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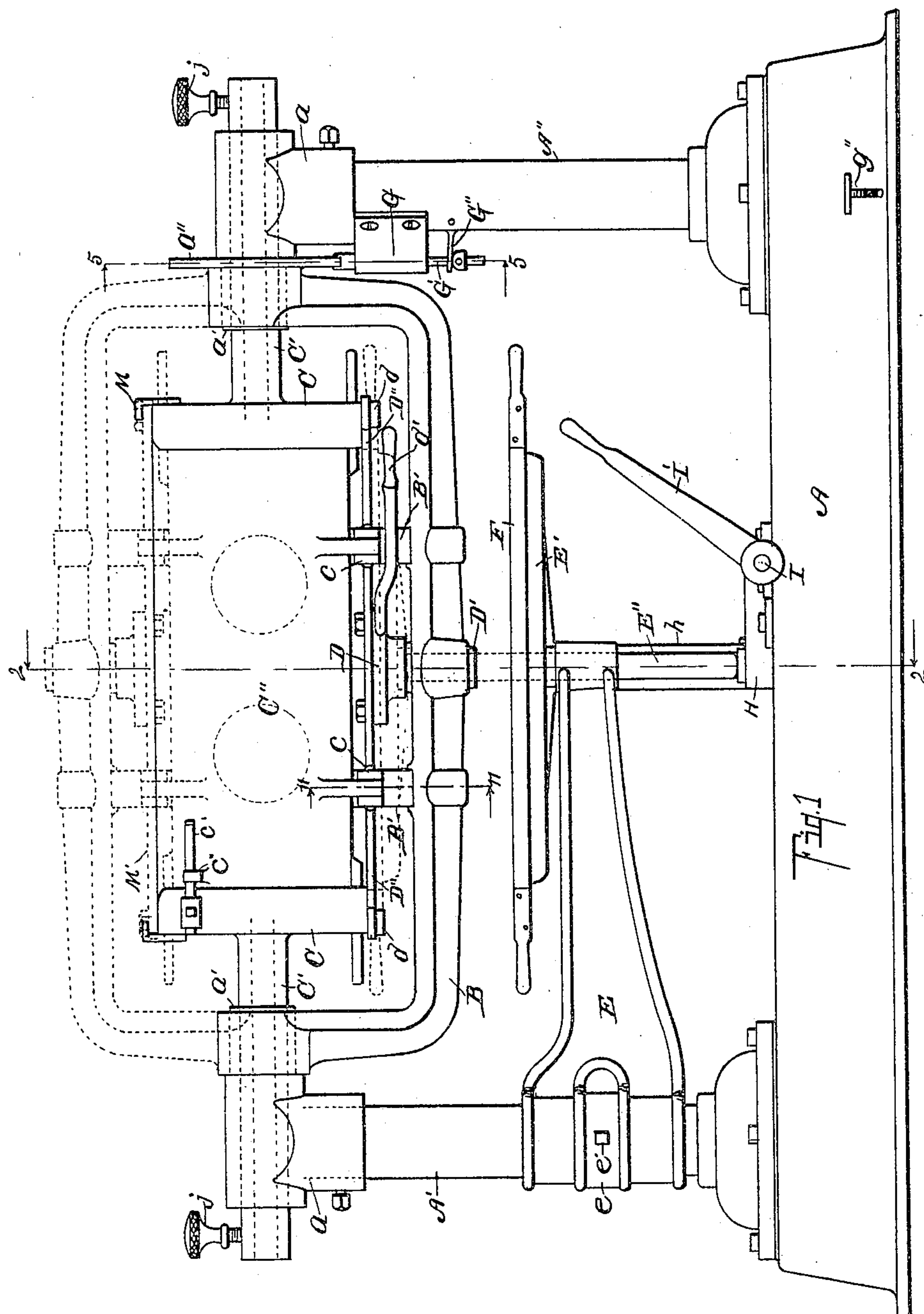
PATENTED APR. 3, 1906.

D. D. TRACY & H. J. KEENAN.

MOLDING MACHINE.

APPLICATION FILED MAY 5, 1905.

3 SHEETS—SHEET 1.



Witnesses:

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Esther A. Keller

Inventor,

David D. Tracy & Hugh J. Keenan

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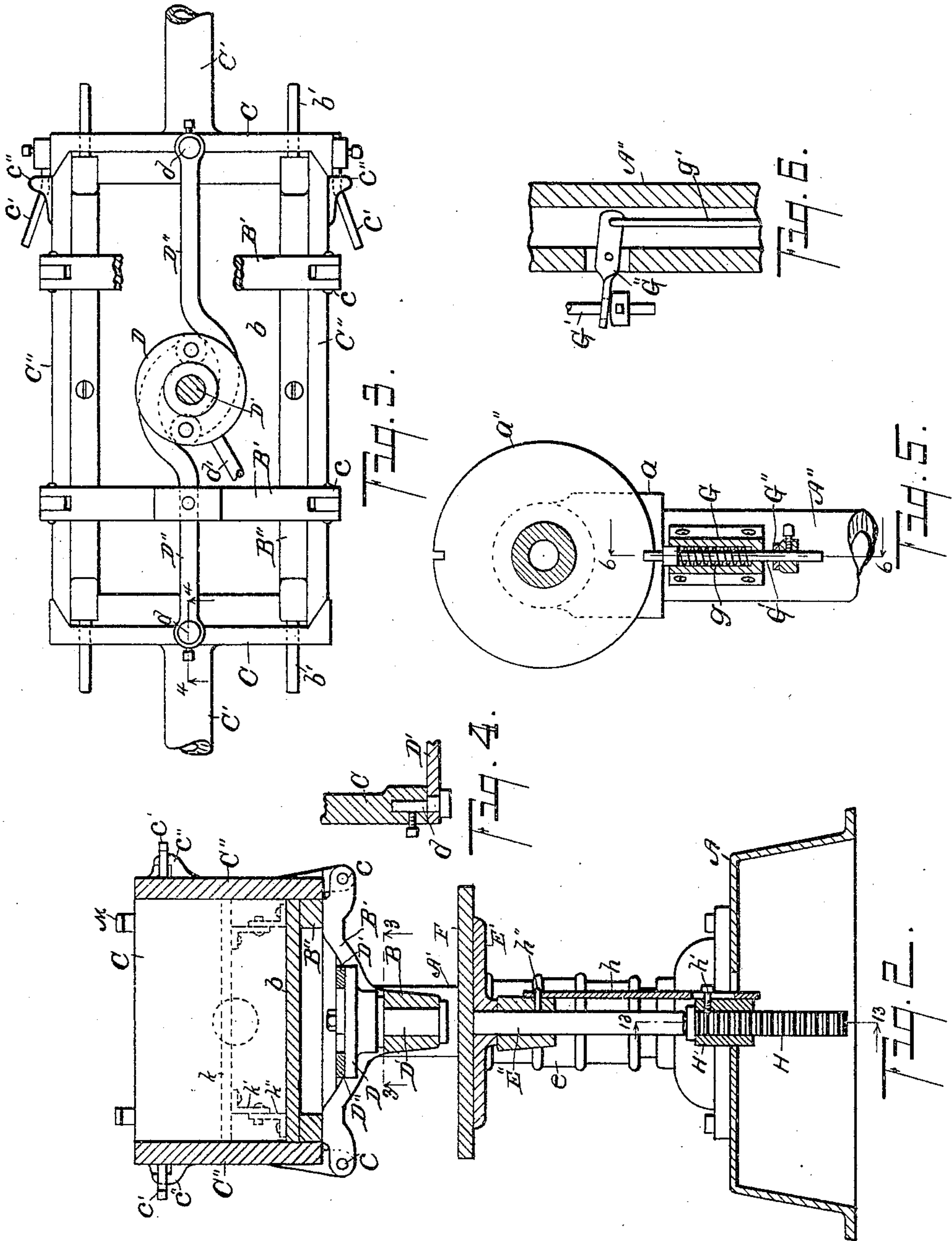
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3 SHEETS—SHEET 2.



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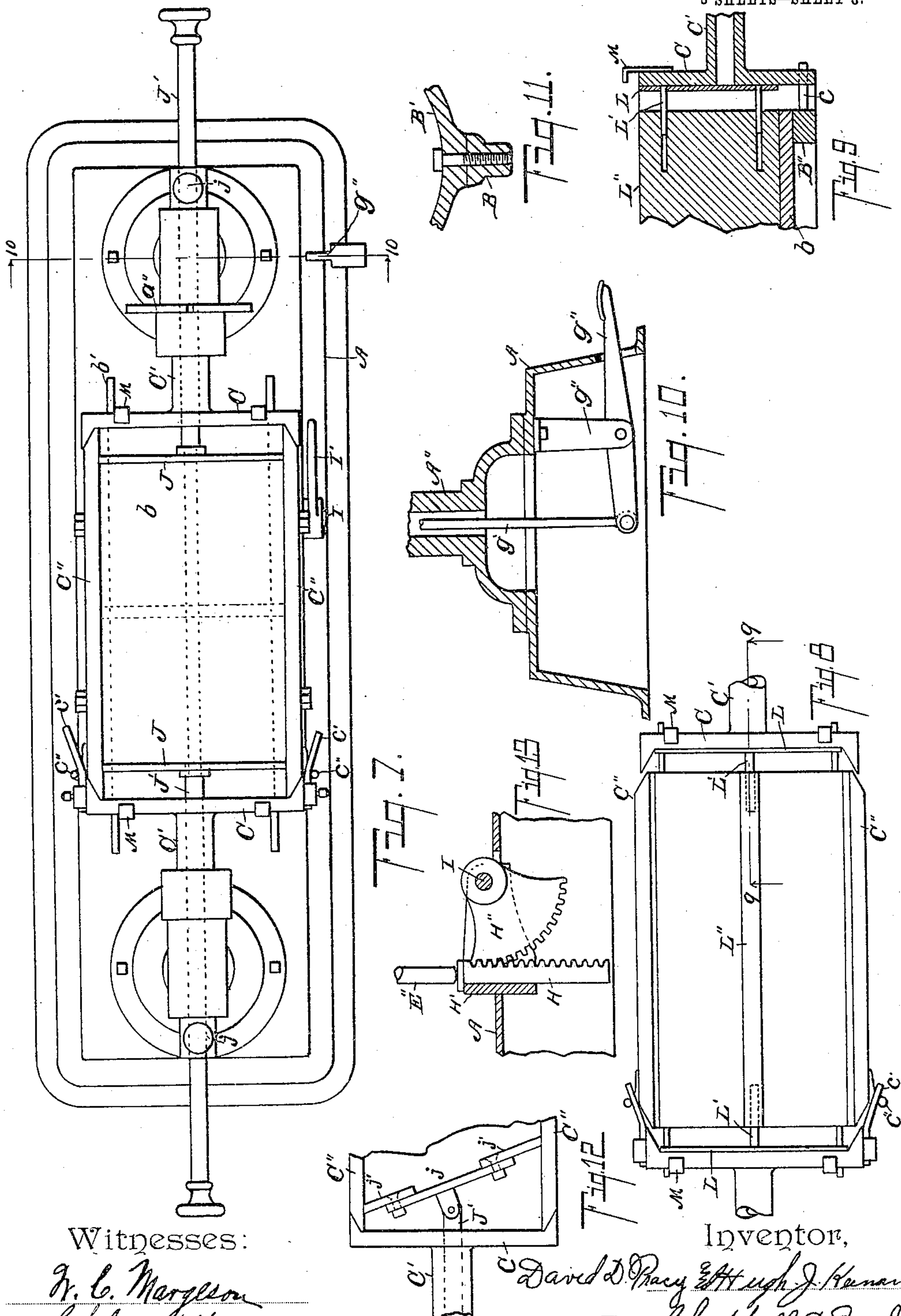
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3 SHEETS—SHEET 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

DAVID D. TRACY AND HUGH J. KEENAN, OF JACKSON, MICHIGAN.

MOLDING-MACHINE.

No. 816,831.

