

No. 840,907.

PATENTED JAN. 8, 1907.

H. K. BURRILL.
CONCRETE BLOCK MACHINE.

APPLICATION FILED MAR. 3, 1906.

2 SHEETS—SHEET 1.

Fig. 2.

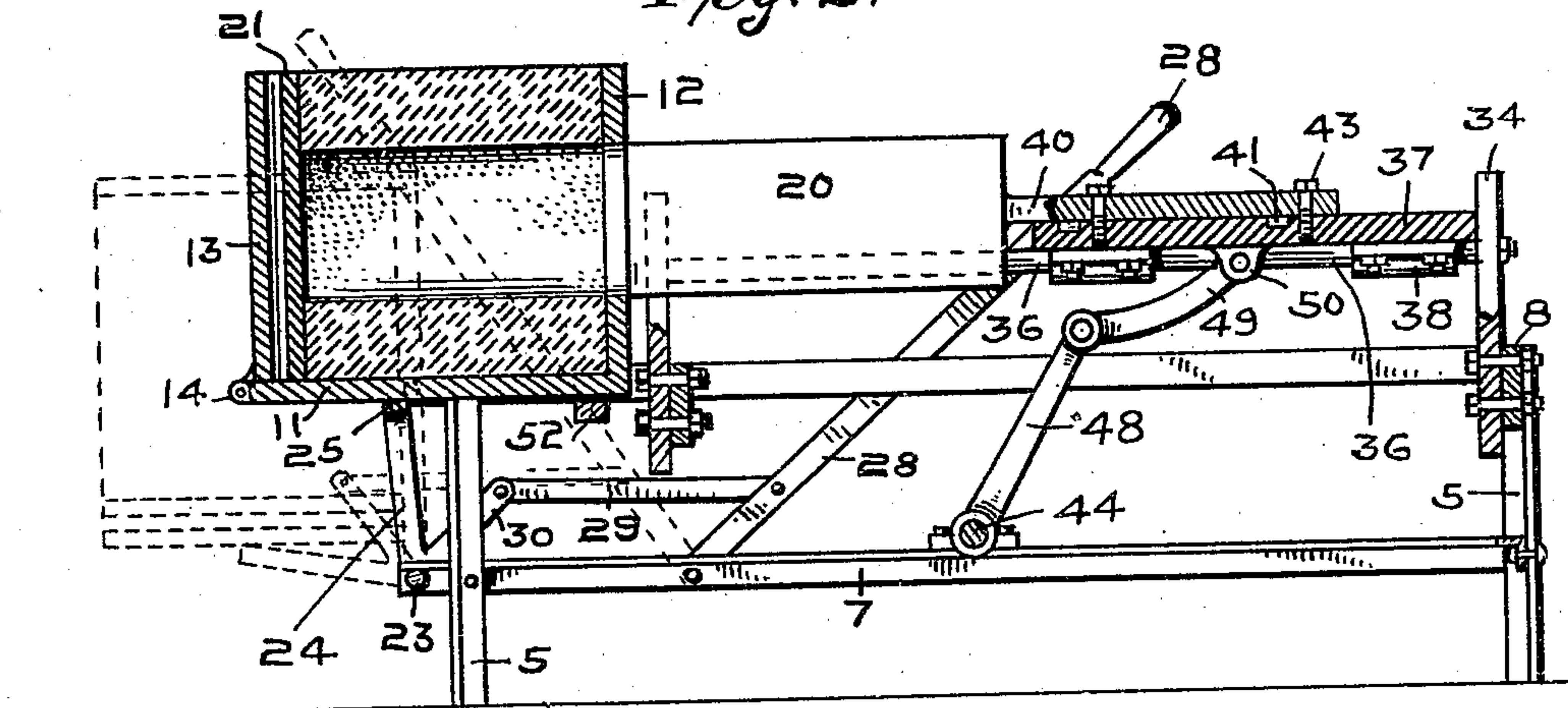
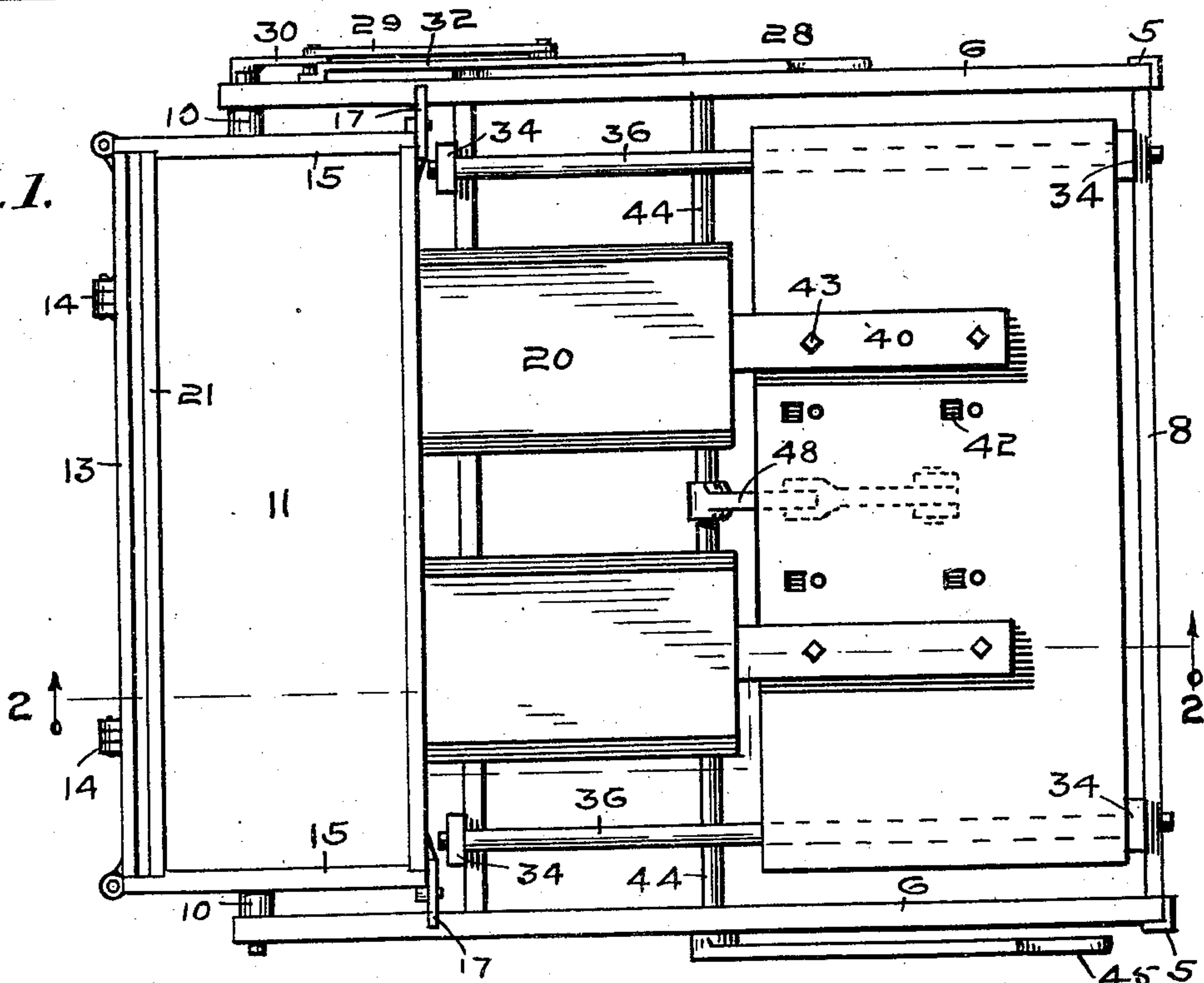


