Nov. 25, 1924. 1,516,535

C. M. JOHNSON

MOLD FOR CONCRETE BURIAL VAULTS

Filed June 9, 1924 2 Sheets-Sheet 1

Fig. 1.

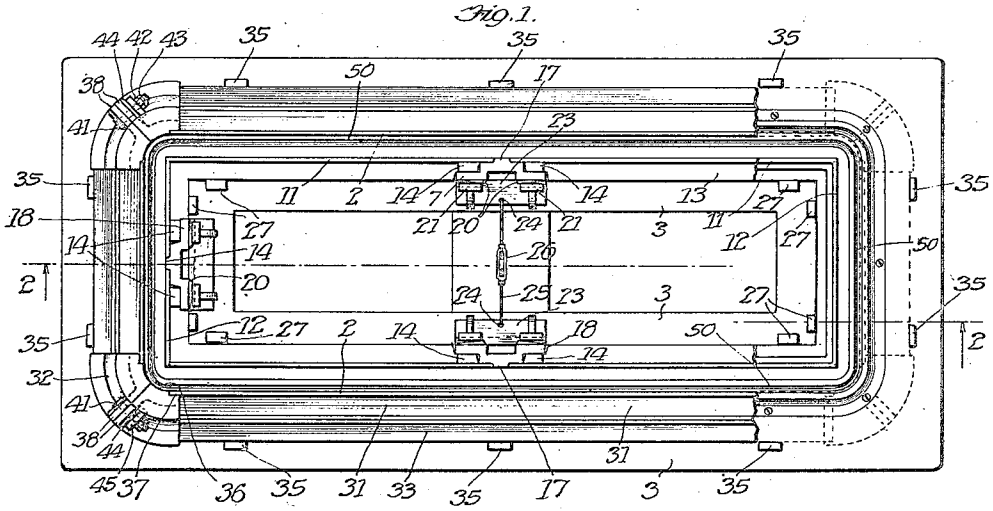


Fig. 2.

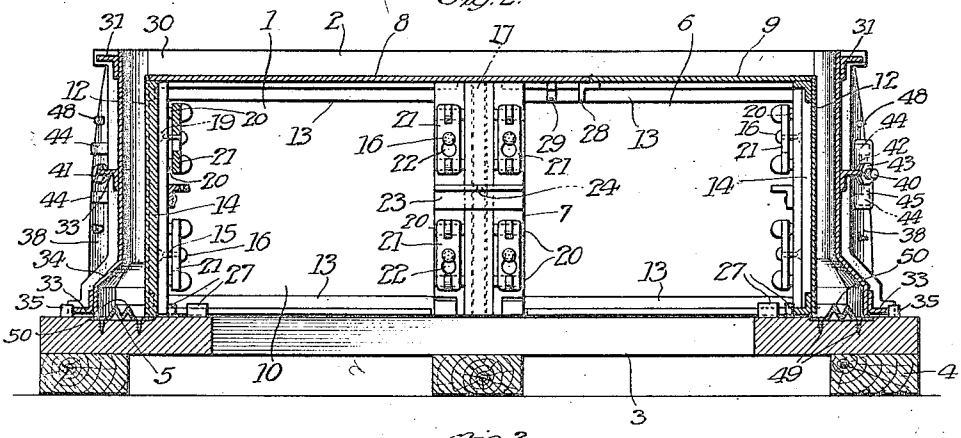


Fig. 3.

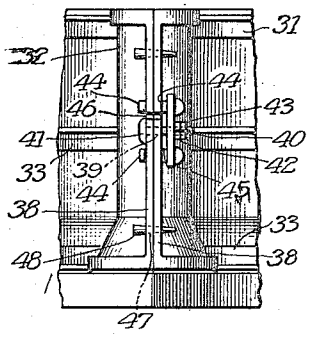
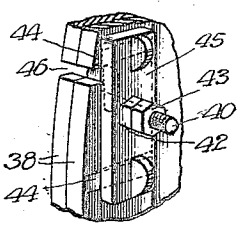


Fig. 4.



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Fig. 5.