Specification of Letters Patent.

Patented April 3, 1906.

Application filed May 5, 1905. Serial No. 259,071.

To all whom it may concern:

Be it known that we, DAVID D. TRACY and HUGH J. KEENAN, citizens of the United States, and residents of the city and county of Jackson, State of Michigan, have invented certain new and useful Improvements in Molding-Machines, of which the following is a specification.

This invention relates to improvements in molding-machines. It is designed particularly for the manufacture of artificial-stone or cement blocks, although it is adapted for use in other relations.

The objects of this invention are, first, to provide an improved molding-machine of very large capacity which may be operated with a minimum amount of labor; second, to provide an improved molding-machine which is adapted for use in the manufacture of a number of styles and sizes of blocks; third, to provide an improved molding-machine which is comparatively simple and economical in structure and very durable in use.

Further objects and objects relating to structural details will definitely appear from the detailed description to follow.

We accomplish the objects of our invention by the devices and means described in the following specification.

The invention is clearly defined, and pointed out in the claims.

A structure embodying the features of our invention is clearly illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation view of our improved molding-machine, the inverted position of the mold proper being indicated by dotted lines. Fig. 2 is a transverse vertical sectional view taken on a line corresponding to line 2 2 of Fig. 1. Fig. 3 is a detail sectional view taken on a line corresponding to line 3 3 of Fig. 2, showing the structure of the mold proper and means for opening and closing the walls thereof. Fig. 4 is a detail sectional view taken on a line corresponding to line 4 4 of Fig. 3. Fig. 5 is an enlarged detail view taken on a line corresponding to line 5 5 of Fig. 1, showing the means for locking the mold in position. Fig. 6 is a detail vertical sectional view through the standard A'', showing the connections for operating the latch or locking means of the mold. Fig. 7 is a plan view of our improved molding-machine. Fig. 8 is a detail plan view of the mold provided with a central longitudinal

partition. Fig. 9 is a detail vertical sectional view taken on a line corresponding to line 9 9 of Fig. 8. Fig. 10 is a detail vertical sectional view taken on a line corresponding to line 10 10 of Fig. 7, showing the lever for operating the locking-latch of the mold. Fig. 11 is a detail sectional view taken on a line corresponding to line 11 11 of Fig. 1, showing the means of securing the mold to the yoke-like frame B. Fig. 12 is a detail plan view of the mold, showing the means for forming blocks having an inclined end. Fig. 13 is a detail sectional view taken on line 13 13 of Fig. 2.

In the drawings the sectional views are taken looking in the direction of the little arrows at the ends of the section-lines, and similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawings, the base A is preferably cast and is made hollow to receive a portion of the operating mechanism. On the base are upwardly-projecting standards A' and A''. Bearings *a* are arranged on the upper ends of these standards. A yoke-like frame B is trunnioned upon the inwardly-projecting ends *a'* of the bearings *a*. The frame B is provided with a pair of cross-pieces B', upon which the mold proper is supported. A pair of longitudinal rails B'' are arranged on the cross-pieces B'. The bottom plate *b* of the mold is carried by these rails. (See Fig. 2.) The end walls C of the mold are carried by journals C', which are arranged through the bearings *a*. The journals C' are hollow, the purpose of which will be hereinafter pointed out. The side walls C'' of the molds are pivoted on the cross-pieces B' at *c*. The end walls C are provided with forwardly and outwardly projecting arms *c'*, arranged to engage the hooks *c''* on the side walls C''. These arms *c'* are deflected outwardly, so that they serve as cams for forcing the side walls into position and also engaging the hooks *c''* force them out when the end walls are retracted. (See Fig. 3.) The end walls are provided with upwardly-projecting hooks M on their upper edges adapted to engage the retaining or top board M' of the mold. The end walls are operated by the links D'', which are secured thereto by pivots *d*. The inner ends of these links are pivoted to the head D of the lever *d'*. The lever *d'* is mounted on the journal D'. (See Figs. 1 and 2.) The links D'' are secured to the head D of the lever at opposite

points in relation to its pivot-point, their inner ends being suitably curved to admit of this. Thus connected the mold may be locked in its closed position by means of the links, their pivot-points being thrown past the center.

A swinging arm or crane E is mounted upon the standard A'. On the inner end of this arm is a turn-table E', adapted to receive the block from the mold. The turn-table is mounted on the crane by means of a suitable spindle E'', as clearly appears in Fig. 1. When the crane is in its inner position, it is engaged by the pin h'', carried by the stop h. The stop h serves as a rest or support for the crane when the same is engaged therewith. The stop h is adjustably supported by means of the set-bolt h', which is arranged through a suitable slot therein. When the crane is in its inner position, the spindle E'' of the table E' rests upon the vertically-adjustable rack-bar H. The rack-bar is mounted in the frame H' and is adjusted by means of the segment H''. The segment H'' is carried by the rock-shaft I, which is mounted in suitable bearings arranged within the base A. A lever I' is provided for actuating the rock-shaft. With the parts thus arranged when the crane is in its inner position the table E' may be elevated by means of the rack to receive the block from the mold.

In operation the mold is filled and inverted, the crane is then swung into position, and the table elevated to receive the block. The table is then lowered and the crane swung to one side to facilitate the ready removal of the block. We preferably provide a carrier to receive the block, which enables its ready removal from the table. This is further facilitated by the pivoted table E' by means of which the carrier may be swung into any position convenient for removal. In charging the mold the same is adjusted to its upright position, as is shown in Figs. 1, 2, and 3 of the drawings. To discharge the same it is inverted, as is indicated by dotted lines in Fig. 1. The mold is locked in its receiving or its discharging position by means of a latch G, which engages the notched disk a''. (See Figs. 1 and 5.) This latch consists of a casing G, through which the pin G' is arranged. The pin is held normally upward by means of the coiled spring g, arranged within the casing. The latch is controlled by means of the foot-lever g'', which projects from the base A. (See Fig. 1.) The lever g'' is connected to the latch by means of the lever G'' and the link g'. When shallow blocks are desired, the false bottom k of the mold is, as indicated by dotted lines in Fig. 2, supported on the adjustable brackets k' k''. By means of the adjustment of the brackets the depth of the mold is controlled. For a full-sized block, however, the false bottom k rests directly upon the bottom b of the