Fig. 1.



WITNESSES:

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INVENTOR:
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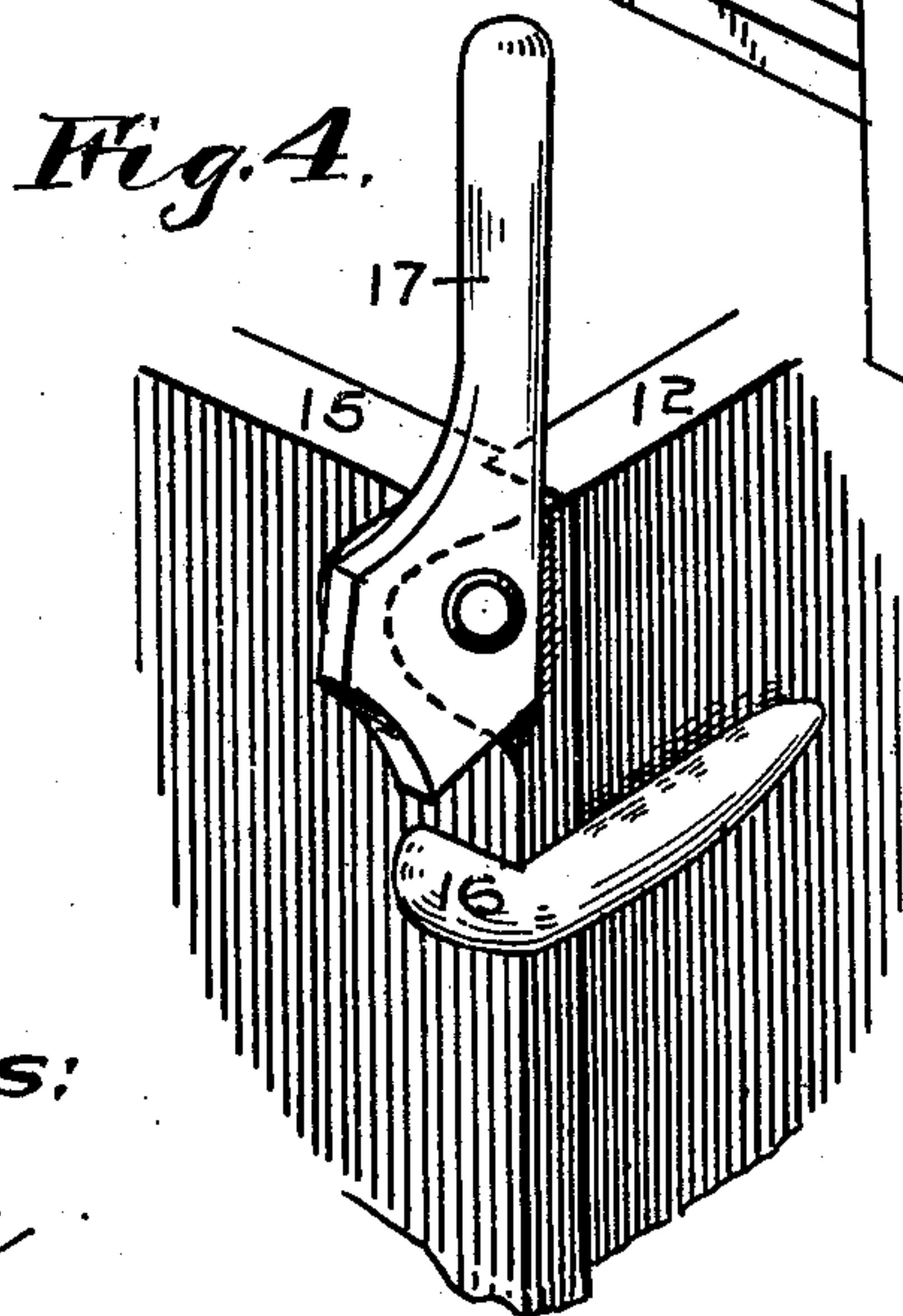
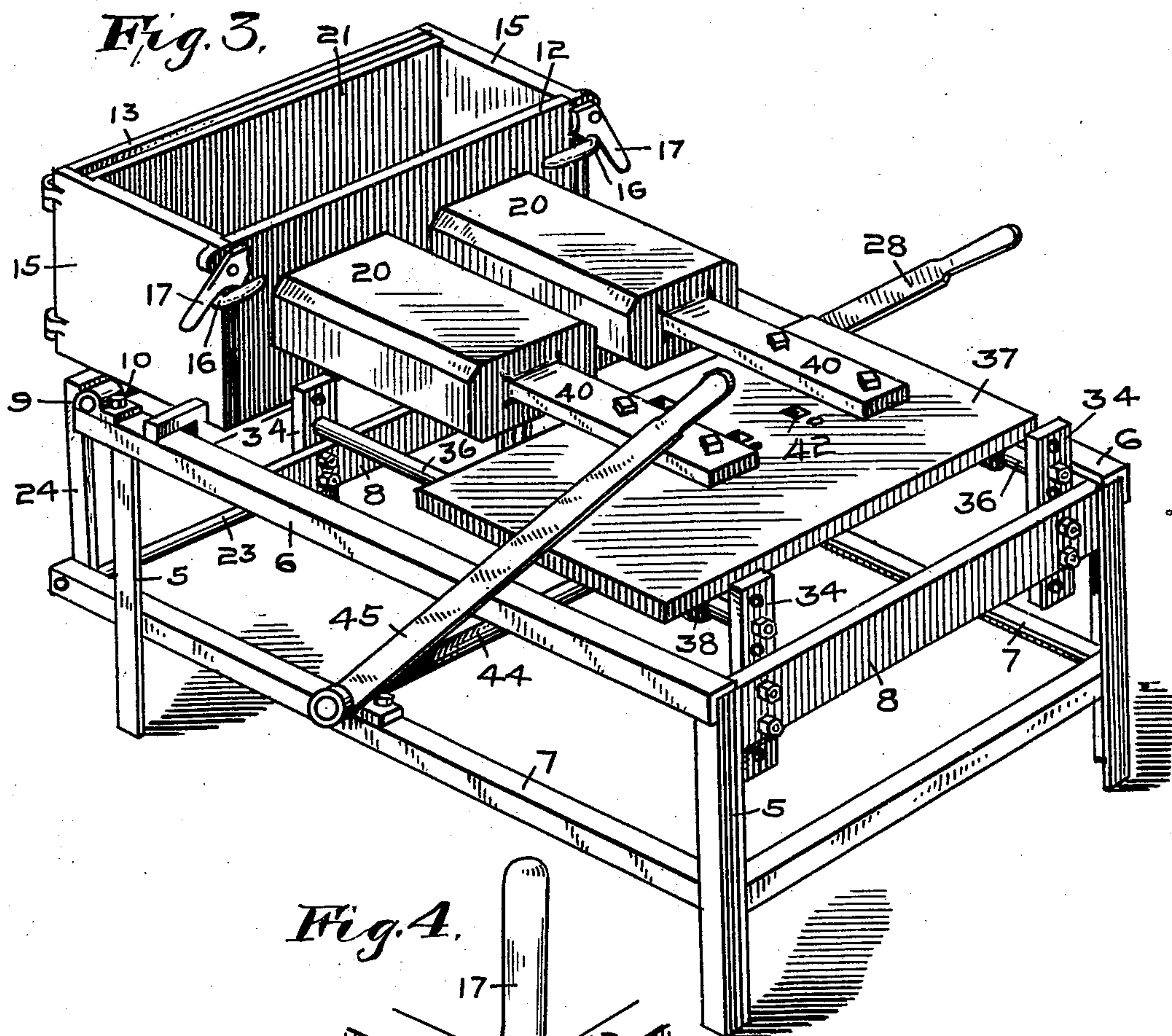
By Minturn & Worrner,
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2 SHEETS—SHEET 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HORACE K. BURRILL, OF INDIANAPOLIS, INDIANA.

