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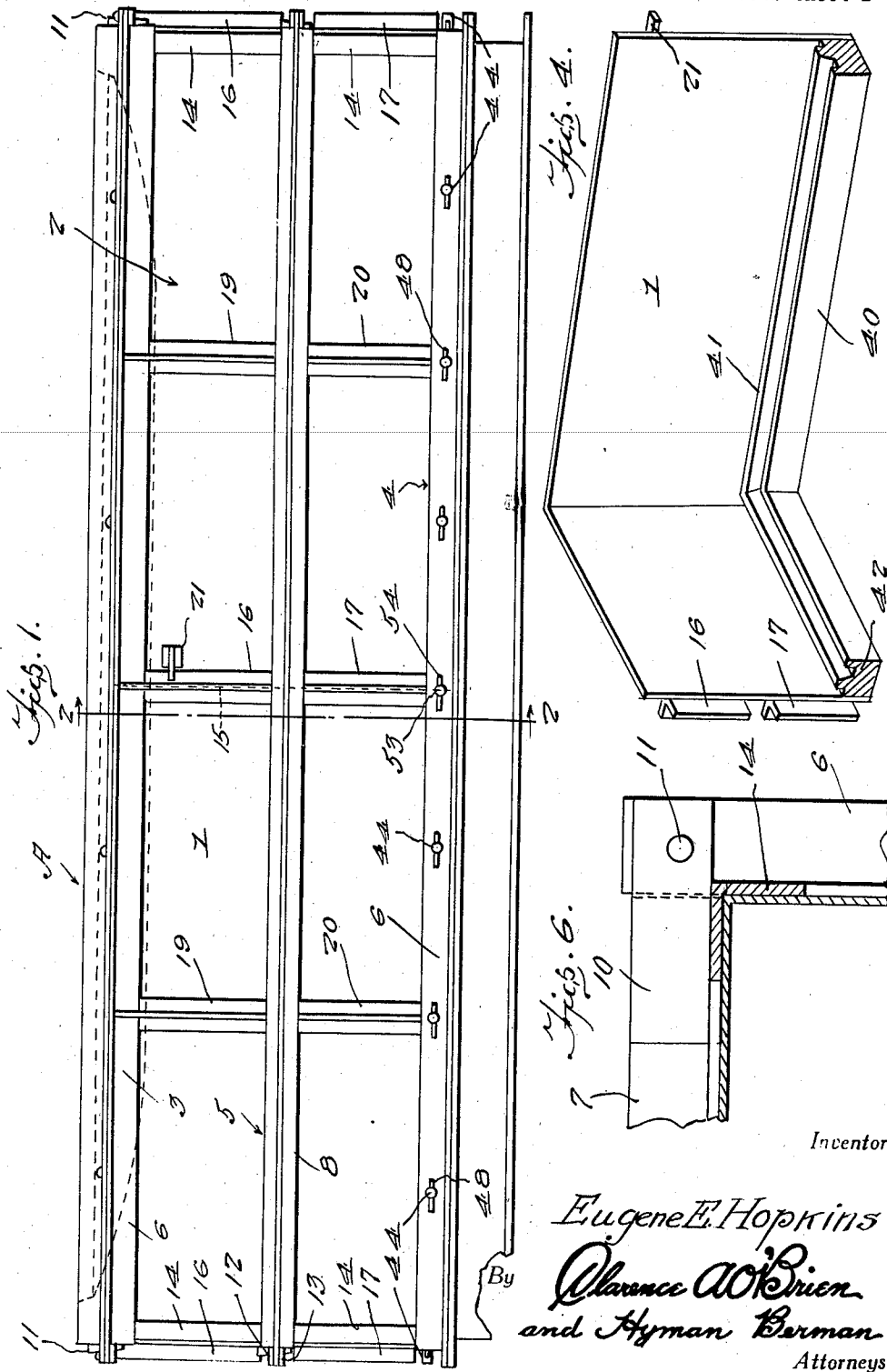
E. E. HOPKINS

