R. B. COLE.

CONCRETE BLOCK MACHINE.

APPLICATION FILED DEC. 29, 1909.

968,741. Patented Aug. 30, 1910.

Fig. 1.

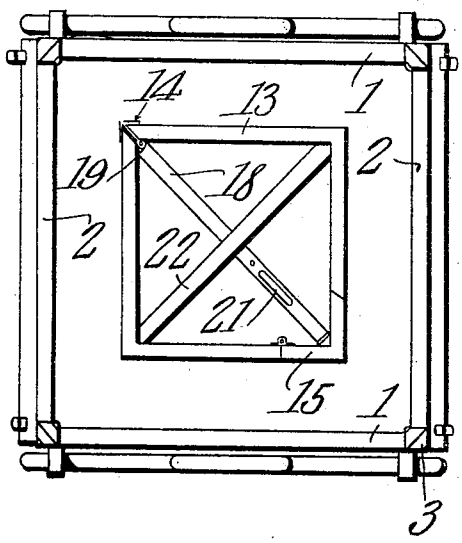


Fig. 2.

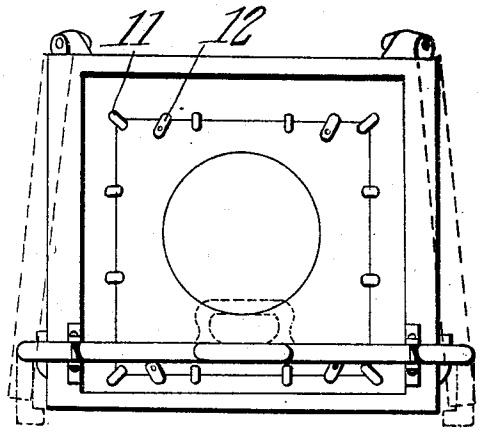


Fig. 4.

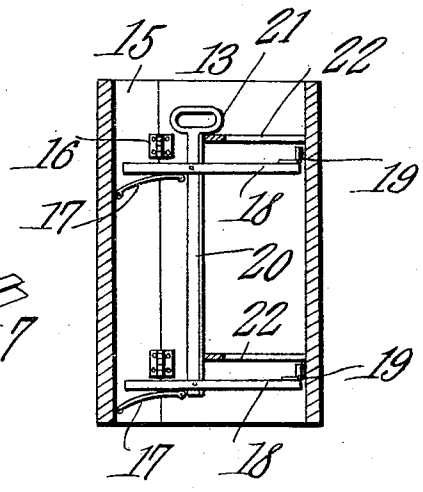
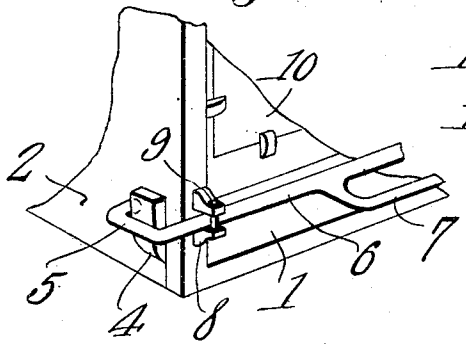


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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CONCRETE-BLOCK MACHINE.

968,741. Specification of Letters Patent. Patented Aug. 30, 1910.

Application filed December 29, 1909. Serial No. 535,421.

To all whom it may concern:

Be it known that I, ROUDY B. COLE, a citizen of the United States, residing at Fredericktown, in the county of Madison and State of Missouri, have invented a new and useful Concrete-Block Machine, of which the following is a specification.

This invention relates to improvements in molds for forming concrete blocks and other concrete structures, and the object of the invention is to provide a mold of simple construction which may be readily removed from the formed block without injury to the block and by the use of which blocks of any desired design may be readily formed. These objects are attained in the use of the device illustrated in the accompanying drawings, and the invention consists in certain novel features of the same which will be hereinafter first fully described and then specifically pointed out in the claims.

In the drawings,—Figure 1 is a plan view of my improved mold showing the core in position therein and showing the sides partly opened. Fig. 2 is an end elevation of the mold showing the same closed in full lines and the sides partly opened in dotted lines. Fig. 3 is a detail perspective view of a corner of the mold showing the locking mechanism. Fig. 4 is a vertical sectional view of the core.

In carrying out my invention, I employ a pair of ends 1 and a pair of sides 2 which are hinged at their upper corners to the upper corners of the ends, as shown at 3, a miter joint being formed between the sides and ends, as will be readily understood. On their outer faces, near their lower corners, the sides are provided with beveled lugs or wedge-shaped projections 4 which are adapted to be engaged by hooks 5 at the ends of the locking bars 6 provided at their centers with loops or handles 7, as shown, the said locking bars being rotatably mounted between lugs or projections 8 on the outer faces of the ends and held in engagement with the said lugs by pins 9 inserted through the outer ends of the lugs, as clearly shown in Figs. 2 and 3. The ends 1 are provided with central openings having shouldered or rabbeted edges with which pattern plates 10 may be engaged by being inserted into the mold from the top and then moved bodily laterally so that the edges of the pattern plates will engage the edges of the openings in the ends of the mold, as will be readily understood.