CONCRETE-BLOCK MACHINE.

No. 840,907.

Specification of Letters Patent.

Patented Jan. 8, 1907.

Application filed March 3, 1906. Serial No. 304,085.

To all whom it may concern:

Be it known that I, HORACE K. BURRILL, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Concrete-Block Machines, of which the following is a specification.

This invention relates to improvements in machines for forming concrete building-blocks; and the object is to provide a machine in which the cores for forming the hollow portions of the blocks are introduced horizontally into the mold and are withdrawn in like manner, thereby enabling the face of the block, or that portion which has the outside exposure when the block is in the wall, to be made at the bottom of the mold in the molding-machine. This enables the exposed face to be formed out of a finer and different mixture of concrete than the major inner portion of the block, whereby the product will be cheaper than if made of the finer concrete mixture throughout and will be more durable and pleasing to the eye than if made of the cheaper and coarser mixture throughout.

The object of the invention is to provide a machine in which the sides and ends of the mold-box can be readily opened and separated from the freshly-formed block and to provide a construction in which the mold-box can be readily swung into a position for the easy removal of the product after it is molded.

A further object of the invention is to provide a simple, inexpensive, and durable machine which can be operated without the services of many operatives and which will not require the services of experienced and expensive workmen.

I accomplish the objects of my invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of my invention with the mold-box in operative position with the cores removed ready for the introduction of the concrete to form the outer or exposed face of the building-block. Fig. 2 is a vertical section of my machine on the dotted line 2 2 of Fig. 1 looking in the direction of the arrows. Fig. 3 is a perspective view of my machine with the parts of the latter in the same position as they are shown in Fig. 1; and Fig. 4 is a detail in perspective

of a corner of the mold-box, showing the locking-lever in raised or unlocked position.

Like characters of reference indicate like parts throughout the several views of the drawings.

5 represents the legs which support the frame of my machine. These are connected in pairs by the upper horizontal longitudinal bars 6 and the lower longitudinal bars 7, and the pairs thus formed are connected by the transverse upper bars 8. The bars 6 are extended past the legs 5 at one end and are provided with the boxes 9 to receive the trunnions 10, which extend therein from the bottom 11 of the mold-box. The bottom 11 of the mold-box has the inner side 12, which is preferably integral with said bottom. It also has the outer side 13, which is connected with the bottom 11 by means of the hinges 14, and 15 represents the ends of the mold-box which are hinged to the side 13 in the manner shown. By the above construction the mold-box can be opened out to permit of the free and ready removal of the newly-formed concrete block. The ends 15 are fastened to the side 12 by means of hooks 16, which are integral with the side 12, and the levers 17, which are pivoted to the ends 15 and are adapted in certain positions to extend inwardly of the mold-box, so as to overlap the sides 12 and prevent the dismemberment of said parts by the swinging movement of the ends and side of the mold-box on hinges 14. The outer ends of the levers 17 are extended so as to form handles for the locking and unlocking of the fastening, which they form a part, and also to form handles by means of which the mold-box as a whole will be swung on the trunnions 10 down into the position shown by dotted lines in Fig. 2 for the removal of the newly-formed building-block. The side 12 of the mold-box has suitable openings for the movement in and out therethrough of the core-blocks 20. The bottom of the mold is provided with such ornamental pattern as it may be desired to impart to the outer face of the building-block, and in practice the bottom of the mold-box having this ornamental pattern will be filled the desired depth with concrete of a finer texture and composition than is necessary for the interior body of the block. Then after the mold-box has been filled to the level of the openings for the core-blocks 20 or a little above said openings the core-

blocks will be pushed into the mold-box, and then the box will be filled with a coarser concrete mixture to form the body portion of the building-block. Thereupon the core-blocks
 5 will be withdrawn and the mold-box will be given a quarter-turn to the position shown in dotted lines in Fig. 3, the sides and ends of the box will be loosened and opened, and the block, standing free upon a removable
 10 pallet 21, will be removed for drying and curing, another pallet will be substituted for the one removed, and the mold-box closed and placed in the position for refilling. It will be noted that the pallet 21 is inside of
 15 the mold during the time of the formation of the building-block and occupies a position between the side 13 of the mold-box and the block which is formed in said mold.

Passing through projecting ends of the
 20 bars 7 is the shaft 23, and mounted on this shaft are the arms 24, which are connected by a cross-bar 25. The cross-bar 25 forms a support for the bottom of the mold-box while the box is being filled, and this bar also
 25 forms a support for the side 13 of the mold-box when the latter is in its tilted position. (Shown in dotted lines in Fig. 2.) A lever 28, pivoted to the bar 7 of the frame, is connected by the link 29 with the extension 30
 30 from arm 24 and provides the means for changing the position of arms 24 and their bar 25. The throw or movement of the lever 28 is limited by the angular ends of the guide-bar 32. (See Fig. 1.)

