P. WECHT & J. WINFIELD.

MACHINE FOR MAKING CONCRETE BLOCKS.

APPLICATION FILED JAN. 24, 1908.

915,517.

Patented Mar. 16, 1909.

3 SHEETS—SHEET 1.

Fig. 1.

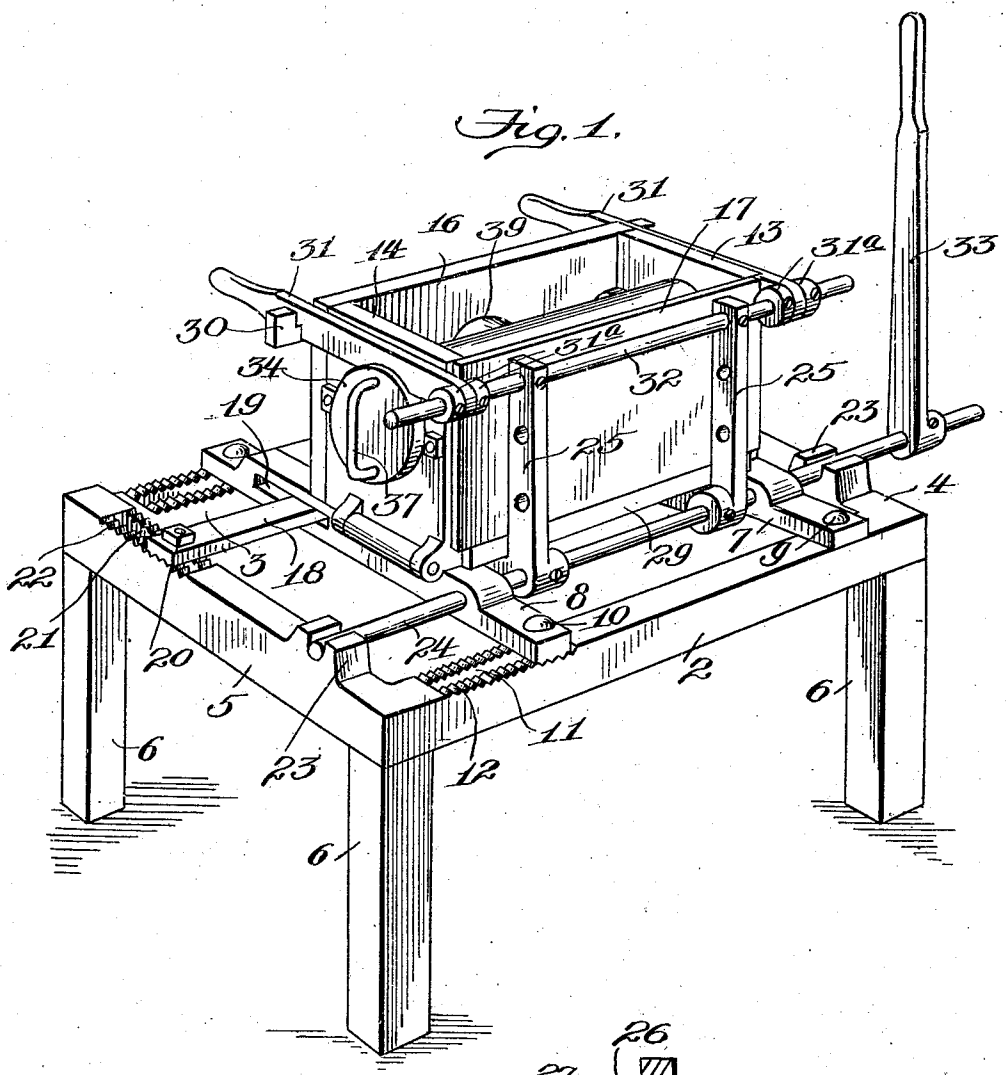
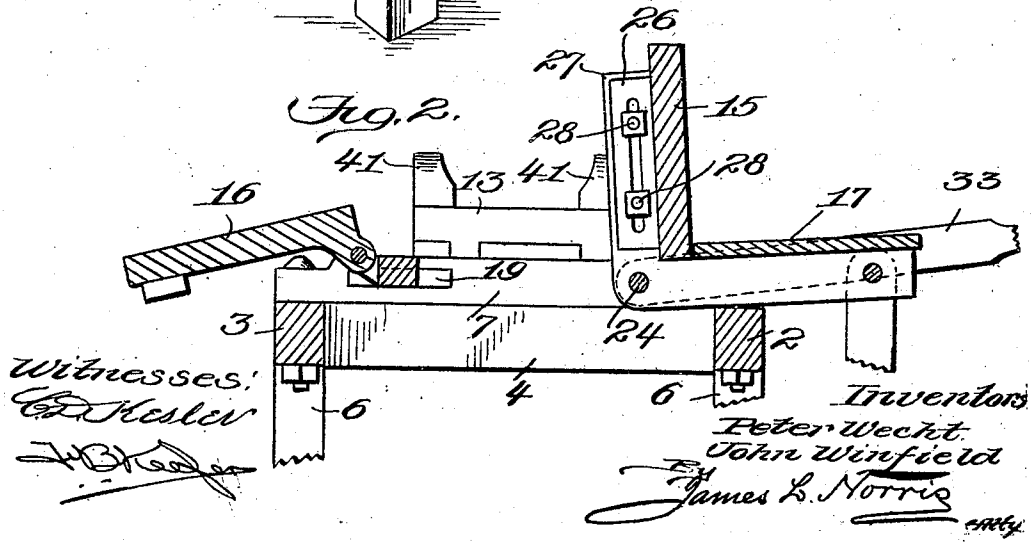


