April 21, 1942. W. T. ISHMAN 2,280,635

MOLD FOR PRODUCING CONCRETE BLOCKS

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Fig. 3.

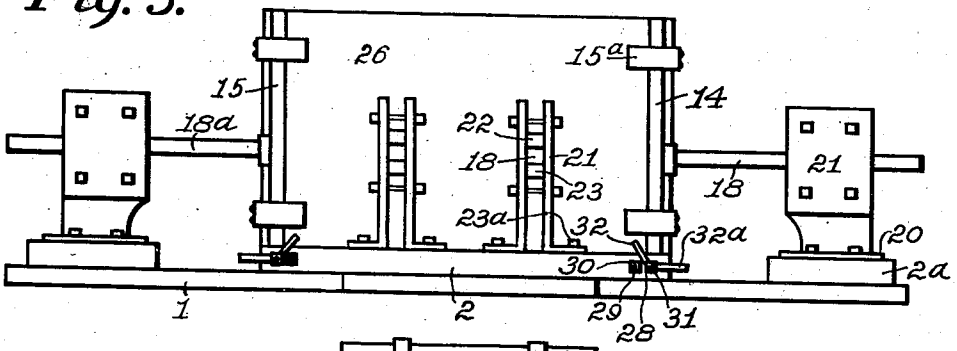
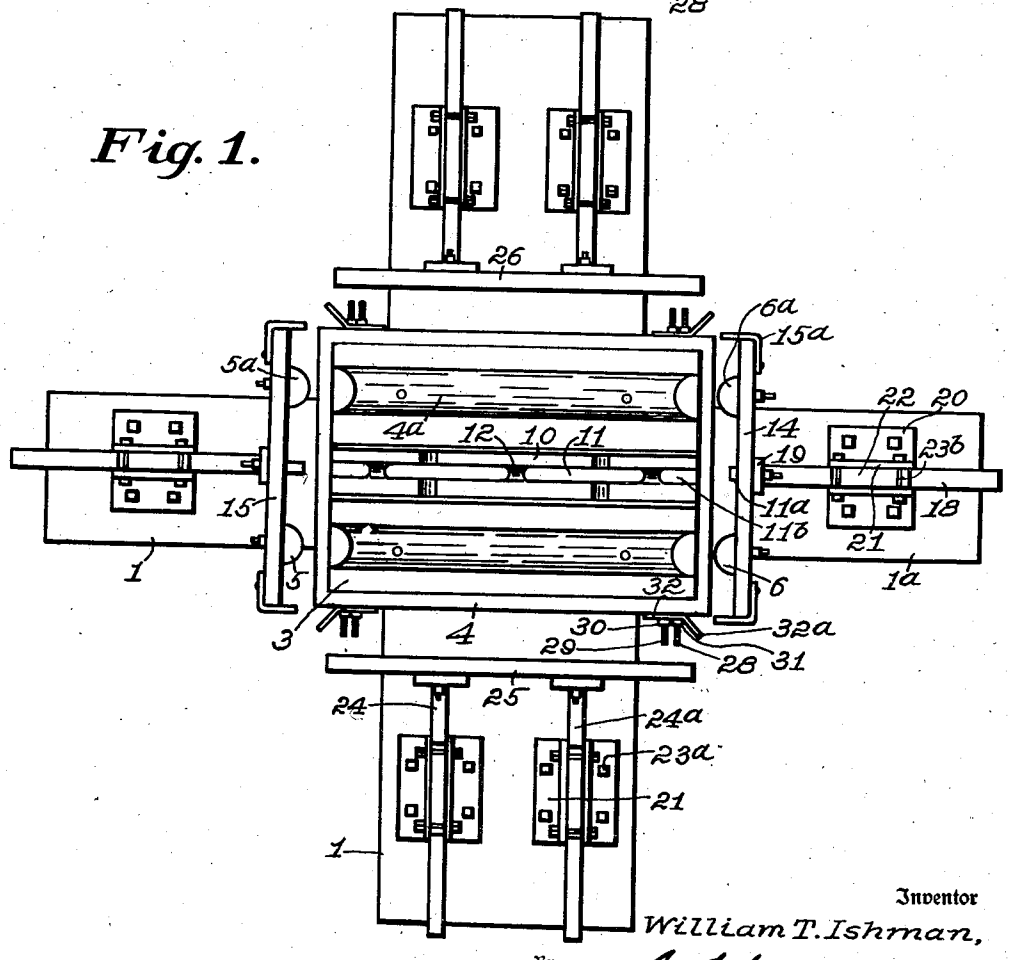


Fig. 1.