2,274,236

MOLD

Filed May 26, 1939

5 Sheets-Sheet 1



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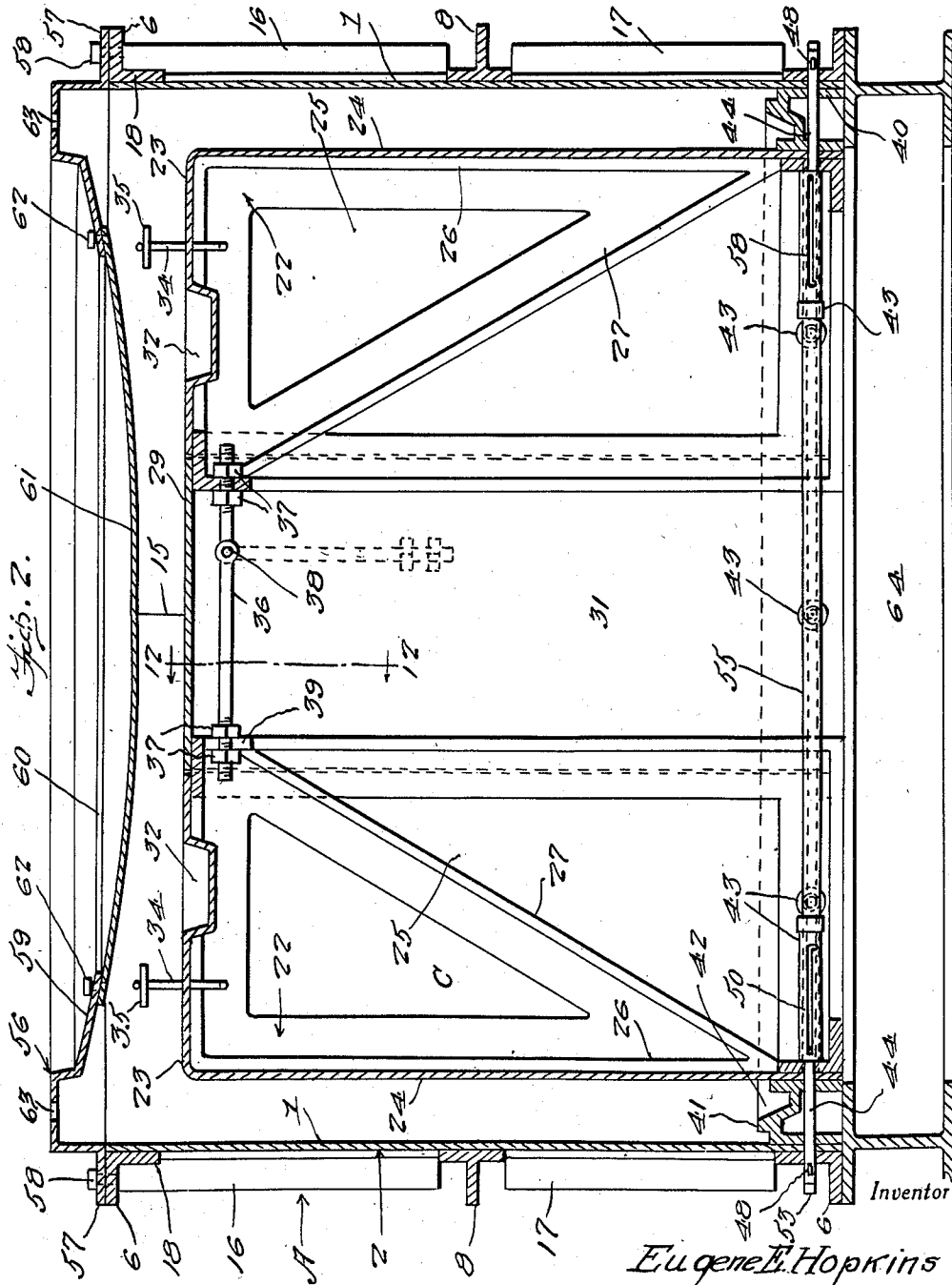
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