mold and is secured thereto. The mold is also provided with adjusting end plates J. These end plates are mounted upon the rods J', which are arranged through the hollow journals C' of the end walls. Set-screws are provided for securing these rods in their adjusted positions. When a block having an inclined end is desired, an end plate made up of sections j' j' is provided. This end plate is pivoted on the end of a rod J', and by adjusting the sections of the plate upon one another the proper inclination of the end of the block is secured. When small blocks are desired, several can be produced at one time, partition-plates, as indicated by dotted lines in Fig. 7, being provided. A longitudinal partition-plate L' is provided for use when desired. This plate is held in position by the inwardly-projecting pins L', which are carried by the end plate L. These end plates are secured to the end walls C of the mold, being substituted for the adjustable plate J.

In operation the mold is adjusted to its receiving position and the partitions or end plates arranged, if desired, to produce the desired form of block. If cores are desired, they may be inserted through the side walls, openings therefor being indicated by dotted lines in Fig. 1. This being a common expedient, it is not here illustrated in detail. The mold is then filled with the material, and after properly compacting the retaining-board M is inserted, if desired, and the mold is inverted, the same being released by the foot-lever g''. The crane is then swung into its inner position and the table elevated by the mechanism described and the block or blocks released by means of the lever d', which throws the walls outwardly, thereby releasing the same. The table is then lowered and the crane swung to one side for the removal of the block. The mold is returned to its initial position, and the device is ready for repeating the operation. The retaining-board M is used as a precaution to keep the block from falling from the mold in inverting the same. In practice we use the retaining-boards as drying-boards for the blocks—that is, the blocks are set away thereon to dry or set. For convenience in removing the block from the table we provide carrying-boards F, which are provided with suitable handles.

By arranging the parts as we have illustrated and described a large amount of work may be done with a minimum of power. The machine can be operated very readily and easily. The machine is also comparatively simple, so that the liability of its becoming disarranged is reduced to a minimum.

We have illustrated and described our improved molding-machine in detail in the form preferred by us on account of its structural simplicity and the ease and speed with which it may be operated. We are, however,

aware that it is capable of considerable variation in structural details without departing from our invention, and, while we desire to claim the same specifically as illustrated, we also wish to be understood as claiming the same broadly.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a molding-machine, the combination of a hollow base; a pair of standards; bearings mounted on said standards; a yoke-like frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates arranged within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; side walls pivotally mounted on said cross-pieces; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of said end walls; a lever pivotally mounted on said frame; links connected to said end walls and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point; a notched disk secured to said frame; a latch adapted to engage the said disk; a trip-lever for said latch connected thereto by a suitable link-and-lever connection, said connection being arranged within one of said standards; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a stop for said crane adapted to serve as a rest therefor when said crane is in its inner position; a rack-bar arranged to engage said spindle when said crane is in its inner position; a rock-shaft; an operating-lever therefor; and a segment on said rock-shaft arranged to engage said rack-bar, all coacting for the purpose specified.

2. In a molding-machine, the combination of a hollow base; a pair of standards; bearings mounted on said standards; a yoke-like frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates arranged within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; side walls pivotally mounted on said cross-pieces; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; links connected to said end walls and to said lever, said links being connected

said frame; links connected to said end walls and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point; a notched disk secured to said frame; a latch adapted to engage the said disk; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a stop for said crane adapted to serve as a rest therefor when said crane is in its inner position; a rack-bar arranged to engage said spindle when said crane is in its inner position; a rock-shaft; an operating-lever therefor; and a segment on said rock-shaft arranged to engage said rack-bar, all coacting for the purpose specified.

3. In a molding-machine, the combination of a hollow base; a pair of standards; bearings mounted on said standards; a yoke-like frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates arranged within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; side walls pivotally mounted on said cross-pieces; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; links connected to said end walls and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a stop for said crane adapted to serve as a rest therefor when said crane is in its inner position; a rack-bar arranged to engage said spindle when said crane is in its inner position; a rock-shaft; an operating-lever therefor; and a segment on said rock-shaft arranged to engage said rack-bar, all coacting for the purpose specified.

4. In a molding-machine, the combination of a hollow base; a pair of standards; bearings mounted on said standards; a yoke-like frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting hollow journals arranged through said bearings; side walls pivotally mounted on said cross-pieces; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; links connected to said end walls and to said lever, said links being connected

to said lever at opposite points in relation to its pivot-point; a notched disk secured to said frame; a latch adapted to engage the said disk; a trip-lever for said latch connected thereto by a suitable link-and-lever connection, said connection being arranged within one of said standards; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a stop for said crane adapted to serve as a rest therefor when said crane is in its inner position; a rack-bar arranged to engage said spindle when said crane is in its inner position; a rock-shaft; an operating-lever therefor; and a segment on said rock-shaft arranged to engage said rack-bar, all coacting for the purpose specified.

5. In a molding-machine, the combination of a hollow base; a pair of standards; bearings mounted on said standards; a yoke-like frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting journals arranged through said bearings; side walls pivotally mounted on said cross-pieces; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; links connected to said end walls and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point; a notched disk secured to said frame; a latch adapted to engage the said disk; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a stop for said crane adapted to serve as a rest therefor when said crane is in its inner position; a rack-bar arranged to engage said spindle when said crane is in its inner position; a rock-shaft; an operating-lever therefor; and a segment on said rock-shaft arranged to engage said rack-bar, all coacting for the purpose specified.

6. In a molding-machine, the combination of a hollow base; a pair of standards; bearings mounted on said standards; a yoke-like frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting journals arranged through said bearings; side walls pivotally mounted on said cross-pieces; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; links connected to said end walls

and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a stop for said crane adapted to serve as a rest therefor when said crane is in its inner position; a rack-bar arranged to engage said spindle when said crane is in its inner position; a rock-shaft; an operating-lever therefor; and a segment on said rock-shaft arranged to engage said rack-bar, all coacting for the purpose specified.