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Fig. 2.

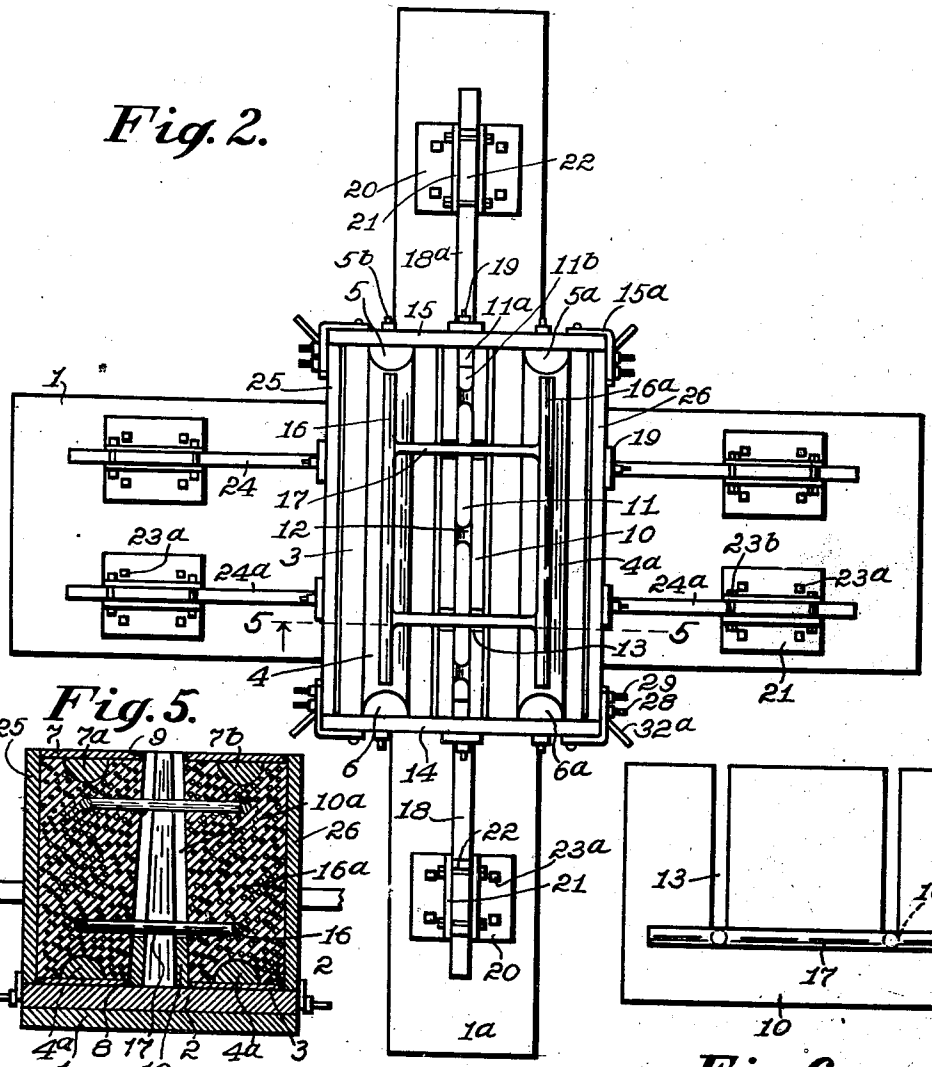


Fig. 5.

Fig. 6.

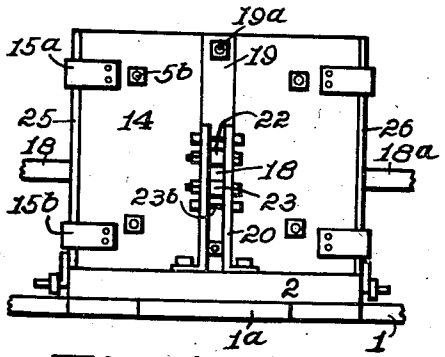


Fig. 4.