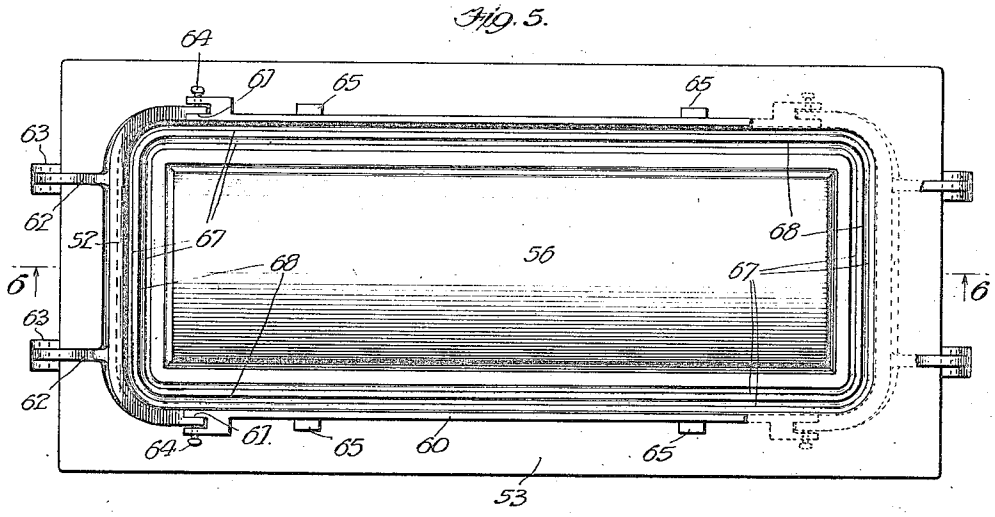


Fig. 6.

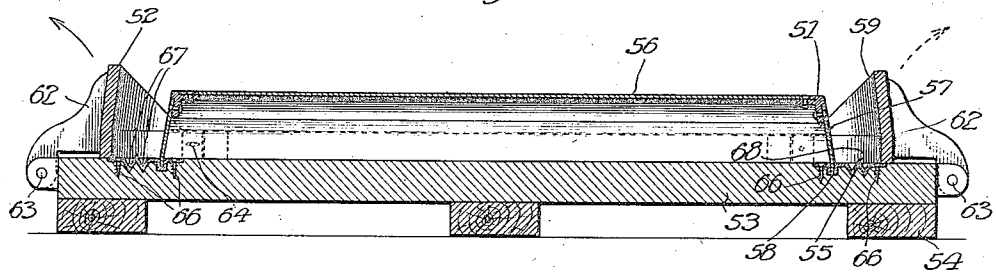


Fig. 7.

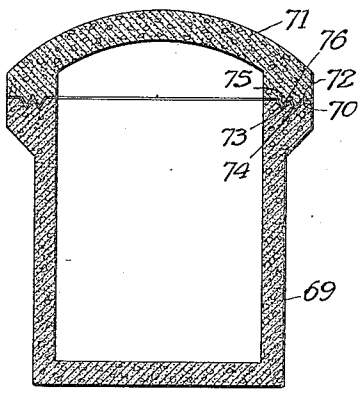
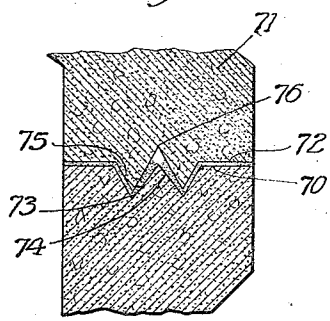


Fig. 8.



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UNITED STATES PATENT OFFICE.

CARL M. JOHNSON, OF CHICAGO, ILLINOIS.

MOLD FOR CONCRETE BURIAL VAULTS.

Application filed June 9, 1924. Serial No. 718,784.

To all whom it may concern:

Be it known that I, CARL M. JOHNSON, a citizen of the United States of America, and a resident of Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Molds for Concrete Burial Vaults, of which the following is a specification.

The main objects of this invention are to provide an improved form of mold for making receptacles of plastic material, and particularly for use in making concrete burial vaults; to provide a mold of this kind having an improved construction and arrangement of detachable parts adapted to be readily set up and stripped; to provide improved fastening means for locking the parts of the mold in their assembled relation; and to provide a mold of this kind having means for molding an improved form of rim on the burial vault which is adapted to form a water-tight seal between the body of the vault and the cover.

An illustrative embodiment of this invention is shown in the accompanying drawings, wherein—

Figure 1 is a plan, partly broken away, of the mold for making the body of the vault.

Fig. 2 is a longitudinal vertical section taken on the line 2—2 of Fig. 1.

Fig. 3 is a detail in elevation of the corner sections and fastening means.

Fig. 4 is an enlarged detail of the locking means.