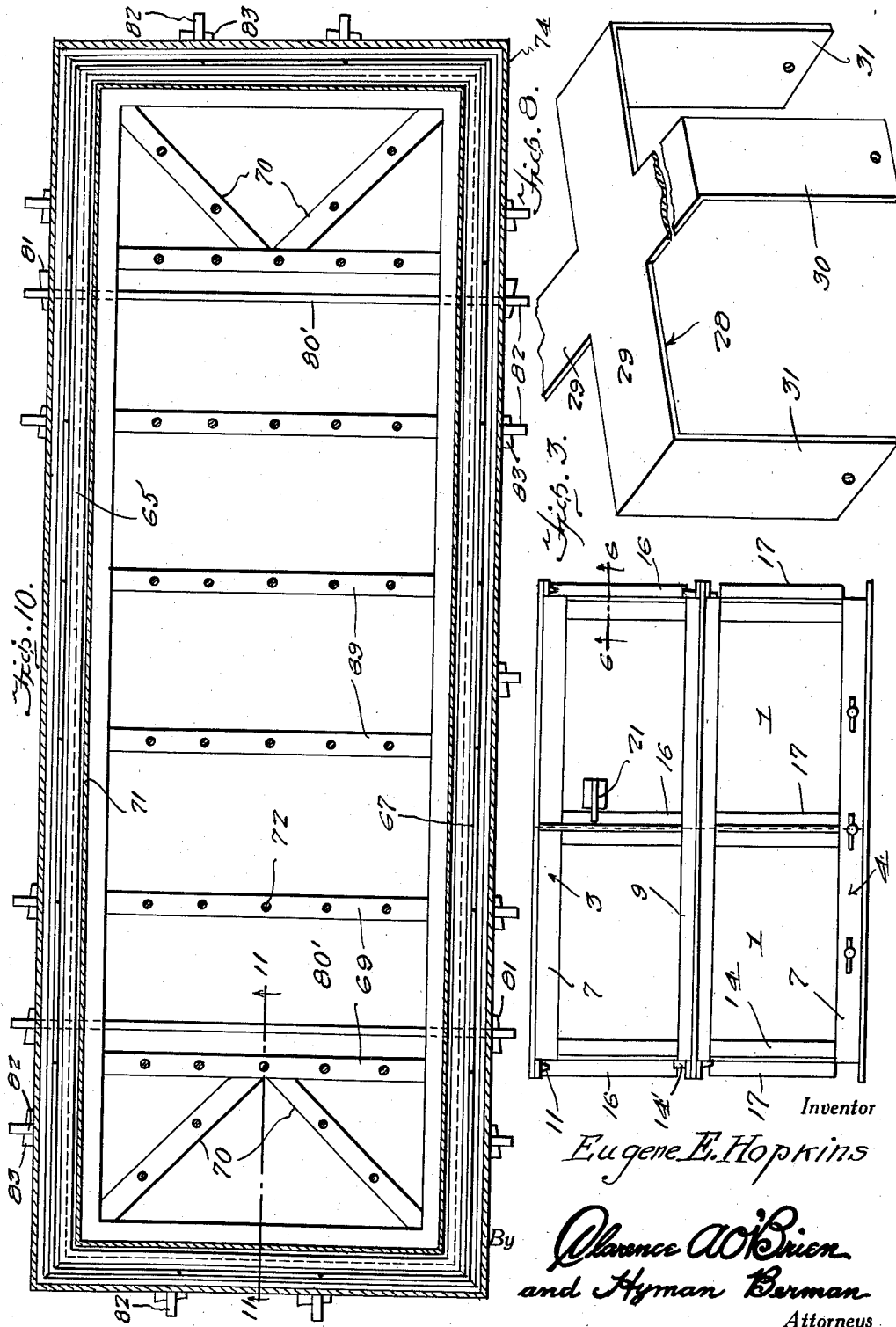
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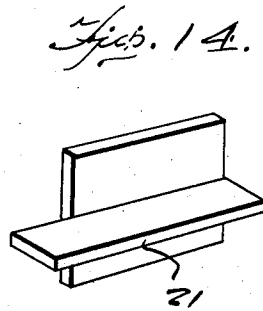
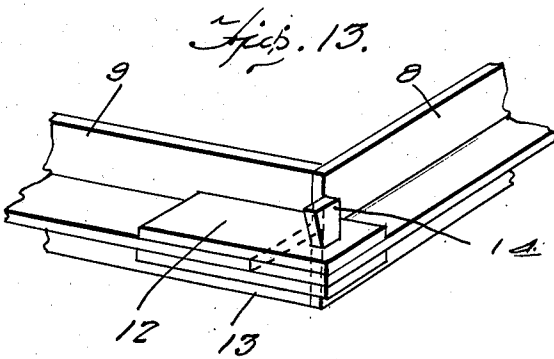