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UNITED STATES PATENT OFFICE

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MOLD FOR PRODUCING CONCRETE BLOCKS

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Application March 2, 1940, Serial No. 321,878

4 Claims. (Cl. 25—121)

My invention relates to improvements in molding machines for concrete building blocks, and the principal object of my improvements is to supply a manually controllable operative machine for producing blocks of varied contours, particularly such as, when associated in alinement in a wall, have a continuous air space through and along the assemblage to avoid heat conduction therethrough.

Another and important improvement is to shape the inner faces of the top and bottom plates and the end plates of the mold with inwardly directed longitudinal bosses, which, when these members are completely assembled in the forming of a concrete block, will surround the latter continuously therearound, and whereby in the finished wall tubular cavities are formed in the abutting faces of the assembled blocks and between them, suitable to contain a filling of cement or other material for non-conducting of heat or moisture in the completed wall.

Other improvements in my invention are in detail shown in the drawings, and it is to be understood that various changes may be effected therein without departing from the scope of the invention and the appended claims.

Fig. 1 is a top plan of my molding machine, with top plate removed and the end and side plates moved outwardly, and with the bottom plate in place. Fig. 2 is a top plan similar to that of Fig. 1, with the end and side plates moved inwardly and secured in place, and displaying within an anchoring device positioned suitably for being embedded in introduced concrete material. Fig. 3 is a side elevation of the machine with the side and end walls in closed positions. Fig. 4 is an end elevation showing the side and end walls closed. Fig. 5 is a cross section thereof, showing the side and end walls, and the top and bottom plates in closed positions, containing said anchoring device and a filling of concrete, taken on the broken line 5—5 of Fig. 2 looking in the direction indicated by the arrow. Fig. 6 is a side elevation of the medial apertured core, showing the anchoring device assembled therewith.

Referring to Figs. 1 and 2, which respectively show the side and end walls of the mold in open and closed positions, the numerals 1 and 1*a* denote a cruciform platform, on whose opposite end parts 1*a* laterally spaced angle-plates 20—21 are secured by fasteners 23*a*. The uprights 21 are connected by bolts 23*b* spaced vertically, and these serve to clamp spacer blocks 22 and 23 between them. The numeral 18 denotes, as does 18*a*, horizontal alined stems end-secured to vertical bars 19 fastened medially on the outer faces of the end walls 14 and 15 respectively, and the stems respectively are manually slidable in the interspaces of the blocks 22 and 23.

Referring now to said Fig. 2, also Fig. 1, the other cruciform members 1 have like pairs of angle-plates 20—21 thereon containing slideways therebetween also for the stems 24 and 24*a* in pairs similarly end-connected to the side plates 25 and 26 of the mold.

As shown in Fig. 3, 2 is a base-block supported medially on the platform members 1 and 1*a* and fixed thereto. As shown in Fig. 1, the block 2 is longer and wider than the metal base plate 3, permitting the end walls 14 and 15 in moving toward each other to seat on the uncovered terminations of the block 2, and the side walls 25 and 26 likewise may move inwardly, upon the side margins of the block 2, as shown in Fig. 2. The ends of the end walls 14 and 15 have inturned angle bars 15*a* fixed thereon, which, when the side walls 25 and 26 are shifted inwardly toward each other, and the end walls 14 and 15 also shifted inwardly, the angle bars hold the end and side walls together about the bottom plate 3, as shown in Fig. 2.

Referring to Figs. 1 to 4 inclusive of the drawings, means are provided for holding the lower parts of the side walls 25 and 26 in closed positions between the closed end walls 15 and 14 and in end contact therewith. Near the ends of the side walls of the block 2 are pairs of longitudinally spaced fixed outwardly extending parallel stems, threaded, at 28 and 29, Fig. 1, and in Fig. 3 and Fig. 1 are shown on each stem 28 an angular bar bent with limbs 32 and 32*a* and rockable thereon. On each threaded stem 28 is a nut 31 adjustable thereon for clamping the arm 32 between said nut and the block 2 when the adjacent wall as at 26 is in a closed position, in Fig. 2. As in Fig. 3, the upwardly inclined arm 32 then serves to clamp in each set the outer lower edge face of said wall 26 to lock it in place, and when the arm part 32*a* is rocked upwardly the outwardly inclined part 32 is lowered out of contact with the wall 26, releasing it for propulsion outwardly. A nut 30 is adjustably seated on the threaded stem 29 in each case as an adjustable stop for the arm 32 when lowered.