Fig. 2.



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3 SHEETS—SHEET 2.

Fig. 3.

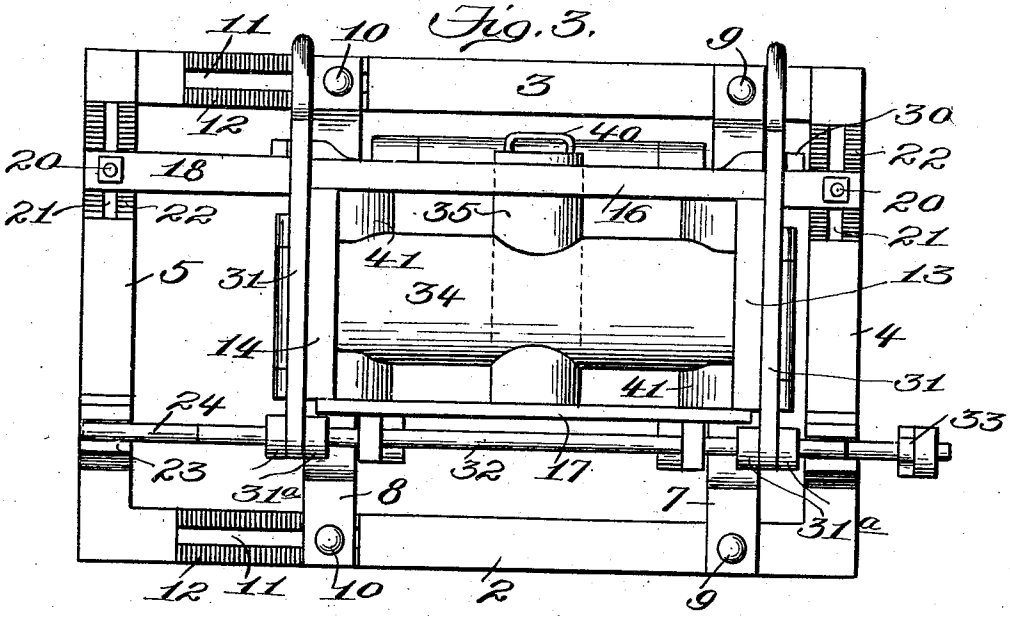
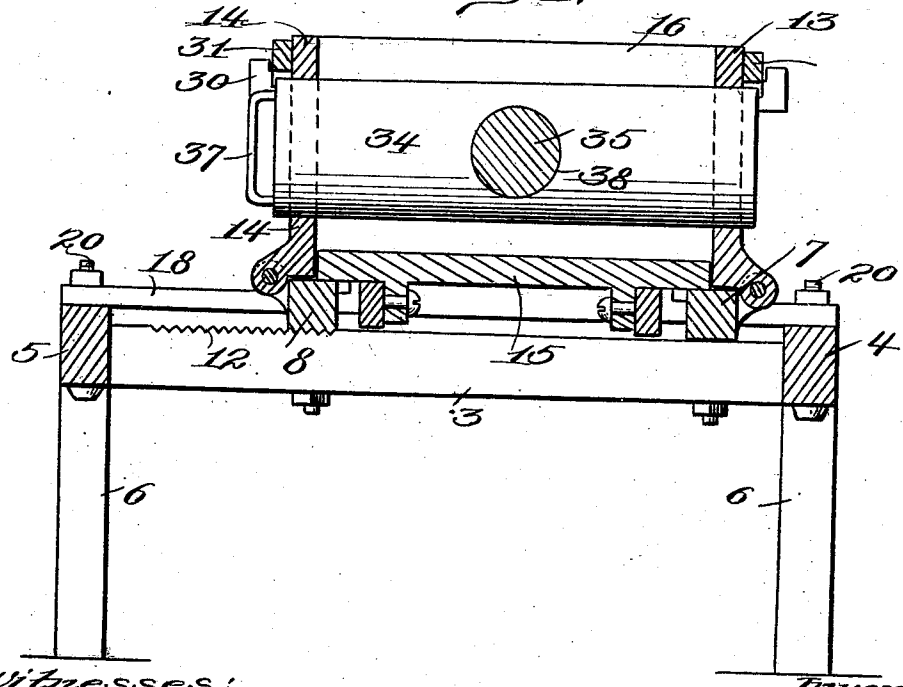