7. In a molding-machine, the combination of a hollow base; a pair of standards; bearings mounted on said standards; a yoke-like frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates arranged through said end walls; supporting-rods therefor adjustably arranged through said hollow journals; side walls pivotally mounted on said cross-pieces; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of said end walls; a lever pivotally mounted on said frame; links connected to said end walls and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point; a notched disk secured to said frame; a latch adapted to engage the said disk; a trip-lever for said latch connected thereto by a suitable link-and-lever connection, said connection being arranged within one of said standards; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a stop for said crane adapted to serve as a rest therefor when said crane is in its inner position; a rack-bar arranged to engage said spindle when said crane is in its inner position, and means for operating said rack-bar, all coacting for the purpose specified.

8. In a molding-machine, the combination of a hollow base; a pair of standards; bearings mounted on said standards; a yoke-like frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates arranged within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; side walls pivotally mounted on said cross-pieces; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced in-

wardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; links connected to said end walls and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a stop for said crane adapted to serve as a rest therefor when said crane is in its inner position; a rack-bar arranged to engage said spindle when said crane is in its inner position; and means for operating said rack-bar, all coacting for the purpose specified.

9. In a molding-machine, the combination of a hollow base; a pair of standards; bearings mounted on said standards; a yoke-like frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting journals arranged through said bearings; side walls pivotally mounted on said cross-pieces; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; links connected to said end walls and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point; a notched disk secured to said frame; a latch adapted to engage the said disk; a trip-lever for the said latch connected thereto by a suitable link-and-lever connection, said connection being arranged within one of said standards; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a stop for said crane adapted to serve as a rest therefor when said crane is in its inner position; a rack-bar arranged to engage said spindle when said crane is in its inner position, and means for operating said rack-bar, all coacting for the purpose specified.

10. In a molding-machine, the combination of a hollow base; a pair of standards; bearings mounted on said standards; a yoke-like frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting journals arranged through said bearings; side walls pivotally mounted on said cross-pieces; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; links connected to said end walls and to said lever, said links being connected

to said lever at opposite points in relation to its pivot-point; a notched disk secured to said frame; a latch adapted to engage the said disk; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a stop for said crane adapted to serve as a rest therefor when said crane is in its inner position; a rack-bar arranged to engage said spindle when said crane is in its inner position, and means for operating said rack-bar, all coacting for the purpose specified.

11. In a molding-machine, the combination of a hollow base; a pair of standards; bearings mounted on said standards; a yoke-like frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting journals arranged through said bearings; side walls pivotally mounted on said cross-pieces; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; links connected to said end walls and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a stop for said crane adapted to serve as a rest therefor when said crane is in its inner position; and a rack-bar arranged to engage said spindle when said crane is in its inner position, and means for operating said rack-bar, all coacting for the purpose specified.

12. In a molding-machine, the combination of a hollow base; a pair of standards; bearings mounted on said standards; a yoke-like frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting journals arranged through said bearings; side walls pivotally mounted on said cross-pieces; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; links connected to said end walls and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point; a notched disk secured to said frame; a latch adapted to engage the said disk; a trip-lever for said latch connected thereto by a suitable link-and-lever connection, said connection being arranged within one of said standards; a crane mounted

ed on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a rack-bar arranged to engage said spindle when said crane is in its inner position; a rock-shaft; an operating-lever therefor; and a segment on said rock-shaft arranged to engage said rack-bar, all coacting for the purpose specified.

10 13. In a molding-machine, the combination of a hollow base; a pair of standards; bearings mounted on said standards; a yoke-like frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-
15 pieces; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates arranged through said end walls; supporting-rods therefor adjust-
20 ably arranged through said hollow journals; side walls pivotally mounted on said cross-pieces; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks,
25 whereby the said side walls are forced inwardly or outwardly by the shifting of said end walls; a lever pivotally mounted on said frame; links connected to said end walls and to said lever, said links being connected to
30 said lever at opposite points in relation to its pivot-point; a notched disk secured to said frame; a latch adapted to engage the said disk; a trip-lever for said latch connected thereto by a suitable link-and-lever connection, said connection being arranged within
35 one of said standards; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a rack-bar
40 arranged to engage said spindle when said crane is in its inner position, and means for operating said rack-bar, all coacting for the purpose specified.

45 14. In a molding-machine, the combination of a hollow base; a pair of standards; bearings mounted on said standards; a yoke-like frame journaled to said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-
50 pieces; end walls having outwardly-projecting journals arranged through said bearings; side walls pivotally mounted on said cross-pieces; hooks on said side walls; forwardly and outwardly projecting arms on one of said
55 end walls adapted to engage said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; links connected to said end walls
60 and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point; a notched disk secured to said frame; a latch adapted to engage the said disk; a crane mounted on one of said
65 standards; a table carried by said crane; a

vertically-arranged downwardly-projecting spindle for said table; a rack-bar arranged to engage said spindle when said crane is in its inner position; a rock-shaft; an operating-lever therefor; and a segment on said rock-shaft arranged to engage said rack-bar, all coacting for the purpose specified. 70

15. In a molding-machine, the combination of a hollow base; a pair of standards; bearings mounted on said standards; a yoke-
75 like frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting journals arranged through said bearings; 8c
side walls pivotally mounted on said cross-pieces; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced in-
85 wardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; links connected to said end walls and to said lever, said links being connected to said lever at opposite points in relation to
90 its pivot-point; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a rack-bar arranged to engage said spindle when said crane is in its
95 inner position; a rock-shaft; an operating-lever therefor; and a segment on said rock-shaft arranged to engage said rack-bar, all coacting for the purpose specified.

16. In a molding-machine, the combination of a pair of standards; bearings mounted on said standards; a frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on
105 said cross-pieces; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates arranged within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; side walls pivotally mounted on said
110 cross-pieces; hooks on said walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the
115 said end walls; a top or retaining board for said mold; hooks on said end walls adapted to engage the same when said walls are in their inner position; a lever pivotally mounted on said frame; links connected to said end walls
120 and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point; a notched disk secured to said frame; a latch adapted to engage said disk; and a trip-lever for said latch connected thereto by a suitable link-and-lever connection, said connection being arranged within one of
125 said standards, for the purpose specified.