The bottom plate 3 has spaced parallel longitudinal bars 4*a* secured therealong and whose ends are beveled inwardly at preferably an angle of forty-five degrees. As shown in Fig. 5, the plate 3 has a medial longitudinal aperture 8. As shown in Figs. 1, 2, 5 and 6, the numeral 10

denotes a longitudinal metal block with outer side walls widened downwardly outwardly, and comprising spaced sides at 10*a*, and the block has a longitudinally spaced pair of opposite slots 13 extending downwardly part way to seat therethrough cross members 17 connecting parallel horizontal rods 16 without, but it should be noted that the device 16—17 is not a part of the mold device, but is to be seated in the slot 8, with its apex similarly seated in a medial longitudinal slot in the top plate 7 at 9. Said top plate is to be seated between the upper end parts of the side walls 25 and 26 to rest upon the concrete filling 16*a* when the mold is filled. The top plate 7 has like paired longitudinal ribs 7*a* and 7*b* along its under face as shown in Fig. 5. As shown in Fig. 2, the end walls 14 and 15 have like pairs of spaced vertical inner ribs at 5 and 5*a*, and at 6 and 6*a* respectively, which miter at their apposed ends together, whereby the ribs extend around the inner walls of the top and bottom end walls 3 and 7, and the end walls 14 and 15. It is to be noted that the spaced side walls 10*a* of the device 10 converge upwardly, and that narrow cross-necks 12, spaced apart, connect rigidly the walls 10*a*, leaving communicating spaces medially longitudinally along the device 10. The end walls 14 and 15 have medial inwardly directed ribs 11*a* projecting upwardly to seat in the end openings 11*b* of the device 10 to lock them together releasably.

When the mold is filled with concrete 16*a* as shown in Fig. 5, the top wall 7 may be removed together with the end and side walls, leaving the newly formed block on the bottom plate 3. The block 16*a* may be moved upwardly from about the body 10, the cross-members 17 traversing the slots 13 upwardly. The hollows formed in the block 16*a* and therearound, when such blocks are assembled in a wall, may be then filled with a desired packing or not as desired.

I claim:

1. In combination in a mold for producing concrete blocks, spaced and longitudinally apertured top and bottom plates, a divisional member traversing said apertures vertically independently actuable vertical side and end plates separately movable to and fro to close the gaps between the top and bottom plates at sides and ends, and transversely spaced like sets of solid parallel longitudinal ribs secured around the inner faces of the top, bottom and side plates and having like beveled ends, the inner faces of the ribs being semi-cylindrical whereby, when the top, bottom and end plates are brought together, each set of ribs have their ends in contact.

2. In combination in a mold for producing concrete blocks, spaced limitedly longitudinally apertured top and bottom plates, independently actuable side and end plates with the ends of the side plates contacting with the inner faces of the end plates when both sets of plates are closed together cornerwise, and angular clamps medially rockably adjustably secured on the end parts of the end plates exteriorly to contact with the outer faces of the side plates and base-block lockingly.

3. In combination in a mold for producing concrete blocks, according to Figs. 1 and 3, actuable side and end plates to move to and fro from open to closed relative positions, a base-block upon which said side and end plates are mounted to slide thereon to and fro limitedly, and means for releasably securing said block, and side plates together, consisting of a rockable clamping device medially severally pivotally mounted on each opposite outer edge of the block, the clamping device having angularly directed medially pivoted opposite parts and positioned adjustable upon and alongside said block edge, one part rockable across said edge releasably, the other part serving as a handle and a stop for the abutting side plate, a threaded stem fixed on the block edge as a stop for the first mentioned part when lowered out of contact with the block edge, and an adjusting nut mounted on said stem to engage the outer face of the first mentioned part releasably.

4. In combination, a mold for producing concrete blocks, comprising vertically spaced top and bottom plates having longitudinal medial slots or apertures, vertically alined and the uppermost aperture narrower than the lower aperture, separably connected side and end walls mounted between the top and bottom plates and means for releasably securing the latter plates together, a divisional partition member clamped at its ends between said end walls separably and having medial longitudinally alined apertures therein, and similar operating devices movably mounted opposite and without the side and end plates and end-connected thereto to move the respective plates to or fro to open or relatively closed positions.

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