Fig. 4.



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3 SHEETS—SHEET 3.

Fig. 5.

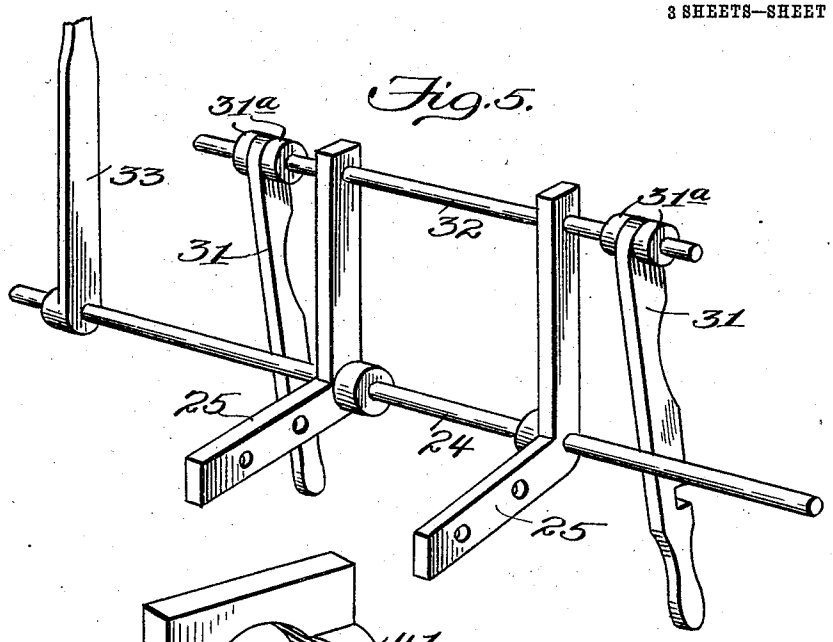


Fig. 6.