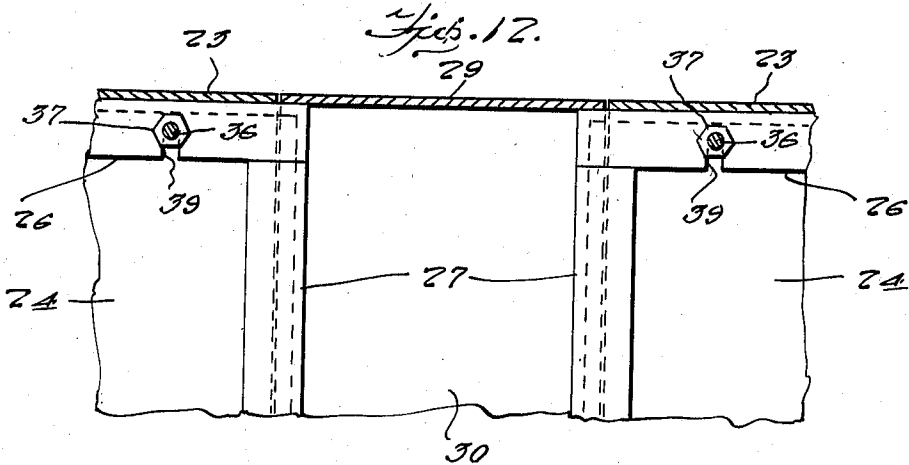
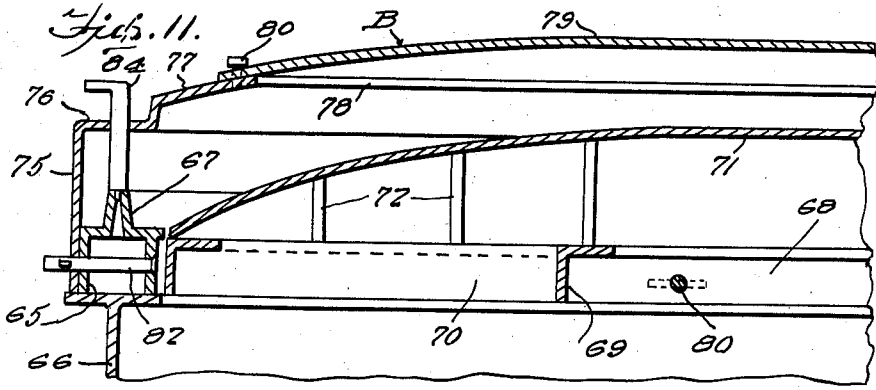
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UNITED STATES PATENT OFFICE