17. In a molding-machine, the combination of a pair of standards; bearings mounted 130

on said standards; a frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates arranged within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; side walls pivotally mounted on said cross-pieces; hooks on said walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; links connected to said end walls and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point; a notched disk secured to said frame; a latch adapted to engage the said disk; and a trip-lever for said latch connected thereto by a suitable link-and-lever connection, said connection being arranged within one of said standards, for the purpose specified.

18. In a molding-machine, the combination of a pair of standards; bearings mounted on said standards; a frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting journals arranged through said bearings; side walls pivotally mounted on said cross-pieces; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a top or retaining board for said mold; hooks on said end walls adapted to engage the same when said walls are in their inner position; a lever pivotally mounted on said frame; links connected to said end walls and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point; a notched disk secured to said frame; a latch adapted to engage the said disk; and a trip-lever for said latch connected thereto by a suitable link-and-lever connection, said connections being arranged within one of said standards, for the purpose specified.

19. In a molding-machine, the combination of a pair of standards; bearings mounted on said standards; a frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting journals arranged through said bearings; side walls pivotally mounted on said cross-pieces; hooks on said walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shift-

ing of the said end walls; a lever pivotally mounted on said frame; links connected to said end walls and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point; a notched disk secured to said frame; a latch adapted to engage the said disk; and a trip-lever for said latch connected thereto by a suitable link-and-lever connection, said connections being arranged within one of said standards, for the purpose specified.

20. In a molding-machine, the combination of a pair of standards; bearings mounted on said standards; a frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates arranged within said walls; supporting-rods therefor adjustably arranged through said hollow journals; side walls pivotally mounted on said cross-pieces; hooks on said walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a top or retaining board for said mold; hooks on said end walls adapted to engage the same when said walls are in their inner position; a lever pivotally mounted on said frame; and links connected to said end walls and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point, for the purpose specified.

21. In a molding-machine, the combination of a pair of standards; bearings mounted on said standards; a frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates arranged within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; side walls pivotally mounted on said cross-pieces; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; and links connected to said end walls and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point, for the purpose specified.

22. In a molding-machine, the combination of a pair of standards; bearings mounted on said standards; a frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting journals arranged through said bearings; side walls pivotally mounted on said cross-pieces; hooks on said walls; forwardly

and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a top or retaining board for said mold; hooks on said end walls adapted to engage the same when said walls are in their inner position; a lever pivotally mounted on said frame; and links connected to said end walls and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point, for the purpose specified.

23. In a molding-machine, the combination of a pair of standards; bearings mounted on said standards; a frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting journals arranged through said bearings; side walls pivotally mounted on said cross-pieces; hooks on said walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; and links connected to said end walls and to said lever, said links being connected to said lever at opposite points in relation to its pivot-point, for the purpose specified.

24. In a molding-machine, the combination of a pair of standards; bearings mounted on said standards; a frame journaled on said bearings; cross-pieces carried by said frame; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates arranged within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; side walls pivotally mounted on said cross-pieces; hooks on said walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a top or retaining board for said mold; hooks on said end walls adapted to engage the same when said walls are in their inner position; means for shifting said end walls; a notched disk secured to said frame; a latch adapted to engage the said disk; and a trip-lever for said latch connected thereto by a suitable link-and-lever connection, said connection being arranged within one of said standards, for the purpose specified.

25. In a molding-machine, the combination of a pair of standards; bearings mounted on said standards; a frame journaled on said bearings; cross-pieces carried by said frame; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates arranged within said end walls; supporting-rods therefor adjustably arranged

through said hollow journals; side walls pivotally mounted on said cross-pieces; hooks on said walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; means for shifting said end walls; a notched disk secured to said frame; a latch adapted to engage said disk; and a trip-lever for said latch connected thereto by a suitable link-and-lever connection, said connection being arranged within one of said standards, for the purpose specified.

26. In a molding-machine, the combination of a pair of standards; bearings mounted on said standards; a frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom, mounted on said cross-pieces; end walls having outwardly-projecting journals arranged through said bearings; side walls pivotally mounted on said cross-pieces; hooks on said walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a top or retaining board for said mold; hooks on said end walls adapted to engage the same when said end walls are in their inner position; means for shifting the said end walls; a notched disk secured to said frame; a latch adapted to engage the said disk; and a trip-lever for said latch connected thereto by a suitable link-and-lever connection, said connection being arranged within one of said standards, for the purpose specified.

27. In a molding-machine, the combination of a pair of standards; bearings mounted on said standards; a frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting journals arranged through said bearings; side walls pivotally mounted on said cross-pieces; hooks on said walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; means for shifting the said end walls; a notched disk secured to said frame; a latch adapted to engage the said disk; and a trip-lever for said latch connected thereto by a suitable link-and-lever connection, said connection being arranged within one of said standards, for the purpose specified.

28. In a molding-machine, the combination of a pair of standards; bearings mounted on said standards; a frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting hollow journals arranged through

said bearings; end plates arranged within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; side walls pivotally mounted on said cross-pieces; hooks on said walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a top or retaining board for said mold; hooks on said end walls adapted to engage the same when the said end walls are in their inner position; and means for shifting the said end walls, for the purpose specified.

29. In a molding-machine, the combination of a pair of standards; bearings mounted on said standards; a frame journaled on said bearings; cross-pieces carried by said frame; a mold, comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates arranged within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; side walls pivotally mounted on said cross-pieces; hooks on said walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; and means for shifting the said end walls, for the purpose specified.

30. In a molding-machine, the combination of a pair of standards; bearings mounted on said standards; a frame journaled on said bearings; cross-pieces carried by said frame; a mold comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting journals arranged through said bearings; side walls pivotally mounted on said cross-pieces; hooks on said walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a top or retaining board for said mold; hooks on said end walls adapted to engage the same when the said end walls are in their inner position; and means for shifting the said end walls, for the purpose specified.