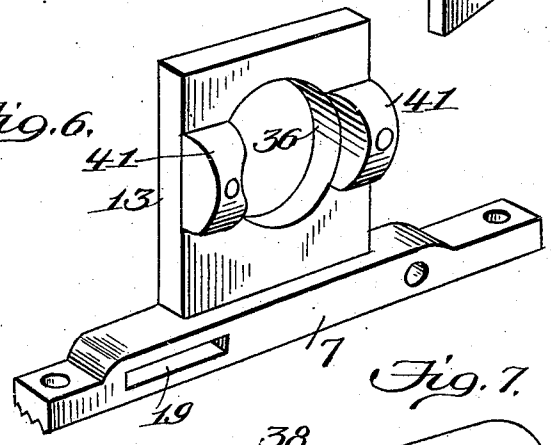


Fig. 7.

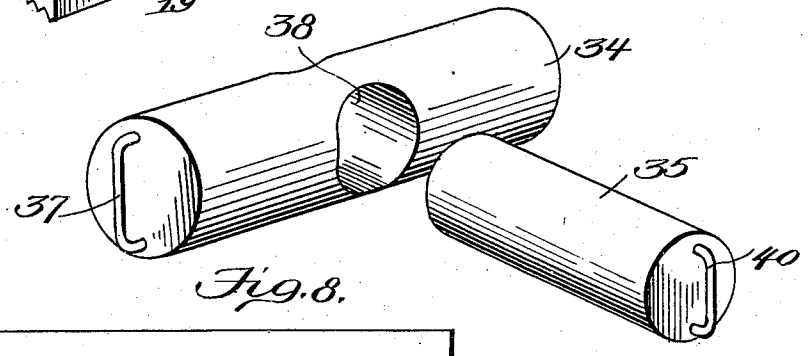
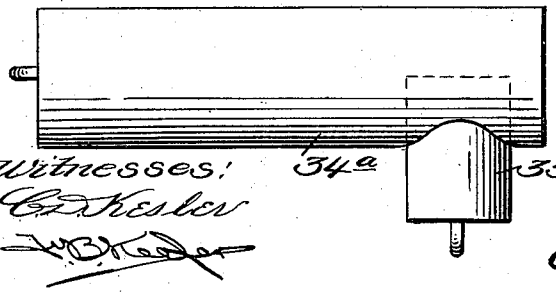


Fig. 8.



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UNITED STATES PATENT OFFICE.

PETER WECHT AND JOHN WINFIELD, OF FOSTORIA, OHIO.

MACHINE FOR MAKING CONCRETE BLOCKS.

No. 915,517. Specification of Letters Patent. Patented March 16, 1909.

Application filed January 24, 1908. Serial No. 412,506.

To all whom it may concern:

Be it known that we, PETER WECHT and JOHN WINFIELD, citizens of the United States, residing at Fostoria, in the county of Seneca and State of Ohio, have invented new and useful Improvements in Machines for Making Concrete Blocks, of which the following is a specification.

This invention relates to machines for making concrete blocks.

We desire to indicate that we use the terms "concrete" and "block" in their broad meanings. By "concrete" we intend to include the substance not only thus specifically known, but equivalent substances or compositions, such as cement, for making blocks of whatever form the latter may be.

We may make window sills, window caps, steps, building blocks, and other articles by the apparatus. The latter is of such character that blocks of different sizes can be made thereby, and these operations can be accomplished with ease and rapidity.

The apparatus is simple in construction and capable of ready manipulation.

In the drawings accompanying and forming part of this specification we have shown in detail one advantageous form of embodiment of the invention which, to enable those skilled in the art to practice said invention, will be set forth in detail in the following description, while the novelty of the invention will be included in the claims succeeding said description.

Referring to said drawings: Figure 1 is a perspective view of the machine with the mold-box set up. Fig. 2 is a cross sectional view of the upper portion of the machine with the mold-box in knock-down condition. Fig. 3 is a top plan view of the machine with the parts occupying the position shown in Fig. 1. Fig. 4 is a longitudinal sectional view of the same, the box being also set up. Fig. 5 is a perspective view of a rock-shaft, actuating handle, latches, and certain coöperating devices hereinafter more particularly described. Fig. 6 is a perspective view of an end and a supporting cross-bar therefor. Fig. 7 is a like view of a compound core, the parts thereof being separated. Fig. 8 is a top plan view of a modified form of core.