2,274,236

MOLD

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Application May 26, 1939, Serial No. 275,972

4 Claims. (Cl. 25—130)

My invention relates to improvements in molds for constructing burial vaults of plastic material.

By way of explanation, in my copending application Serial No. 224,397, filed August 11, 1938, I have disclosed a burial vault characterized by a casing having a concaved bottom, and a dome-shaped lid for nesting in said bottom in stacking of the vaults, the vault casing and lid being adapted for interlocking relation by means of an upstanding bead or tongue extending around the upper edge of the casing centrally thereof and a groove in the lower edges of the lid into which the tongue extends, the groove being wider than the tongue or bead to receive a sealing medium, and the lid having ducts therein extending down to said groove for introducing a sealing compound into the groove.

The principal object of the instant invention is to provide simply constructed, knock-down, or collapsible, mold units for forming the above described vault casing and lid and optionally forming a flat bottom casing, if desired, the units being particularly adapted for disassembly of the major parts thereof before the material of one casing and lid is fully set, so that said parts may be set up and used in forming another casing and lid thereby providing for quick manufacture of the vaults one after another.

To the accomplishment of the above, and subordinate objects presently appearing, a preferred embodiment of my invention has been illustrated in the accompanying drawings, set forth in detail in the succeeding description, and defined in the claims appended hereto.

In said drawings:

Figure 1 is a view in side elevation of the casing mold units.

Figure 2 is a view in transverse section taken on the line 2—2 of Figure 1 looking in the direction indicated by the arrows, and drawn to an enlarged scale.

Figure 3 is a view in end elevation.

Figure 4 is a view in perspective of one of the outer wall sections of the casing mold unit.

Figure 5 is a similar view of one of the core sections of the casing mold unit.

Figure 6 is a detail sectional view taken on the line 6—6 of Figure 3 looking in the direction indicated by the arrows.

Figure 7 is a view partly in side elevation and partly in section of one of the fastening devices for securing the casing wall sections and the core sections together and to the upper edge forming section.

Figure 8 is a view in perspective view of a filling

or bridging member forming part of the core unit.

Figure 9 is a view in transverse section of the lid mold unit.

Figure 10 is a view in horizontal section taken on the line 10—10 of Figure 9 looking downwardly as indicated by the arrows.

Figure 11 is a fragmentary view in longitudinal section of the lid mold unit taken on the line 11—11 of Figure 10, looking in the direction indicated by the arrows.

Figure 12 is a fragmentary view or section taken on the line 12—12 of Figure 2 looking in the direction of the arrows.

Figure 13 is a fragmentary view in perspective of the intermediate keeper frame, and

Figure 14 is a view in perspective of the keeper hook.

Referring to the drawings by numerals, my invention comprises a casing mold unit A shown in Figures 1 to 7 and a lid mold unit B shown in Figures 9 and 10.

The casing mold unit A comprises four outer wall forming sections 1 of sheet metal and of rightangled form in longitudinal section, as best shown in Figure 4, fitting together in end to end butting relation to form a rectangular elongated wall, or shell, 2, each section forming half of one side and one end of said wall or shell. The sections 1 are detachably secured together, in part, by the following means. The upper and lower edges of said sections are surrounded by upper and lower angle iron section aligning frames 3 and 4 fitting flat against the outer faces of said sections. A similar T-iron center frame 5 extends around said sections in the horizontal center of the same. The frames 3, 4 each comprise a pair of side bars 6 and a pair of end bars 7, the latter fitting between the former. The center frame 5 likewise comprises a pair of side bars 8 and a pair of end bars 9. The side and end bars 6 and 7 of the upper frame 3 are detachably secured together by means of short plates 10 welded, or otherwise secured, to the under side of the end bars 7 to extend from the ends thereof under the ends of the side bars 6, said plates and side bars being suitably apertured to receive wedge-shaped pins 11, all as best shown in Figure 6. By means of the described plates 10 and pin 11, said bars 6 and 7 may be secured together in flush relation for a purpose presently seen. The side and end bars 8 and 9 of the center frame 5 are similarly secured together by upper and lower end plates 12 and 13 on the ends of the end bars 9 straddling the flange of the side

bars 8 and secured thereto by wedge pins 14. The side and end bars 6 and 7 of the lower frame 4 are detached from each other but otherwise secured in place as presently described.

The frames 3, 4, and 5 are spaced apart as follows: At the corners of the sections 1 upright angle bars 14 are suitably secured to the outer faces thereof for location intermediate the center frame 5 and the upper and lower frames 3 and 4. At the butt joints between the sections 1, represented by dotted lines at 15, each one of said sections 1 is provided with a pair of exterior upper and lower vertical T-iron braces 16 and 17 spaced apart to fit between the center frame 5 and the upper and lower frames 3 and 4. The braces 16 and 17 overlap the ends of the adjacent sections 1 flat to brace the joints 15. The upper end of the upper brace 16 is notched, as at 18, to receive one flange of the bar 6, or 7, as the case may be, and brace said bar against outward flexing. Intermediate the joints 15 and the corners of said sections 1 a pair of upper and lower T iron braces 19, 20, similar to braces 16 and 17 are provided on each section. The braces 16, 17, 19 and 20 are preferably secured to the sections 1 by welding, not shown. To additionally align the sections 1, at the joints 15, the section overlapped by the braces 16 and 17 is provided with a hook-like keeper 21 overlying the overlapping upper brace 16 adjacent the upper end of the latter.

