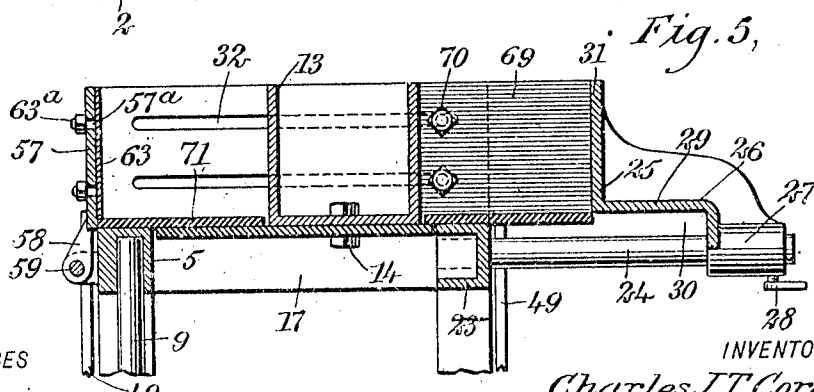
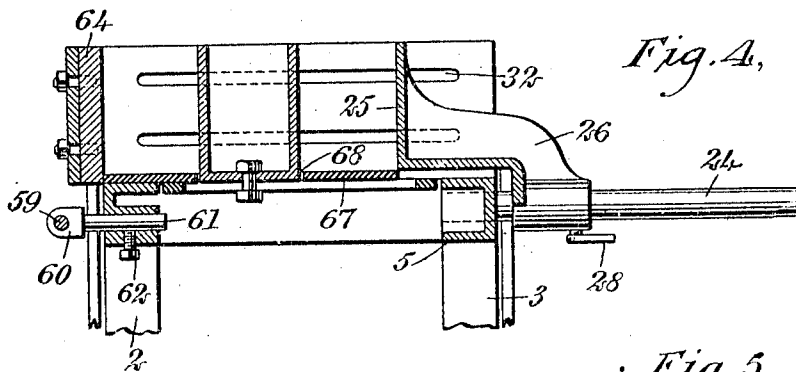
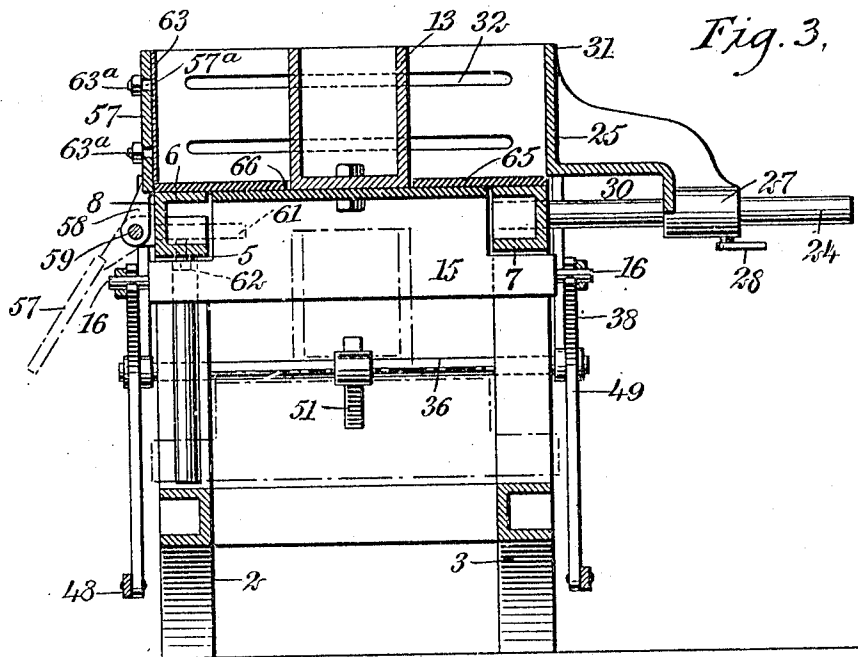


950,370.

2 SHEETS—SHEET 2.



WITNESSES

Edward Thorpe
J. W. Cullen

INVENTOR

Charles J. T. Cordes

BY *M. M. Leo*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES J. T. CORDES, OF WALDWICK, NEW JERSEY.

BUILDING-BLOCK MOLD.

950,370.

Specification of Letters Patent.

Patented Feb. 22, 1910.