Like characters refer to like parts throughout the several figures of the drawings.

We prefer to provide a supporting frame for the mold-box and, while said supporting frame may be of any desirable character, such a one as that illustrated particularly in Figs. 1 to 4 of the drawings is advantageous. This supporting frame involves in its make-up a skeleton top represented as consisting of the longitudinally-extending parallel side bars 2 and 3 and the end bars 4 and 5 joined together in any desirable way so as to form a substantially skeleton or open structure. The structure just set forth is indicated as provided with several depending legs each designated by the numeral 6 and which constitute a convenient means for upholding said top or skeleton structure. The side-bars 2 and 3 constitute in the present case supporting means for the cross-bars 7 and 8 which are connected by bolts or in any other suitable manner with said side-bars.

The bolts connecting the cross-bar 7 with the side-bars 2 and 3 are designated by 9, and the cross-bar 8 is connected to the side bars 2 and 3 by bolts 10, the latter extending through longitudinally-disposed slots as 11 in the said side-bars 2 and 3, by virtue of which the cross-bar 8 can be moved toward and from the companion cross-bar 7 and longitudinally of the side-bars 2 and 3 for the purpose of adjustment. The bolts 9 and 10 are equipped with the customary nuts and, prior to adjusting the cross-bar 8, the nuts of the bolts 10 are loosened, when the adjustment can be easily accomplished and, when obtained, the nuts for said bolts will be set up. To aid the nuts of the bolts 10 in retaining the adjustment of the cross-bar 8 we prefer to roughen the engaging faces of the cross-bar 8 and the side or longitudinally-extending bars 2 and 3, and this we may accomplish by providing teeth, designated by 12 in each instance, on said engaging faces.

To the cross-bar 7 is hinged a mold-box end 13, while to the cross-bar 8 is hinged a substantially similar mold-box end 14. By virtue of the hinge connection the two ends can be separated from their coöperating cross-bars. The bottom 15 of the mold-box is removably supported by the two cross-bars 7 and 8 and, when in operative position as shown in Fig. 4, is inclosed by the lower portions of the two ends 13 and 14 and the sides 16 and 17. The side 16 is represented as hinged to a longitudinally-extending bar as 18 illustrated as sustained at its opposite ends by the cross-bars 4 and 5. By virtue of the hinge connection of the side 16 with the

bar 18 the two can be separated. The bar 18 extends through longitudinally-disposed slots denoted in each case by 19 in the cross-bars 7 and 8, as shown clearly in Fig. 1. This longitudinally-extending bar 18 is capable of adjustment transversely of the top of the frame. It may be fastened to the cross-bars 4 and 5 by bolts as 20 shown as extending through longitudinally-disposed slots as 21 formed in said cross-bars 4 and 5. By tightening up the nuts of the bolts 20 the longitudinally-extending bar 18 can be maintained in an adjusted position and the bolts 20 may be aided in maintaining this relation by coöperating teeth as 22 formed respectively on the cross-bars 4 and 5 and bar 18. The cross-bars 4 and 5 are represented as provided with bearings, designated by 23 in each case, to removably receive the opposite ends of a rock-shaft as 24 extending freely through openings or perforations in the cross-bars 7 and 8, by virtue of which the bar 8 can be freely adjusted with respect to said rock-shaft, whereby the latter can be operated without affecting the said bars 7 and 8.

To the rock-shaft 24 are fastened in some suitable manner the two outwardly-extending arms 25 which, when the mold-box composed of the several parts hereinbefore described is in its operative relation or assembled, stand vertically, as indicated in Fig. 1. In addition to said vertically-disposed arms 25, the rock-shaft 24 has fastened thereto horizontally-extending arms as 26 to which the mold-bottom 15 may be removably fastened. The mold-bottom is shown as equipped on its under side with ribs as 27 adapted for removable connection, for example, by means of bolts as 28, with the arms 26, such bolts preferably passing through longitudinal slots in the ribs 27 and arms 26, respectively, so as to adapt said arms 27 to mold-bottoms of varying widths. The two arms 25 are shown as connected by a bar as 29 upon which the mold-side 17 is adapted to rest, as clearly shown in Fig. 1.