Fig. 5 is a plan, partly broken away, of the mold for making the cover of the vault.

Fig. 6 is a longitudinal section of the cover mold, taken on the line 6—6 of Fig. 5.

Fig. 7 is a transverse section of the finished vault.

Fig. 8 is an enlarged detail in section of the improved rim joint which seals the vault.

In the specific construction herein shown, the improved mold for making the body of the vault includes an inner shell or core 1, and an outer shell 2 supported on a rectangular frame or base 3, which is mounted on blocks 4 and on which is also supported a rim section 5 between the two shells for molding the rim of the vault body. During the pouring of the concrete or other plastic material, the body mold is arranged in the inverted position shown in Fig. 2, and then after the material has set, the mold is reversed to permit the stripping of the shells.

As illustrated, the core 1 includes a plurality of wall sections 6 which are detachably secured together by spacer sections 7, and on which is loosely supported horizontal plates 8 and 9 forming the mold section for the bottom of the vault. The wall sections 6 are preferably four in number, and, as illustrated, each comprises a sheet metal plate 10, bent to form a side part 11 and an end part 12, which are reinforced by angle bars 13 extending along the upper and lower edges thereof and by vertical strips or bars 14 arranged adjacent each end thereof. The angle bars 13 and bars 14 are located on the inner side of the core 1, as shown in Fig. 2. The upper angle bars 13 are spaced a short distance below the upper edges of the plates 11 and 12, so as to form a seat for supporting the horizontal bottom plates 8 and 9, which lie flush with the upper edges of the wall sections 6. The vertical strips 14 are spaced inwardly from the ends of the wall plates 11 and 12, as shown in Fig. 1, to form bearing parts for the spacer sections 7. Mounted on the strips 14, are studs or bolts 15, having heads 16 which are adapted to project through the spacer sections, as hereinafter described.

In the form shown, the spacer section 7 comprises a central part 17 adapted to fit between the strips 14 and the ends of the wall plates so as to form a continuation of the wall molds. Projecting laterally from the central section 17, is a pair of oppositely extending flanges 18 adapted to abut against the strips 14 of the wall sections 6, and having apertures 19 for receiving the bolts 15. The upper ends of the spacer sections 7 are flush with the upper angle bars 13, and the lower ends thereof rest upon the supporting frame 3. Arranged on the flanges 18 on opposite sides of each of the apertures 19, is a pair of wedges 20 which are inclined in respectively opposite directions to form cams which coact with buttons 21 pivotally mounted on the bolts 15. The buttons 21 are provided with key-hole slots 22 for receiving the bolts 15, and which are arranged to permit the buttons to be inserted and withdrawn over the heads 16 of the bolts. The buttons 21 are shiftable into position to bear between the heads 16 and the wedges 20 for clamping the spacer sections 7 to the

wall sections 6. Extending transversely across the spacer sections 7, are brackets 23 having apertures 24 for receiving the ends of brace rods 25, which form additional means for securing the wall sections against buckling. Each of the brace rods 25 is provided with a turnbuckle 26. Cleats 27, which are mounted on the supporting frame 3, coact with the lower angle bars 13 for securing the wall sections 6 against shifting relative to the supporting base.

Extending transversely across the lower face of the horizontal plate 8, is an angle bar 28 which projects beyond the end of said plate to form a seat for supporting the opposed end of the plate 9. A handle 29 is also mounted on the plate 8 to facilitate its removal in stripping the mold.

In the specific form illustrated, the outer shell 2 comprises side wall sections 30 and end wall sections 31, having secured to each end thereof a corner section 32 which is adapted to be detachably secured to an adjacent corner section for clamping the parts of the outer shell together. The wall sections 30 and 31 are preferably sheet metal plates reinforced by longitudinally extending angle bars 33 arranged on the outside of the mold. The lower parts 34 of the wall sections 30 and 31 are suitably shaped to form a rim on the vault body of any desired contour. Cleats 35 are mounted on the supporting base 3 and coact with the lower bars 33 for securing the outer shell against shifting relative to the base and inner core.