In the drawings I have illustrated the ends 1 as being provided with projections or lugs 11 adapted to bear against the outer faces of the pattern plates, and buttons 12 are pivoted upon the pattern plates and adapted to engage the outer faces of the ends so as to secure the pattern plates in position, but this construction is not essential, inasmuch as the pressure of the concrete against the pattern plate will be sufficient ordinarily to hold the same in its proper position within the opening in the end of the mold. The pattern plates will have their inner faces provided with a variety of designs and will be used interchangeably so that any desired formation may be given a block produced within the mold.

While the mold is, of course, adapted for the formation of solid blocks, hollow blocks may be readily formed therein, and when it is desired to produce the hollow block I employ the core 13, shown in Figs. 1 and 4. This core consists of a shell of the same general contour as the mold and comprising two members hinged together, as indicated at 14, and provided at a point diametrically opposite the hinge 14 with a door 15 secured to one member of the core by hinges 16 so as to open inward and having its free edge beveled so as to engage a correspondingly beveled edge on the meeting member of the core. The door is connected by links 17 to cross arms 18 hinged or pivoted horizontally at 19 to the core and connected by a lifter 20 arranged within the core and having a handle 21 formed at its upper end. When the lifter is raised, the arms 18 will, of course, be swung upward and will draw upon the links 17 so as to swing the door 15 inward and thereby release the same from the concrete within the mold. The continued upward movement of the lifter will pull the arms 18 against the cross straps 22 secured to and extending between members of the core so that the said straps will be flexed and the members of the core permitted to approach each other, with the result that the core will be collapsed and freed from the concrete. It is thought the operation and advantages of my improved mold will be readily understood from the foregoing description, taken in connection with the accompanying drawings. When it is desired to form a block within the mold the sides are swung inward so as to

lie against the edges of the ends and extend between the same, after which the locking rods 6 are swung downward to the position shown in Fig. 3 thereby causing the hooks 5 to ride over the inclined projections or lugs 4 and engaged behind the same so that the sides and ends will be drawn firmly together and clamped in their working position. The core is then placed within the mold, if a hollow block is to be formed, and the concrete is poured within the mold around the core and tamped therein in the usual manner. When the concrete has become sufficiently set, the core is collapsed in the manner described and lifted from its engagement with the concrete, after which the locking bars 6 are rotated so as to assume the position shown in Fig. 1, whereupon the sides will swing slightly outward, as shown in the dotted lines in Fig. 2 so as to release the mold from the concrete block. The hinges connecting the sides and ends are disposed at an angle to each member so that some little force is necessary to cause the members to swing together and this force is exerted through the locking bars 6, as will be readily understood. When the locking bars are turned into the position shown in dotted lines in Fig. 2 the hooks 5 will be disengaged from the lugs 4 and the sides will consequently spring outward at their lower edges and be thereby freed from the concrete at the point where the green block possesses the greatest strength and will be less apt to be damaged by the removal of the side plates of the mold. By then grasping the handles 7 the mold may be lifted from the green block without causing any damage thereto.

My device is exceedingly simple in its construction and arrangement of its parts and may be quickly removed from a green block without any damage being caused to the block, inasmuch as the movement of the members of the mold away from the block occurs at the bottom of the block. While I have shown the mold in the drawings as arranged to form a hollow rectangular block, it will be understood, of course, that cylindrical pipes or solid blocks of any desired form may be produced by the use of a mold embodying the same features without requiring any departure from the invention.

Having thus described my invention, what I claim is:—

1. The combination with the shell of a mold, of its core comprising two members hinged together and provided with a door-opening in their meeting ends opposite said hinge, a door hinged in the opening of one member and adapted when closed to fill it and when open to swing inward, cross supports between the members for holding them distended, arms at right-angles to the supports pivoted at one end adjacent the hinge line and having their other ends resting within the door for holding it closed, links connecting the free ends of the arms with the door, and means for lifting said ends simultaneously, the arms standing beneath the supports so that the rise of the former will flex the latter to collapse the core.

2. The combination with the shell of a mold, of its core comprising two angular members hinged together and provided with a door-opening in their meeting ends opposite said hinge, an angular door hinged in the opening of one member and adapted when closed to fill it and complete the angular contour of the core and when open to swing inward, cross straps between the angles of the members for holding them distended, arms at right-angles to the straps pivoted at one end adjacent the hinge line and having their other ends resting within the angle of the door for holding it closed, links connecting the free ends of the arms with the door, and means for lifting said ends simultaneously, the arms standing beneath the straps so that the rise of the former will flex the latter to collapse the core.

3. The combination with the sides and ends of a rectangular mold hinged together at one of its corners, and means for holding them closed; of a rectangular core therein comprising two angular members hinged together and provided with a door opening in their meeting ends opposite said hinge, an angular door hinged in the opening of one member and adapted when closed to complete the angular contour of the core and when open to swing inward, cross straps between the angles of the core members for holding them distended, cross arms at right angles to the straps for holding said door closed, and a lifter within the core and connected thereto, said arms standing beneath the straps so that when the former are raised the latter will be flexed and the core permitted to collapse.

4. The combination with the retaining sides and ends of a mold, of a core arranged between the said sides and ends and comprising two members hinged together, a door hinged to one of the members, a lifter arranged within the core and connected to one member of the core and to the door, and connections between the members adapted to be engaged by the lifter to collapse the core.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ROUDY B. COLE.

Witnesses:
E. L. PURCELL,
C. B. WHITE.