It will be assumed that a mold-box of the size such as that shown in Fig. 1 is being used and that the box is knocked down or collapsed, as shown in Fig. 2, preparatory to using a box which is longer and wider than that illustrated. To use such a box the ends 13 and 14, the sides 16 and 17, and the bottom 15 will be dismounted, after which the cross-bar 8 will be moved away from the companion cross-bar 7 in the manner previously set forth; following this the longitudinally-extending bar 18 will be moved away from the shaft 24; or the order of procedure just outlined may be varied as it is quite clear that we provide means for effecting the variation in size of the mold-box. We may readily increase the length thereof without affecting the width, or the width can be changed without affecting the length, or both dimensions can be altered in a ready quick manner.

The side 16 is represented as provided near its top with a longitudinally-extending cleat as 30 the ends of which project beyond the ends of said side 16 for engagement by gravity latches as 31 connected with the rock-shaft or pivot 32 for swinging movement, the engaging portions of the latches 31 and projecting ends of the cleat 30 being notched. When the latches 31 are in engagement with the projecting portions of the cleat 30 the mold-box consisting of the bottom, two sides, and ends will be held in operative condition.

It will be assumed that the mold-box is set up as shown in Figs. 1, 3, and 4. In this condition the bottom 15 is connected with the rock-arms 26 then horizontally-disposed and is inclosed by the lower portions of the ends 13 and 14 and the sides 16 and 17, the side 17 resting on the supporting member 29. When the box is in such condition it can be filled with cement or concrete up to the desired level and, when the mass in the box has set or partially set, the latches 31 will be lifted. The side 16 can then be dropped down, after which the same operation will be followed with respect to the ends 13 and 14. Following this the shaft 24 will be rocked to bring the side 17 to a horizontal position, and the bottom 15 to a vertical position. The side 17 can then be removed from the arms 25 and the molded block will go with it. A new side can be substituted for that removed, or the block can be removed from the side when the former has set. The shaft 24 is provided with some suitable means for effecting its operation by hand, and a lever as 33 may be provided for this purpose.

We may, if desired, in forming a hollow block employ a core such as that shown in Fig. 7, said core consisting of a body or main portion as 34 and an auxiliary portion as 35 both represented as cylindrical although their particular shape is not material. The end 14 is shown as having a circular hole 36 through which the main core section 34 can be passed from outside the mold-box, the operation continuing until the forward end of the core portion 34 abuts against the mold end 13. The core portion 34 may be provided with a handle as 37 to facilitate its operation and it is also represented as having a circular opening 38 entirely through the same to receive the transversely-disposed auxiliary core portion 35 which, it will be understood, is of less diameter than the main core portion. The side 16 has a circular opening as 39 to receive the auxiliary mold portion 35 which is put in place after the main portion is positioned, by passing said auxilary portion 35 through the opening 39 and then through the opening 38 until the inner or forward end of said mold portion 35 abuts against the side 17, at which time the

mold-box can be filled with cement. The mold portion 35 is provided with a handle as 40 to facilitate its operation.

We have shown as pivoted to the ends 13 and 14 core blocks designated by 41 in each case and which are arranged to hug closely the main core portion 35 near opposite ends thereof and which form in the ends of the block cavities.

We show a modified form of core in Fig. 8 consisting of a main portion 34^a and an auxiliary portion 35^a. The core shown in Fig. 7, when the parts thereof are connected, is of approximately cruciform shape. The modified form of core illustrated in Fig. 8, however, is approximately of L-form. The core portion 35^a removably fits the core portion 34^a just as is the case with the other form of core.

The various parts hereinbefore described may be made of wood, metal, or a combination of these materials, as deemed desirable or to meet particular conditions.