35 Bolted to the cross-bars 8 are the standards 34, and these standards provide the supports for the horizontal and parallel shafts 36. The shafts 36 form guides and supports for a table 37. This table has under side boxes
 40 38, through which the shafts 36 pass in the manner shown in Fig. 2. The core-blocks 20 have integral plates 40, which rest upon the top of the table 37. These plates 40 have under side lugs 41, which enter corre-
 45 spondingly-shaped sockets 42 in the top of the table, and the plates are bolted to the table by means of the bolts 43, which enter suitable threaded holes in the table. The bars
 50 7 have boxes, in which the shaft 44 is mounted. This shaft has a lever 45 at one side of the machine by which the shaft is rocked. The shaft also has the arm 48, to which it is connected, by means of the link 49, with the integral lugs 50 on the under side of the
 55 table 37, whereby by the proper movement of the lever 45 the table 37 will be reciprocated longitudinally of the shafts 36 and the core-blocks carried by the table will be correspondingly moved into the mold-box and
 60 removed therefrom. The standards 34 have a series of perforations to permit of variations in height of the shafts 36, and the table 37 has a series of sockets 42 to permit of changes in position of plates 40, all for the
 65 purpose of enabling the core-blocks to be

varied in their positions to suit the changes that may be required in the placing of the cores to form the openings in different kinds of hollow concrete blocks.

A transverse bar 52, supported by the
 70 longitudinal members 6 of the frame, provides a support for the inner portion of the mold-box when the latter is in its position to be filled during the formation of a concrete block. When it is desired to change
 75 the dimensions of the concrete block, the hinged side and ends of the mold-box will be replaced by new sides and ends of the required dimensions, and the core-blocks will be adjusted in their positions to suit the new
 80 requirements in the manner heretofore described.

Having thus fully described my invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

85 1. In a concrete-block machine, a frame, a mold-box supported by said frame and pivotally attached thereto, a swinging support on the under side of the box to support the latter means for changing the position of
 90 the swinging support to permit of an adjustment of the pivotally-attached mold-box, said mold-box having openings through its side, and core-blocks having adjustment into and out of the mold-box through said side
 95 openings.

2. In a concrete-block machine, a frame, a mold-box pivotally attached to and supported by the frame, said box having openings through its inner side, a table supported
 100 by the frame of the machine and capable of a reciprocating movement, means for imparting a reciprocating movement to the table, and core-blocks attached to the table and adapted to be moved into the mold-box
 105 through said openings in the side of the box.

3. In a concrete-block machine, a frame, a mold-box pivotally attached to and supported by the frame, said box having openings through its inner side, a table supported
 110 by the frame of the machine and capable of a reciprocating movement, means for imparting a reciprocating movement to the table, means for adjusting the height of the table and core-blocks attached to the table and
 115 adapted to be moved into the mold-box through said openings in the side of the box.

4. In a concrete-block machine, a frame, a mold-box pivotally attached to and supported by the frame, said box having open-
 120 ings through its inner side, a table supported by the frame of the machine and capable of a reciprocating movement, means for imparting a reciprocating movement to the table, core-blocks attached to the table and
 125 adapted to be moved into the mold-box through said openings in the side of the box and means for adjusting the distance apart of the core-blocks.

5. In a concrete-block machine, a frame, 130

a mold-box pivotally attached to and supported by the frame, said box having openings through its inner side, a table supported by the frame of the machine and capable of
5 a reciprocating movement, means for adjusting the height of the table, means for imparting a reciprocating movement to the table, core-blocks attached to the table and adapted to be moved into the mold-box
10 through said openings in the side of the box

and means for adjusting the distance apart of the core-blocks.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 27th day of February, A. D. 1906.

HORACE K. BURRILL. [L. s.]

Witnesses:

JOSEPH A. MINTURN,
F. W. WOERNER.