; fifth, to provide means for readily adjusting the pallets to proper position in the machine-frame to form a bottom to the mold. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the complete machine, showing a completed block therein, two of the pivoted walls being thrown back to open position. Fig. 2 is a central vertical sectional view of the machine, taken on a plane extending from front to rear, the dotted lines showing the front wall and the binder in released position. Fig. 3 is a plan view of the machine-frame without the side walls, these being removed to better illustrate the manner of adjusting the pallet to the machine. Fig. 4 is a perspective view of a pallet or bottom board.

Similar numerals refer to similar parts throughout the several views.

The machine-frame 1, which is preferably of cast-iron, is provided with lugs 2 2, to which the hinges 3 of the end walls 4 4 and front wall 5 are pivoted. In order to limit the backward throw of said walls, stops are provided, which in the present instance consist of extensions 6 6, formed on said hinges and adapted to contact the base of the machine-frame in the manner shown.

The machine-frame is provided with benches 7 7, which form supports whereon a removable pallet 8 may rest, and at the rear of the frame is a stationary wall 9, which forms the back of the mold. The pallets 8 above mentioned are provided with extensions 10 at one side of each extremity for engaging the extremities of the rear wall 9 to thereby prevent lateral movement when the pallet is in adjusted position.

The walls 4 and 5 are pivoted at a point below the pallet 8, and consequently the lower edges of said walls swing outward away from the pallet, as well as do the upper edges, although, of course, to a less extent. This enables the walls to be thrown back completely out of the way when the operator reaches over to lift out the pallet and completed block. This manner of mounting the walls has another advantage when taken in connection with the fact that the end walls 4 are offset upon their hinges at 4^a in such manner as to swing in over the ends of the pallet, and thereby form a block which is shorter than the pallet. As a result, the ends of the pallet will project beyond the ends of the block, as shown in Fig. 1, and the operator may conveniently grasp these projecting ends of the pallet for lifting it and the block out of the machine.

It is usual in the manufacture of cement or concrete blocks to make them "hollow"—that is, to form one or more apertures therein—and I have made provision for this by sinking a slot 11 in the pallet for receiving the tongue 12 at the lower extremity of the core 13. Said core may be of any desired length and thickness; but it should be slightly tapered, with the greater dimensions at the top, in order that it may be more readily drawn from the molded block. Moreover, the tongue 12 should be of smaller cross-section than the remaining portion of the core, so as to form shoulders for supporting the core upon the pallet. For convenience the top of the core is countersunk for receiving the bail 14, so that a smooth top surface may be presented with no projections to obstruct the passage of a scraper when removing the excess material from the top of the mold. In order to facilitate manipulation, it is desirable to have the said bail 14 vertically movable in the core to a slight extent, so that when the core is to be drawn the bail may be raised for being more readily

grasped, while said bail may be lowered out of the way during the scraping of the surplus material from the top of the mold.

A binder 15 is pivoted to a stationary part of the machine, and in the preferred construction here shown it is pivoted at the upper edge of the stationary rear wall 9. Said binder in its preferred form consists of a rectangular member having its front and two ends adapted when lowered to engage the pivoted walls 4 and 5 to bind them together in closed position. In order to prevent excessive backward swing of the binder, it is provided with lugs or extensions 16, which are adapted to engage a stationary part of the machine-frame.

In the best construction the parts are so arranged that the binder may be thrown upward an back to a position in which the center of gravity will be slightly back of a point vertically above the axis of rotation, at which point the extensions or stops 16 will abut wall 9 and prevent further movement. By such arrangement the binder will of itself stand in approximately vertical position within easy reach of the operator.

In order that the pivoted front and end walls may be drawn tightly together before the material is introduced to form the block, wedging means are provided, which in the preferred form consist of oblique portions 17 17, formed near the upper extremity of walls 4 and 5 and adapted to be engaged by the set-screws 18 18, mounted in binder 15. As the set-screws are separately adjustable, it is possible to so set them that their wedging or clamping action on each end of each wall may be uniform, so that the walls may be brought snugly together and form tight joints at the corners of the mold.