It will be apparent from the foregoing description that we provide for the adjustability of a mold-box. To adapt the latches 31 to the particular size of the mold-box we prefer that said latches be adjustable of the shaft 32. This can be accomplished by having the latches slide on the said shaft and in retaining them in their respective adjusted positions by means of pairs of collars as 31^a.

We have fully described that form of embodiment of the invention which we have selected for illustration in the drawings accompanying this specification and have also set forth two different forms of cores. If desired, we may use the mold-box without any core or we may employ a core entirely different from either of the two shown. In like manner the lugs or blocks 41 may be of any desirable form or shape. In some cases they may, if desired, be wholly omitted. If desired also we can open and shut the mold-box with a lever or lever mechanism.

Other details may, if desired, be adopted within the scope of our claims.

What we claim is:

1. In a machine of the class described, a bar, a rock-shaft, one of said parts being movable toward and from the other, a pair of bars disposed transversely to and slotted to receive said first-mentioned bar, and a collapsible mold-box comprising removable sections, supported by said bars.

2. In a machine of the class described, a bar, a rock-shaft, the bar being movable toward and from the rock-shaft, a pair of bars disposed transversely to and slotted to receive said first mentioned bar and one of which is adjustable toward and from the other, and a collapsible mold-box comprising removable sections, supported by said bars.

3. In a machine of the class described, a bar, a rock-shaft, the bar being movable toward and from the rock-shaft, a pair of bars disposed transversely to and slotted to receive said first-mentioned bar and one of which is movable toward and from the other, said pair of bars having openings through which said rock-shaft passes, and a mold-box comprising removable sections, supported by said bars.

4. In a machine of the class described, a bar, a rock-shaft, the bar being movable toward and from the rock-shaft, a pair of bars disposed transversely to and slotted to receive said first-mentioned bar and one of which is movable toward and from the other, said pair of bars having openings through which said rock-shaft passes, a mold-box comprising removable sections, supported by said bars, and supporting means for the several bars and shaft, the supporting means and at least two of the bars having coöperating engaging roughened faces.

5. In a machine of the class described, a supporting member having transversely-extending slots, a longitudinally-extending bar sustained by said supporting member, bolts carried by said longitudinally-extending bar and extending through said slots, cross-bars slotted to receive said other bar, one of the said cross-bars carrying bolts, and the supporting member having elongated slots to receive said last-mentioned bolts and also having roughened tooth portions, and the ends of two of said bars having coöperating tooth portions to engage with said other tooth portion, a rock-shaft, said supporting member having stationary bars to support said rock-shaft, and the cross-bars being perforated for the passage of said rock-shaft, and a mold-box comprising removable sections, supported by said bars.

6. In a machine of the class described, a mold-box comprising removable sections, a rock-shaft provided with arms to coöperate with one of the sections of the mold-box, and swinging latches adjustable toward and from each other and connected to and movable with said arms to bear close against the box ends and to removably engage the opposite extremities of one of the box-sides.

7. In a machine of the class described, a mold-box comprising removable sections, a rock-shaft provided with arms coöperative with one of the sections of the mold-box, a shaft held by said arms and extending outwardly from the latter, and latches adjustable longitudinally on said shaft for holding the sections of the mold-box in assembled condition.

8. In a machine of the class described, a mold-box comprising removable sections, a rock-shaft, arms fixed to said rock-shaft for supporting the bottom of the mold-box, other arms also fixed to said shaft and coöperative with another section of the mold-box, a manually-operable member connected with said

rock-shaft and for operating the same, a shaft carried by said last-mentioned arms, and latches carried by and adjustable longitudinally on said last-mentioned shaft for holding the sections of the mold-box in assembled relation.

9. The combination of a mold-box, a core in said mold-box, comprising a plurality of transversely-extending portions, one of the portions of the core being provided with an opening through which the other portion of the core is removably inserted, the latter core portion being fully projected through the core portion having the opening and also through opposite members of the mold-box.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

PETER WECHT.
JOHN WINFIELD.

Witnesses:
M. B. STOUT,
ROBT. G. MILLER.