Application filed March 16, 1908. Serial No. 421,384.

To all whom it may concern:

Be it known that I, CHARLES J. T. CORDES, a citizen of the United States, and a resident of Waldwick, in the county of Bergen and State of New Jersey, have invented a new and Improved Building-Block Mold, of which the following is a full, clear, and exact description.

This invention relates to building block molds, and the object of the invention is to produce a mold which is adapted to make building blocks of different sizes.

The invention contemplates an arrangement in which the sides or walls of the mold may be moved outwardly so as to enlarge the mold, and the mechanism includes means for moving some of the walls in unison so that the cores for the block are advanced automatically into position.

The invention may be considered as an improvement upon the device patented to me October 29, 1907, Patent Number 869,828.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth 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 figures.

Figure 1 is a side elevation of a building block mold constructed according to my invention; Fig. 2 is a plan, certain parts being broken away; Fig. 3 is a vertical cross section through the mold, taken on the line 3—3 of Fig. 2; this view shows the mold in its normal condition as adapted for molding building blocks of medium size; Fig. 4 is a vertical cross section taken on the line 4—4 of Fig. 2, showing the upper portion of the mold, and showing the parts in their condition when the mold is adapted to make building blocks of small size; and Fig. 5 is a vertical section taken on the line 5—5 of Fig. 2, but showing the mold in the condition to make blocks of an unusually large size.

Referring more particularly to the parts, and especially to Figs. 1 to 3, 1 represents the frame of the machine, which is formed of two opposite housings or standards 2 and 3. The middle portions of these housings are cut away so as to form a throat 4

of substantially rectangular form, as indicated in Fig. 1. These housings 2 and 3 support a bed or bed frame 5, of substantially rectangular form. This frame is constructed of a continuous bar of channel form, the channel being disposed inwardly so as to present a horizontal upper flange 6, a horizontal lower flange 7, and a vertical web 8 connecting the same. As indicated most clearly in Figs. 1 and 2, from the under side of this bed frame 5 a pair of vertically disposed guide bars 9 extend downwardly. These guide bars are disposed at equal distances from the middle axis of the machine, as indicated in Fig. 2. These bars operate as guides for a bottom plate 10, which is of rectangular form, as shown in Fig. 2. This plate is provided near its ends with guide lugs 11 which receive the guide bars 9 so as to guide the bottom plate in a vertical direction, as will be readily understood. This bottom plate is provided with a pair of transversely disposed slots 12; these slots facilitate the fastening in position of the main core 13 of the mold, suitable bolts 14 being used for this purpose, as shown. This core 13 may be of any suitable form such as that shown, but for convenience, is made hollow and without any top or upper wall.

On the under side of the bottom plate, as indicated most clearly in Figs. 1 and 2, a cross head 15 is formed, and the ends of this cross head terminate substantially at the sides of the frame 5. At this point they are provided with outwardly projecting pins or gudgeons 16, which afford means for raising and lowering the bottom plate of the mold, as will be described hereinafter.

The end bars 17 of the frame 5 are provided with horizontally projecting guide bars 18, which are disposed parallel to each other as indicated. These guide bars 18 operate as guides for the end walls 19 of the mold. These walls consist simply of vertical plates which are provided on their rear sides and at their lower edges with guide sleeves 20 which slide on the guide bars 18 as indicated. These sleeves 20 are preferably connected by an integral web 21, and vertical webs 22 connecting the sleeves with the vertical plate or wall.

On the side bar 23 of the frame 5, as indicated in Fig. 5, outwardly projecting parallel guide bars 24 are provided, which are

similar to the guide bars 18, and these bars operate as guides for a main adjusting wall 25. This wall presents a vertical plate as shown in Fig. 5, on the outer side of which
 5 a rearwardly extending bracket 26 is formed, the said bracket terminating in guide sleeves 27 which slide on the guide bars 24, as indicated. These sleeves 27 are provided with clamping bolts 28, which enable the wall to
 10 be clamped in any position desired. As indicated in Fig. 5, the bracket 26 comprises a horizontal web 29 which is offset upwardly from the guide bars 24 so as to form an opening or throat 30 which permits this wall
 15 to be advanced over the frame in such a way that the vertical plate 31 of this wall is disposed over the interior of the frame 5.