In operation a pallet is placed in position upon the machine with the extensions 10 10 engaging the ends of the stationary rear wall 9. The walls 4 and 5 are then closed up, and the pointer 15 is swung down over them until the set-screws 18, acting against the oblique portion 17, join the mold parts firmly together. The tongue 12 of core 13 is then inserted into slot 11, and the mold is ready to be filled with the cement or other material from which the block is to be formed. A scraper is then passed over the top of the mold to remove the surplus material, the binder 15 and core 13 lying level with or below the upper edges of the side walls. After the block has been formed and the core 13 drawn said binder 15 is thrown back and walls 4 and 5 are swung outward. The operator then has ready access to the projecting extremities of the pallet 8 for lifting the pallet and the block out of the machine. A new pallet is then inserted and the operation repeated.

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

1. In a molding-machine, the combination with the machine-frame and means for supporting the material to be molded, of a plurality of walls at least three of which are pivoted to the machine-frame; and a binder pivoted to a fixed portion of the machine and adapted to simultaneously engage all of the pivoted walls for forcing the same toward each other upon the material to be molded.

2. In a molding-machine, the combination with the machine-frame and means for supporting the material to be molded, of a plurality of walls at least three of which are pivoted to the machine-frame; a binder pivoted to a fixed portion of the machine; and wedging means partly on said binder and partly on the pivoted walls for forcing the latter toward each other, said binder being adapted to engage all of the pivoted walls simultaneously.

3. In a molding-machine, the combination with the machine-frame and means for supporting the material to be molded, of a plurality of walls at least three of which are pivoted to the machine-frame; a binder pivoted to a fixed portion of the machine; and wedging means partly on said binder and partly on the pivoted walls for forcing the latter toward each other; said wedging means consisting of set-screws on one part adapted to coöperate with oblique portions on another part.

4. In a molding-machine, the combination with the machine-frame and means for supporting the material to be molded, of four walls, one of which is stationary and three of which are pivoted; a binder pivoted to a stationary part of the machine and adapted to circumferentially inclose all of the pivoted walls; and wedging means partly upon the outside of the pivoted walls and partly upon the inside of the binder for forcing the pivoted walls toward each other.

5. In a molding-machine, the combination with the machine-frame and means for supporting the material to be molded, of a pivoted binder, four walls, at least three of which are pivoted to the machine-frame; and independently-adjustable wedging means for each end of each of said pivoted walls for forcing the same together.

6. In a molding-machine, the combination with the machine-frame and means for supporting the material to be molded, of four walls, at least three of which are pivoted at the bottom; and a binder pivoted to a stationary part of the frame and adapted to engage the upper portion of the pivoted walls for forcing them together; and means for limiting the backward swing of said pivoted walls when the binder is disengaged therefrom.

7. In a molding-machine, the combination with the machine-frame and means for supporting the material to be molded, of four walls, at least three of which are pivoted at the bottom; and a binder pivoted to a stationary part of the frame and adapted to swing

down to engage the upper portion of the pivoted walls for forcing them together; and means for limiting the upward and backward swing of said binder after the center of gravity thereof has passed the vertical on the backward swing.

8. In a molding-machine the combination, with the machine-frame, of one stationary and three pivoted walls; means for drawing the pivoted walls toward each other upon the material to be molded; and a removable pallet adapted to rest upon the machine-frame to form a bottom to the mold, said pallet having extensions for engaging the said stationary wall for determining the position of the pallet in the machine.

9. In a molding-machine the combination with the machine-frame, of one stationary and three pivoted walls; means for drawing the pivoted walls toward each other upon the material to be molded; and a removable pallet adapted to rest upon the machine-frame to form a bottom to the mold, said pallet having extensions for engaging the said stationary wall for determining the position of the pallet in the machine; and said pallet being longer than the distance between the end walls when the same are in closed position.

10. In a molding-machine, the combination with the machine-frame and a pallet supported thereon, of side walls at least three of which rotate about horizontal axes located below the pallet; and a binder pivoted about a horizontal axis located near the upper edges of the side walls and adapted to circumferentially inclose the pivoted walls and engage them all simultaneously for holding them in closed position.

In witness whereof I have hereunto subscribed my name in the presence of two witnesses.

PHILLIP SAVARD.

Witnesses:
HOWARD M. COX,
ALBERT C. C. TIMM.