31. In a molding-machine, the combination of a pair of standards; bearings mounted on said standards; a frame journaled on said bearings; cross-pieces carried by said frame; a mold comprising a bottom mounted on said cross-pieces; end walls having outwardly-projecting journals arranged through said bearings; side walls pivotally mounted on said cross-pieces; hooks on said walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting

of the said end walls; and means for shifting said end walls, for the purpose specified.

32. In a molding-machine, the combination of a pair of standards; a mold journaled on said standards; a notched disk secured to said mold; a latch adapted to engage the said disk; a trip-lever for said latch connected thereto by a suitable link-and-lever connection, said connection being arranged within one of said standards; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a stop for said crane adapted to serve as a rest therefor when said crane is in its inner position; a rack-bar arranged to engage said spindle when said crane is in its inner position; a rock-shaft; an operating-lever therefor; and a segment on said rock-shaft arranged to engage said rack-bar, for the purpose specified.

33. In a molding-machine, the combination of a pair of standards; a mold journaled on said standards; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a stop for said crane adapted to serve as a rest therefor when said crane is in its inner position; a rack-bar arranged to engage said spindle when said crane is in its inner position; a rock-shaft; an operating-lever therefor; and a segment on said rock-shaft arranged to engage said rack-bar, for the purpose specified.

34. In a molding-machine, the combination of a pair of standards; a mold journaled on said standards; a notched disk secured to said mold, a latch adapted to engage the said disk; a trip-lever for said latch connected thereto by a suitable link-and-lever connection, said connection being arranged within one of said standards; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a rack-bar arranged to engage said spindle when said crane is in its inner position; a rock-shaft; an operating-lever therefor; and a segment on said rock-shaft arranged to engage said rack-bar, for the purpose specified.

35. In a molding-machine, the combination of a pair of standards; a mold journaled on said standards; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a rack-bar arranged to engage said spindle when said crane is in its inner position; a rock-shaft; an operating-lever therefor; and a segment on said rock-shaft arranged to engage said rack-bar, for the purpose specified.

36. In a molding-machine, the combination of a pair of standards; a mold journaled on said standards; a notched disk secured to said mold; a latch adapted to engage the

said disk; a trip-lever for said latch connected thereto by a suitable link-and-lever connection, said connection being arranged within one of said standards; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a stop for said crane adapted to serve as a rest therefor when said crane is in its inner position; a rack-bar arranged to engage said spindle when said crane is in its inner position; and means for operating said rack-bar, for the purpose specified.

37. In a molding-machine, the combination of a pair of standards; a mold journaled on said standards; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a stop for said crane adapted to serve as a rest therefor when said crane is in its inner position; a rack-bar arranged to engage said spindle when said crane is in its inner position; and means for operating said rack-bar, for the purpose specified.

38. In a molding-machine, the combination of a pair of standards; a mold journaled on said standards; a notched disk secured on said mold; a latch adapted to engage the said disk; a trip-lever for said latch connected thereto by a suitable link-and-lever connection, said connection being arranged within one of said standards; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a rack-bar arranged to engage said spindle when said crane is in its inner position; and means for operating said rack-bar, for the purpose specified.

39. In a molding-machine, the combination of a pair of standards; a mold journaled on said standards; a crane mounted on one of said standards; a table carried by said crane; a vertically-arranged downwardly-projecting spindle for said table; a rack-bar arranged to engage said spindle when said crane is in its inner position; and means for operating said rack-bar, for the purpose specified.

40. In a molding-machine, the combination of a suitable frame; a mold journaled on said frame; a crane mounted on said frame adapted to swing under or out from said mold; a table pivotally mounted on said crane; and means for elevating the said table when said crane is in its inner position, for the purpose specified.

41. In a molding-machine, the combination of a suitable frame; a mold journaled on said frame; a crane mounted on said frame adapted to swing under or out from said mold; a table mounted on said crane, and means for elevating the said table when said crane is in its inner position, for the purpose specified.

42. In a molding-machine, the combina-

tion of a suitable frame; a mold journaled on said frame; a crane mounted on said frame, adapted to swing under or out from said mold; and a table pivotally mounted on said crane, for the purpose specified.

43. In a molding-machine, the combination of a pair of standards; bearings on said standards; a frame journaled on said bearings; a mold, comprising a bottom carried by said frame; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; movable side walls; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a top or retaining board for said mold; hooks on said end walls adapted to engage the same when said walls are in their inner positions; a lever pivotally mounted on said frame; links connected to said end walls and to said lever; a swinging crane mounted on one of said standards; and a table pivotally mounted on said crane, for the purpose specified.

44. In a molding-machine, the combination of a pair of standards; bearings on said standards; a frame journaled on said bearings; a mold, comprising a bottom, carried by said frame; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; movable side walls; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; links connected to said end walls and to said lever; a swinging crane mounted on one of said standards; and a table pivotally mounted on said crane, for the purpose specified.

45. In a molding-machine, the combination of a pair of standards; bearings on said standards; a frame journaled on said bearings; a mold, comprising a bottom carried by said frame; end walls having outwardly-projecting journals arranged through said bearings; movable side walls; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a top or retaining board for said mold; hooks on said end walls adapted to engage the same when said walls are in their inner positions; a lever pivotally mounted on said frame; links connected to said end walls and to said lever; a

swinging crane mounted on one of said standards; and a table pivotally mounted on said crane, for the purpose specified.

46. In a molding-machine, the combination of a pair of standards; bearings on said standards; a frame journaled on said bearings; a mold, comprising a bottom, carried by said frame; end walls having outwardly-projecting journals arranged through said bearings; movable side walls; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; links connected to said end walls and to said lever; a swinging crane mounted on one of said standards; and a table pivotally mounted on said crane, for the purpose specified.

47. In a molding-machine, the combination of a pair of standards; bearings on said standards; a frame journaled on said bearings; a mold, comprising a bottom, carried by said frame; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; movable side walls; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a top or retaining board for said mold; hooks on said end walls adapted to engage the same when said walls are in their inner positions; a lever pivotally mounted on said frame; and links connected to said end walls and to said lever, for the purpose specified.