A pair of corner sections 32 is required for each corner of the shell 2, as shown in Fig. 3, and each of these corner sections comprises a form part 36 forming a continuation of the wall sections 30 and 31, and being recessed as shown at 37 to receive the ends of the wall plates 30 and 31. The corner sections 32 are rigidly secured to the wall plates 30 and 31 by rivets or other suitable fastening means, not shown. Extending outwardly from the form part 36 is a web 38, adapted to abut against the corresponding web of an adjacent corner section. Formed in the webs 38, are apertures 39 for receiving a locking bolt 40, having a head 41 at one end thereof and being threaded at its other end to receive a nut 42, and a lock nut 43. Arranged on the web 38 on opposite sides of the aperture 39, is a pair of wedges 44 which are inclined in respectively opposite directions to form cams which coact with a button 45, pivotally mounted on the bolt 39. The button 45 may be arranged on either end of the bolt 40 so as to coact with either pair of the wedges 44. Formed in the webs 38 are inclined slots 46 which extend from the apertures 39 to the outer edges of the webs 38, whereby the bolt 40 and button 45 may be inserted and removed as a unit, which facilitates the setting up and stripping of the mold sections. The nuts 42 permit adjustment of the buttons 45. Formed in the webs 38 adjacent the upper and lower end thereof, are apertures 47 arranged to receive tapered pins 48 for holding the two corner sections 32 in alinement.

In the specific construction herein shown, the mold section 5 for molding the rim of the vault body, comprises a metallic plate arranged between the shells 1 and 2 and rigidly secured to the base 3 by screws 49 or other suitable fastening means. Formed on the plate 5, is a pair of substantially parallel ridges 50, adapted to mold a pair of spaced grooves in the rim of the vault body to receive cement or other plastic material with which the cover is sealed to the body.

As illustrated, the cover mold comprises an inner shell or core 51, and an outer shell 52, supported on a rectangular frame or base 53, which is mounted on blocks 54, and on which is also supported a rim section 55 between the two shells for molding the rim of the vault cover.

In the form shown, the inner core comprises a top plate 56, secured along its edges to side plates 57. The lower edges of the side plates 57 rest in a groove 58 formed in the rim plate 55.

The outer shell 52 comprises a pair of end sections 59 and side sections 60. The end sections 59 are suitably shaped to provide the desired contour to the ends of the vault cover, and are recessed at each end thereof, as shown at 61, to receive the ends of the side sections 60. Formed on the end sections 59, are lugs 62, which are pivotally secured to pins 63, mounted on the base 51, whereby the end sections may be swung outwardly away from each other to permit the removal of the finished cover after the concrete has set. The side sections 60 comprise bars or rails having their ends seated in the recesses 61 of the end sections 59, and having locking clamps 64 adapted to engage the end sections for locking the parts of the cover mold together. Cleats 65, mounted on the base 53, coact with the side rails 60 for securing them against outward bulging.

The rim plate 55 is arranged between the shells 51 and 52 and is rigidly secured to the base 53 by screws 66 or other suitable fastening means. Formed on the plate 55, is a pair of substantially parallel grooves 67 and a central ridge 68 adapted to mold a pair of spaced ridges and a central groove in the rim of the vault cover. The ridge 68 is of greater height than the height of the ridges 60 of the rim section 5 for the purpose hereinafter set forth.

To strip the cover mold after the cover is finished the clamps 64 are released to permit removal of the rails 60, and the end sections 59 are then swung outwardly away from the finished cover. The cover may then be lifted

from the inner core 56. To strip the body mold, the outer core 2 is removed from the finished vault, and the vault is then inverted to permit access to the clamp buttons 21. The buttons 21 are removed from the bolts 15 to permit removal of the wall sections 6, and spacer sections 7.

In the specific construction herein shown, the mold is adapted for making concrete burial vaults of the type shown in Fig. 7, which includes a body part 69 having a rim 70, and a cover part 71 having a rim 72. Formed in the rim 70, is a pair of spaced grooves 73 and a central ridge 74. Formed on the cover rim 72, is a pair of spaced ridges 75 adapted to fit within the grooves 73, and a central groove 76, which is of greater depth than the height of the ridge 74 so as to provide an air pocket above the ridge 74 when the vault cover is placed on the body.

In sealing the vault, the rim 70 of the body is covered with cement or other suitable plastic material before the cover is lowered into place. In lowering the cover into a grave, sand or dirt from the sides of the grave frequently falls onto the rim of the vault body, and, when permitted to remain there, the cement at this point of the rim does not adhere to the cover. With the rim constructions heretofore in use, water would be permitted to seep through the rim at any point where sand or dirt had prevented an effectual seal. With the present improved rim construction, if the cement seal is not effectual at any point in the rim, the air pocket located in the groove 76 of the vault cover prevents any water from rising over the ridge 74.