The end walls 19 are provided with longitudinal slots 32 which afford means for adjustably securing cores 33, which cores are adapted to cooperate with the core 13, as indicated in Fig. 2, to form a complete core for the mold. These cores 33 are attached to the end walls by suitable bolts 34 sliding
 20 in the slots 32.

It should be understood that this mold is adapted to form blocks which are in two sections connected by bonds or bars. In order to enable the anchor bars or bonds to be applied in the molding operation the end
 25 faces or edges of the cores 33 are formed with horizontal grooves in which the bonds or anchor bars are placed during the molding, as fully described in my patent referred to hereinabove. It should be observed that
 30 these bonds do not engage in any way with the edges or end faces of the core 13 so that they do not tend to prevent the vertical sliding movement of this core when the mold is being opened or closed.

I provide means for moving the two end walls 19 of the mold simultaneously, and also for moving the bottom plate 10 of the mold. For this purpose, in the frame 1, I provide a pair of horizontal shafts 36 and
 35 37, which shafts project beyond the frame at the side, and are provided with rigid arms 38. The ends of these arms are formed with forks 39 which engage the pins 16, as indicated in Fig. 1, so that when the arms 38 are
 40 moved downwardly, the bottom plate will be depressed, and vice versa.

The shaft 37 has a rigid segment 40, which meshes with a similar segment 41 which is mounted upon a transverse shaft 42, which
 45 is also mounted in the frame 1. This shaft 42 at its ends carries levers 43 which project upwardly, and are formed with handles 44 at their upper ends. The upper portions of the levers 43 are provided with slots 45,
 50 and these slots receive pins 46 which project laterally from the sleeves 20 at the right-hand end wall. The levers 43 extend downwardly so as to form arms 47 which are connected by links 48 with arms 49 which are
 55 rigid with the arms 38 aforesaid. In this

way the arms 38 and 49 constitute bell crank levers 50 carried rigidly by the shaft 36. On the shaft 36 near its middle point, a segment 51 is provided, which meshes with a
 60 segment 52, the said segment 52 being rigidly attached to a cross shaft 53 having rigid arms 54 which extend upwardly at the sides of the sleeves 20 of the left-hand end wall. These sleeves are provided with pins 55
 65 which are received in forks 56 similar to the forks 39. From this arrangement it should be understood that when the levers 43 are moved toward the right, the end walls 19 will simultaneously move outwardly, and the
 70 bottom plate 10 will be depressed. An opposite movement will advance the end walls and elevate the bottom plate 10 into position. When the bottom plate is in its uppermost position, its upper face is on a level with
 75 the upper faces of the flanges 6 of the frame 5, as indicated in Fig. 3. Opposite to the main adjusting wall 31 there is provided a forward wall or facing wall 57. This wall consists simply of a vertical plate provided
 80 with lugs 58 at its lower edge, and these lugs are pivoted or hinged on a horizontal bolt 59. The ends of this bolt are secured in heads 60 carried upon short stems 61 which are mounted in the frame 5, as indicated in Fig. 4.
 85 These stems 61 may be adjusted in or out so as to change the position of the wall 57 with respect to the frame, and are adapted to be clamped in any adjusted position by set screws or bolts 62. The wall 57 is provided with longitudinal slots 57^a which enable
 90 a face plate 63 to be attached on the inner side, the said face plate having stud bolts 63^a which project to the outside through the slots and receive nuts as shown in Fig. 3. A special face plate 64 may be
 95 used so as to give a special character to the outer face of the block, the same being fastened in place like the plate 63, as indicated in Fig. 4. On account of the adjusting stems 61 the position of the wall 57 may
 100 adapt itself to different thicknesses which the plate 64 might have; that is, plates having different thicknesses may be used as face plates.

On the bottom plate 10 of the mold, and on the frame 5, I lay a pallet 65 as indicated
 105 in Fig. 3. In this view the mold is represented as adapted for molding a block of normal size. In molding the block, the main adjusting wall 25 has its inner face in substantial alinement with the edge of the
 110 frame 5. The pallet 65 is provided with a central opening 66 having the form of the bottom core 13, so that the core may pass upwardly into position through the pallet when the bottom plate moves into place, as
 115 will be readily understood.