The core unit C comprises four corner sections 22, one of which is shown in detail in Figure 5. Each section 22 embodies an elongated sheet metal wall forming member including a top wall part 23, a side wall part 24, and an end wall part 25 secured in any suitable manner on the outer side of an angle iron frame 26 extending along the edges of said parts. The end of the member opposite the end wall part 24 is open. Intermediate the ends of said member and at the open end thereof the frame 25 is reinforced by a pair of vertically disposed V type angle iron braces 27.

The described core sections 22 are designed to be assembled within the wall, or shell 2, in spaced apart relation with side and end wall parts outermost and to be spaced apart by a cruciform sheet metal bridging member 28 having a rightangled top wall part 29 and side and end wall parts 30, 31, the top wall part 29 fitting in between the wall parts 23 of sections 22 and the side and end wall parts 30, 31 fitting in between the side and end wall parts 24, 25, respectively, to form therewith an open bottom, flush top and side core unit of rectangular form spaced from the wall, or shell 2, a distance corresponding to the thickness of the wall desired in the vault casing to be molded. As best shown in Figure 2, the top of the core unit C is spaced below the top edges of the wall, or shell 2, a suitable distance to provide for the requisite thickness of the bottom of the vault casing. At suitable points, the top wall parts 23 of sections 22 are provided with depressions 32 for forming on the inner face of the bottom of the vault casing coffin rests as will be understood. Also at suitable points, said top wall parts 23 of sections 22 are slotted, as at 33, for the insertion of handle members 34 in the interior of the core unit C, said members having anchored ends 35 extending out of the core section for embedding in the bottom of the vault casing to be molded. To properly support the bridging member 28, the frames 27 are extended beyond the top wall parts 23, as best shown in

Figure 2, to seat thereon the top wall parts 29 of said member.

The corner sections 22 upon opposite sides of the transverse center of the core unit C are detachably connected together in pairs by a pair of tie rods 36 extending transversely between the upper inner edges of the frames 26 of said pairs, with their opposite ends extending through said frames, respectively, and each end having threaded thereon a pair of clamping nuts 37 upon opposite sides of the frame. The rods 36 are joined, as at 38, and one end is extended through the related frame 26 by way of a vertical slot 39 in the frame so that by loosening the appropriate nuts 37 said end of the rods may be swung downwardly out of said slots, as shown by dotted lines in Figure 2, and the pair of sections 22 thus disconnected. The rods 36, under adjustment of the nuts 37, may be used as spreaders to properly position the sections 22 transversely of the core unit C and to clamp the sections against the bridging member 29 as will be clear. In addition to the foregoing, the casing mold unit A comprises a rectangular frame 40 interposed between the wall, or shell 2, and the described core unit C at the bottom edges of the latter and of said wall, said frame functioning as a spacer for said wall and core unit and as an edge forming member for the top edge of the vault to be molded. As best shown in Figure 2 said frame 40 is of channel iron form and has a central top bead 41 extending around the same and a top groove 42 within the confines of said bead all for forming the edge bead, not shown, on the vault casing described in the foregoing.