Although but one specific embodiment of this invention has been herein shown and described, it will be understood that numerous details of the construction shown may be altered or omitted without departing from the spirit of this invention as defined by the following claims.

I claim:

1. A mold of the class described comprising separable sections, a bolt on one of said sections and projecting through an aperture in the other of said sections, a cam on said other section, and a button pivotally mounted on the outer end of said bolt and shiftable into engagement with said cam for clamping said sections together.

2. A mold of the class described comprising separable sections, a bolt on one of said sections and projecting through an aperture in the other of said sections, a pair of wedges on said other section and arranged on respectively opposite sides of said bolt, and a button pivotally mounted on the outer end of said bolt and shiftable into engagement with said wedges for clamping said sections together.

3. A mold of the class described comprising separable sections, a bolt on one of said sections and projecting through an aperture in the other of said sections, shoulders on said bolt and other section, and a button pivotolly mounted on said bolt and adapted to bear between said shoulders for clamping said sections together.

4. A mold of the class described comprising separable sections, a bolt on one of said sections and projecting through an aperture in the other of said sections, a cam on said other section, a nut threaded on the outer end of said bolt, and a button pivotally mounted on said bolt and adapted to bear between said nut and cam for clamping said mold sections together.

5. A mold of the class described comprising separable sections, a bolt on one of said sections and projecting through an aperture in the other of said sections, a cam on said other section, and a button having a key-hole slot for receiving the shank of said bolt whereby said button is adapted to bear between said cam and the head of said bolt for clamping said sections together, part of said slot being arranged to permit said button to be withdrawn over the head of said bolt for stripping the mold.

6. A mold of the class described comprising separable sections, a bolt on one of said sections and projecting through an aperture in the other of said sections, a pair of wedges on said other section and arranged on respectively opposite sides of said bolt, a nut threaded on the outer end of said bolt, and a button having a key-hole slot for receiving the shank of said bolt whereby said button is adapted to bear between said nut and wedges for clamping said sections together, part of said slot being arranged to permit said button to be withdrawn over said nut for stripping the mold.

7. A mold of the class described comprising separable sections, a bolt on one of said sections and projecting through an aperture in the other of said sections, shoulders on said bolt and other section, and a button pivotally mounted on said bolt and adapted to bear between said shoulders for clamping said sections together, said other section having a slot extending from one edge thereof to said aperture to permit said bolt to be withdrawn through said slot in stripping the mold upon the release of said button.

8. A mold of the class described comprising a pair of wall sections, a spacer section arranged between said wall sections and having a part arranged to form a continuation thereof, bolts on said wall sections and projecting through apertures in said spacer section, shoulders on said bolts and spacer section, and buttons pivotally mounted on said bolts and adapted to bear between said shoulders for clamping said sections together.

9. A mold of the class described comprising a pair of wall sections, a spacer section arranged between said wall sections and having a part arranged to form a continuation thereof, bolts on said wall sections and projecting through apertures in said spacer section, a pair of wedges on said spacer section adjacent each of said apertures, and buttons pivotally mounted on said bolts and adapted to be shifted into engagement with said wedges for clamping said sections together.

10. A mold of the class described comprising a pair of wall sections, a pair of corner sections located between said wall sections to form a continuation thereof, a bolt on one of said corner sections and projecting through an aperture in the other of said corner sections, shoulders on said bolt and other section, and a button pivotally mounted on said bolt and adapted to bear between said shoulders for clamping said corner sections together.

11. A polygonal mold of the class described comprising wall sections, a pair of corner sections located at each corner of the mold, each of said corner sections being rigidly secured to an adjacent wall section, bolts extending through registering apertures in each pair of said corner sections, wedges arranged on said corner sections adjacent said apertures, and buttons pivotally mounted on said bolts and shiftable into engagement with said wedges for clamping said mold sections together.

12. A polygonal mold of the class described comprising wall sections, a pair of corner sections located at each corner of the mold, each of said corner sections being rigidly secured to an adjacent wall section, bolts extending through registering apertures in each pair of said corner sections, wedges arranged on said corner sections adjacent said apertures, and buttons pivotally mounted on said bolts and shiftable into engagement with said wedges for clamping said mold sections together, said corner sections having slots extending from one edge thereof to said apertures to permit the withdrawal of said bolts through said slots.

Signed at Chicago this 7th day of June 1924.

CARL M. JOHNSON.