48. In a molding-machine, the combination of a pair of standards; bearings on said standards; a frame journaled on said bearings; a mold, comprising a bottom, carried by said frame; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; movable side walls; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; and links connected to said end walls and to said lever, for the purpose specified.

49. In a molding-machine, the combination of a pair of standards; bearings on said standards; a frame journaled on said bearings; a mold, comprising a bottom, carried by said frame; end walls having outwardly-projecting journals arranged through said

bearings; movable side walls; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a top or retaining board for said mold; hooks on said end walls adapted to engage the same when said walls are in their inner positions; a lever pivotally mounted on said frame; and links connected to said end walls and to said lever, for the purpose specified.

50. In a molding-machine, the combination of a pair of standards; bearings on said standards; a frame journaled on said bearings; a mold, comprising a bottom, carried by said frame; end walls having outwardly-projecting journals arranged through said bearings; movable side walls; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a lever pivotally mounted on said frame; and links connected to said end walls and to said lever, for the purpose specified.

51. In a molding-machine, the combination of a pair of standards; bearings on said standards; a frame journaled on said bearings; a mold, comprising a bottom, carried by said frame; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; movable side walls; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; means for shifting said end walls; a top or retaining board for said mold; hooks on said end walls adapted to engage the same when said walls are in their inner positions; a swinging crane mounted on one of said standards; and a table pivotally mounted on said crane, all coacting for the purpose specified.

52. In a molding-machine, the combination of a pair of standards; bearings on said standards; a frame journaled on said bearings; a mold, comprising a bottom, carried by said frame; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; movable side walls; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; means for shifting said end walls; a swinging crane mounted on

one of said standards; and a table pivotally mounted on said crane, all coacting for the purpose specified.

53. In a molding-machine, the combination of a pair of standards; bearings on said standards; a frame journaled on said bearings; a mold, comprising a bottom, carried by said frame; end walls having outwardly-projecting journals arranged through said bearings; movable side walls; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a top or retaining board for said mold; hooks on said end walls adapted to engage the same when said walls are in their inner positions; means for shifting said end walls; a swinging crane mounted on one of said standards; means for operating said crane; and a table pivotally mounted on said crane, for the purpose specified.

54. In a molding-machine, the combination of a pair of standards; bearings on said standards; a frame journaled on said bearings; a mold, comprising a bottom carried by said frame; end walls having outwardly-projecting journals arranged through said bearings; movable side walls; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; means for shifting said end walls; a swinging crane mounted on one of said standards; means for operating said crane; and a table pivotally mounted on said crane, for the purpose specified.

55. In a molding-machine, the combination of a pair of standards; bearings on said standards; a frame journaled on said bearings; a mold, comprising a bottom carried by said frame; end walls having outwardly-projecting hollow journals arranged through said bearings; end plates within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; movable side walls; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a top or retaining board for said mold; hooks on said end walls adapted to engage the same when said walls are in their inner positions; and means for shifting said end walls, for the purpose specified.

56. In a molding-machine, the combination of a pair of standards; bearings on said standards; a frame journaled on said bearings; a mold, comprising a bottom, carried by said frame; end walls having outwardly-projecting hollow journals arranged through

said bearings; end plates within said end walls; supporting-rods therefor adjustably arranged through said hollow journals; movable side walls; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; and means for shifting said end walls, for the purpose specified.

57. In a molding-machine, the combination of a pair of standards; bearings on said standards; a frame journaled on said bearings; a mold, comprising a bottom, carried by said frame; end walls having outwardly-projecting journals arranged through said bearings; movable side walls; hooks on said side walls; forwardly and outwardly-projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; a top or retaining board for said mold; hooks on said end walls adapted to engage the same when said walls are in their inner positions; and means for shifting said end walls, for the purpose specified.

58. In a molding-machine, the combination of a pair of standards; bearings on said standards; a frame journaled on said bearings; a mold, comprising a bottom, carried by said frame; end walls having outwardly-projecting journals arranged through said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are forced inwardly or outwardly by the shifting of the said end walls; and means for shifting said end walls, for the purpose specified.

59. In a molding-machine, the combination of a frame; a support upon which said frame is journaled; a mold carried by said frame, comprising a bottom; adjustably-supported end walls; side walls hinged at their lower edges; forwardly and outwardly projecting arms on said end walls adapted to engage the said side walls, whereby the said side walls are forced inwardly or outwardly by the shifting of said end walls; a lever pivotally mounted on said frame; and links connected to said end walls and to said lever, for the purpose specified.

60. In a molding-machine, the combination of a frame; a support upon which said frame is journaled; a mold carried by said frame comprising a bottom; adjustably-supported end walls; side walls hinged at their lower edges; forwardly and outwardly projecting arms on said end walls adapted to engage the said side walls, whereby the said side walls are forced inwardly or outwardly by the shifting of said end walls; a top or retaining board for said mold; hooks on said end walls adapted to engage the same when

said walls are in their inner positions; and means for shifting said end walls, for the purpose specified.

5 61. A mold comprising a bottom; movable end walls; side walls hinged at their lower edges; hooks on said side walls; forwardly and outwardly projecting arms on one of said end walls adapted to engage the said hooks, whereby the said side walls are
10 forced inwardly or outwardly by the shifting of said end walls; a pivotally-mounted lever; links connected to said end walls and to said lever, whereby the same may be shifted, for the purpose specified.

15 62. In a molding-machine, the combination of a pair of standards; bearings on said

standards; a frame journaled on said bearings; a mold carried by said frame; end walls for said molds, having outwardly-projecting hollow journals arranged through 20 said bearings; end plates within said end walls; and supporting-rods therefor adjustably arranged through said hollow journals, for the purpose specified.

In witness whereof we have hereunto set 25 our hands and seals in presence of two witnesses.

DAVID D. TRACY. [L. S.]

HUGH J. KEENAN. [L. S.]

Witnesses:

JAMES JEWELL,

JEHIAL J. FREEMAN.