The wall, or shell 2, and the core sections 22 are clamped to the outer and inner faces of the frame 40 by fastening devices now to be described. At suitable intervals along the bottom of the frames 26 laterally extending tubular bolt casings 43 are secured at one end, as by welding not shown, to said frames on the inner faces of the latter, said casings having capped inner ends. Headed bolts 44 are slidably mounted in said casings 43 to be projected therefrom outwardly through said frames 26, said wall parts 24, frame 40, sections 1 of the wall 2, and bars 6 of lower frame 4, these elements being suitably apertured as will be understood for extensions of the bolts therethrough. Coil springs 46 in said casings 43 backing the bolts 44 urge the latter outwardly. The leading ends of said bolts 44 are slotted transversely, as at 47, to receive wedge-shaped pins 48 acting against the bars 6 of frame 4 to draw said bolts tight. A pin 49 on each bolt 44 extends through a longitudinal slot 50 in the casing 44 and coacts under a slight turn of the bolt with a rightangled extension 51 of said slot to releasably lock the bolt in retracted position. The outer end of each bolt 44 has a kerf 52 therein for turning the bolts with a screw driver. As will be understood the described fastening devices are provided at the ends of the casing mold unit A as well as at the sides thereof. A single tie rod 53 is provided for extension transversely, in the center of the unit A, through the bars 6 of frame 4, the side wall parts 30, frame 40 and sections 1, said rod extending across said unit and having wedge pins 54 inserted in the ends thereof alongside the bars 6 in the same manner and for the same purpose as described with reference to bolts 44 and pins 48. A tubular spacing member 55 is sleeved onto the rod 53 intermediate the frames 26.

A rectangular closure 56 is provided for the

top of the casing mold unit A of inverted pan-like form, said closure having a lateral edge flange 57 for bolting, as at 58, to the side and end bars 6 and 7 of the top frame 3 and also having a drop bottom 59 of concaved form, transversely and longitudinally, said bottom having a large rectangular opening 60 therein closed by a plate 61 detachably bolted thereto, as at 62. At suitable points around the edges of the closure 56 small pouring openings 63 are provided therein.

As best shown in Figure 2, the described casing mold unit A is designed to be set on a T iron frame-like support 64 of the requisite size to support the lower frame 4, wall 2, and frame 40 and fitting around the described core sections 22 with a slight clearance, said support being designed to be elevated in any suitable manner for access by an operative to the under side of said unit and to the interior of the core unit C.

Referring now to the use of the described casing mold unit A, with the closure 56 removed, and the parts assembled as already described, the plastic material is poured in the usual manner into the space between the wall 2, or sections 1, and the core unit C and until the material is level with the top edges of said wall. The closure is now bolted on as described so that the drop bottom 59 is pressed into the material and pouring completed through the apertures 63. As will be understood the drop bottom 59 of the closure 56 forms a concaved bottom in the vault thus molded. After the material has set for a suitable time, the pins 48 are knocked out of the bolts 44 and the latter are retracted by pushing inwardly with a screw driver and locked in retracted position by a slight turn as previously described. In their retracted positions, the bolts 44 clear the frame 40. The pins 54 are next knocked out of the rod 53 and the latter pulled free of the parts connected thereby. The tie rods 36 are next detached in the manner already described. The core sections 22 and member 28 may now be dropped through the frames 40 and the support 64 for assembly with another frame 40 mounted on another support 64. The closure 56 may next be detached from the upper frame 3 by unbolting, and the sections 1 and frames 3, 4 and 5 may then be disassembled, in a manner which will now be obvious, for reassembly with the sections 22 and member 28 and said other frame 40 for use in molding another vault. The use of the closure 56 may be dispensed with if desired and the material leveled off flush with the upper edges of the sections 1, or walls 2, to form a flat bottom vault.

The lid molding unit B comprises a rectangular channel iron frame 65, similar to frame 40, and adapted to be disposed on a T-iron frame-like support 66, similar to frame 64, said frame 65 having a top rib, or bead, 67 upstanding therefrom of bevel form and extending around the center of the frame. Fitting in the frame 65, also the support 66, with a slight clearance is a bottom core structure including an angle iron rectangular frame 68 reinforced by equidistantly spaced transversely extending angle bars 69 and, at the ends thereof, by oblique similar bars 70 extending from the inner corners of the frame to adjacent bars 69. The bars 69 and 70 are welded in position. Surmounting the frame 68 of the bottom structure is a rectangular sheet metal bottom forming plate 71 transversely and longitudinally arched upwardly and having its edges secured, as by welding, not shown, to the outer edges of said frame 68. Upright struts 72

extend between the bottom of the plate 71 and said bars 69 and 70 for supporting the load on said plate, said struts being suitably secured to said bars and plate.