If it is desired to mold a block smaller than the block which would be molded in the manner indicated in Fig. 3, a smaller
 120 125 130

pallet 67 is provided having a central opening 68 which is adapted to pass the bottom core 13 upwardly. By reason of the slots 12 in the bottom plate 10, the core 13 may be adjusted so as to come into the middle of the smaller block which is now to be molded. At the same time, the end cores 33 may be adjusted into central alinement on account of the slots 32. It will be evident, however, that if it is desired to mold a block with the cores 13 and 33 off the center, this may be accomplished by providing a special pallet with the central opening displaced from the center, and by fastening the cores 13 and 33 in the desired position.

In connection with Fig. 4, special attention is called to the manner in which the main adjusting wall overhangs the frame of the mold, by reason of the offset bracket 26 which connects it with the sleeve 27.

If it is desired to mold a block of larger dimensions than the frame 5, I provide the end walls 19 with extension plates 69 which are preferably of thin sheet metal, attached to the inner faces of the end walls by bolts 70 which pass through the slots 32. In this way the end walls are built out or extended transversely of the mold. The main adjusting wall 25 will then be run out to a point near the limit of its outward movement, and the clamping bolts 28 will secure it to the guide bars 24. The main or bottom core 13 is then adjusted into any position such as the mid-position in which it is shown in Fig. 5, and a special pallet 71, which is adapted to be used for molding this large block, is set in position.

Special attention is here called to the throat 30, which enables the end wall to slide in over a large pallet such as the pallet 71. This arrangement enables a single pallet to be used for molding several sizes of blocks. In practice, a number of standard pallets will be provided for different sizes, and each pallet can be used for molding several sizes as suggested. In this way a great range in the capacity of the machine is acquired.

It should be understood that in molding, the cement or composition out of which the blocks are formed, is placed over the pallet in the bottom of the mold, and after the mold is filled properly, the levers 43 are operated so as to move out the end walls. This movement also withdraws the cores from the interior of the mold, and the green block is then removed on the pallet to the oven.

For holding the wall 57 in place, I provide the same with pivoted latches or hook plates 72, which have notches on their lower edges adapted to engage hook pins 73 projecting from the edges of the end walls, as indicated in Fig. 1.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent:

1. In a mold, in combination, a frame, end walls, means for guiding said end walls to slide outwardly in a fixed angular position, a side wall adapted to slide outwardly, means for guiding the same, stems adjustably mounted in said frame opposite to said side wall, and a second side wall opposite to said first side wall pivotally supported on said stems and adapted to swing downwardly.

2. In a mold, in combination, a frame upon which the mold is formed, end walls for the mold, a movable side wall between said end walls, cores, means for attaching said cores to said end walls in different adjusted positions, and means for guiding said end walls rearwardly in a fixed angular position.

3. In a block mold, in combination, a frame upon which the block is formed, end walls for the mold, a side wall slidably mounted between said end walls, said end walls having longitudinally disposed slots therein, cores attached to said end walls by bolts passing through said slots, a bottom plate for said mold and having transverse slots, and a main core having bolts running in said last slots, the edges of said main core abutting the edges of said end cores.

4. In a block mold, in combination, a frame, guides projecting from said frame, end walls mounted on said frame, and a side wall supported on said guides and sliding between said end walls, said side wall projecting inwardly from the point of support thereof on said guides whereby said side wall may overhang said frame.

5. In a block mold, in combination, a frame, guides projecting from said frame, end walls mounted on said frame, a side wall supported on said guides and sliding between said end walls, said side wall projecting inwardly from the point of support thereof on said guides whereby said side wall may overhang said frame, and cores adjustably attached to said end walls.

6. In a block mold, in combination, a frame having laterally projecting side bars on a side thereof, end walls, a side wall having sleeves slidably mounted on said guide bars and having a vertical plate, said vertical plate being offset inwardly from said sleeves whereby said side wall may overhang said frame in molding small blocks.

7. In a block mold, in combination, a frame having laterally projecting guide bars on a side thereof, end walls, a side wall sliding on said guide bars and adapted to pass between said end walls, said side wall being offset inwardly from the point of support thereof, and means for securing said side wall to said guide bars.

8. In a block mold, in combination, a

frame upon which the mold is formed, a
sliding side wall, a face wall opposite there-
to and hinged to said frame, means for ad-
justing said face wall outwardly, and means
5 for securing a face plate to the inner side of
said face wall.

In testimony whereof I have signed my

name to this specification in the presence of
two subscribing witnesses.

CHARLES J. T. CORDES.

Witnesses:

F. D. AMMEN,
JOHN P. DAVIS.