5 Surmounting the frame 65 is a cover-like sheet metal casing structure 73 including vertical side and end walls 74 and 75 fitting at their lower edges against the outer sides and ends of said frame, an inwardly extending rightangled rim part 76, and an upwardly offset dome-like center part 77 having an opening 78 therein closed by a plate 79 detachably bolted in position, as at 80.

The described bottom and casing structures are 15 detachably secured to the frame 65 by means of a pair of tie rods 80', similar to rod 53, extending transversely through said frames 68, 65 and the side walls 74 adjacent opposite ends of said frames with wedge pins 81 in the ends thereof similar to pins 54. The casing structure 73 is 20 separately secured to said frame 65 by bolts 82 slidably mounted in the sides and ends of said frame 68 transversely thereof for projection of the leading ends thereof outwardly of said frame 25 and through the side and end walls of said structure 73 which, as will be understood, are suitably apertured for that purpose. The outer ends of the bolts 82 are equipped with wedge pins 83 in the same manner and for the same purpose as 30 bolts 44 previously described. Rightangled core rods 84 are extended downwardly through suitable apertures in the ledge part 77 of casing structure 73 with lower ends socketed, as at 85, in the top edge of the rim 67.

35 As will now be understood, the described lid mold unit B is poured through the opening 78, the plate 79 being first detached. The plate 71 forms an arched, or concaved, bottom in the lid whereas the rib 67 forms a correspondingly 40 shaped groove in the bottom of the lid adjacent the edges thereof, and the center part 77 and plate 79 form an arched top on the lid. The core rods 84 form ports in the lid extending downwardly to the groove for introducing a sealing compound into said groove.

45 As will also be understood, the frame 68 and parts carried thereby may be lowered out of the frame 65 through the support 66 by merely detaching the tie rods 80' and the casing structure 73 may then be detached by removing the pins 83 and retracting the bolts 82. As in the case of the casing mold unit A, all parts of unit B, except the frame 65, may be detached and assembled with another frame 65 for molding another lid while the lid previously molded is 55 drying out on its frame 65.

The foregoing will, it is believed, suffice to impart a clear understanding of my invention without further explanation.

60 Manifestly the invention, as described, is susceptible of modification without departing from the inventive concept and right is herein reserved to such modifications as fall within the scope of the subjoined claims.

65 Having described the invention, what I claim is:

1. Mold apparatus comprising a frame-like support adapted to be disposed in horizontal elevated position, and having an uninterrupted passage therethrough a mold frame fitting upon said support flush with the inner edges of the latter, a core section movable vertically through said opening in the support and fitting in said frame when in raised position and means for detachably securing said core section to said

frame comprising fastener members movable inwardly of said frame and core section from the exterior of the apparatus to releasing position within said core section, and adjustable in the releasing position thereof to lock the same in said position.

2. Apparatus of the class described comprising a rectangular base frame of bar-like metal having a central top rib extending around the same and a groove therein within the confines of said rib, a rectangular hollow core unit fitting in said frame and forming an inner wall and a top wall, said unit embodying corner sections spaced apart, and a cruciform bridging member for filling the space between said sections, means to secure said sections to said frame for detachment one at a time, and separate means for detachably securing said bridging member to said frame.

3. In a mold device, a hollow core unit comprising corner sections spaced apart, a cruciform

bridging member for filling the space between said sections, said sections and member forming an open bottomed structure closed at its sides, and means operative from within the core to detachably secure said corner sections together in pairs and to spread the connected sections apart.

4. In a mold device, an elevated and horizontally arranged supporting member forming an unrestricted opening, a core member adapted to be moved vertically through said opening, a bottom forming member for the mold device seated on the supporting member and surrounding the lower part of the core member when the core member is in place, and means for detachably connecting the core member with the bottom forming member, said means including fastening means movable to releasing position from the exterior of the mold device.

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