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[54] **WATERPROOF CONCRETE BURIAL VAULT AND METHOD OF CONSTRUCTION**
19 Claims, 17 Drawing Figs.

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[51] Int. Cl. E04h 13/00,
E02d 31/02
[50] Field of Search 52/128-
-142, 426, 741-743, 169, 687, 688, 19-21;
106/96; 25/130 B; 264/35; 138/174

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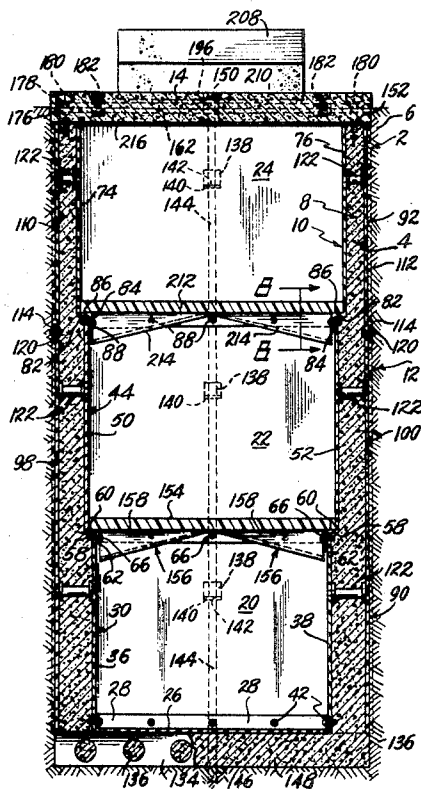
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ABSTRACT: A waterproof concrete burial vault, cast in situ by using inner and outer plastic forms that remain in place. The inner plastic form is watertight and defines at least one casket receiving chamber, a sheet of plastic being secured in a watertight manner to the inner form to completely seal a casket placed within said chamber. The vault features a tube that extends vertically from the bottom to the top thereof, which relieves underground liquid pressure beneath the vault.



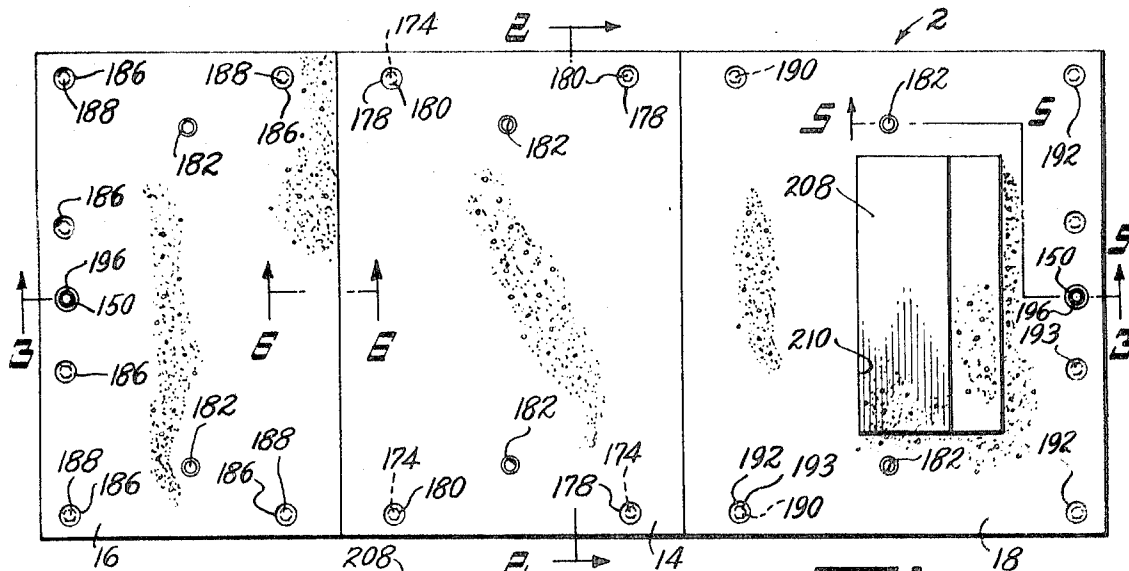


FIG. 1.

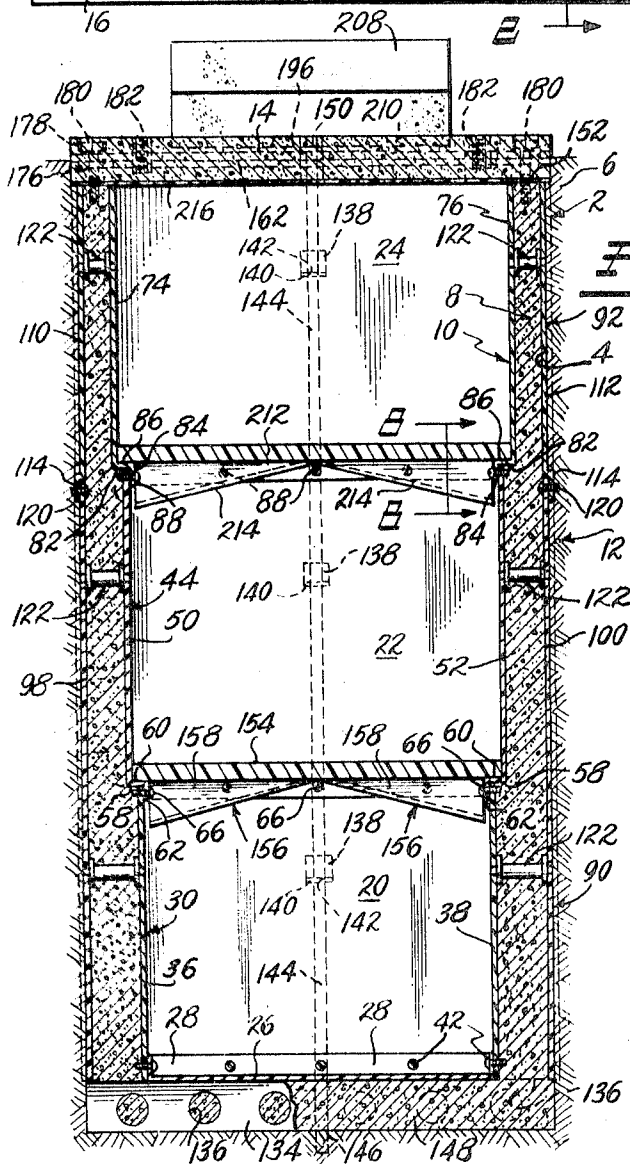


FIG. 2.

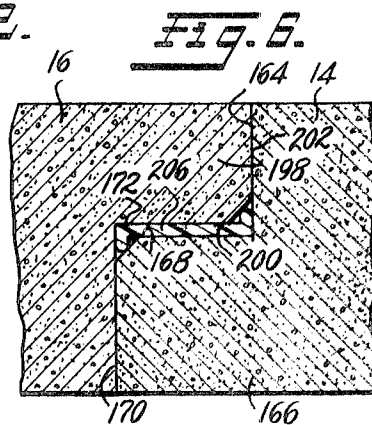


FIG. 3.

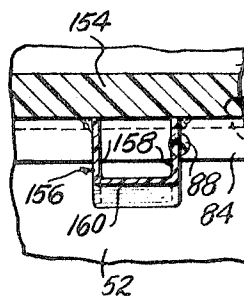


FIG. 4.

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Fig. 3.

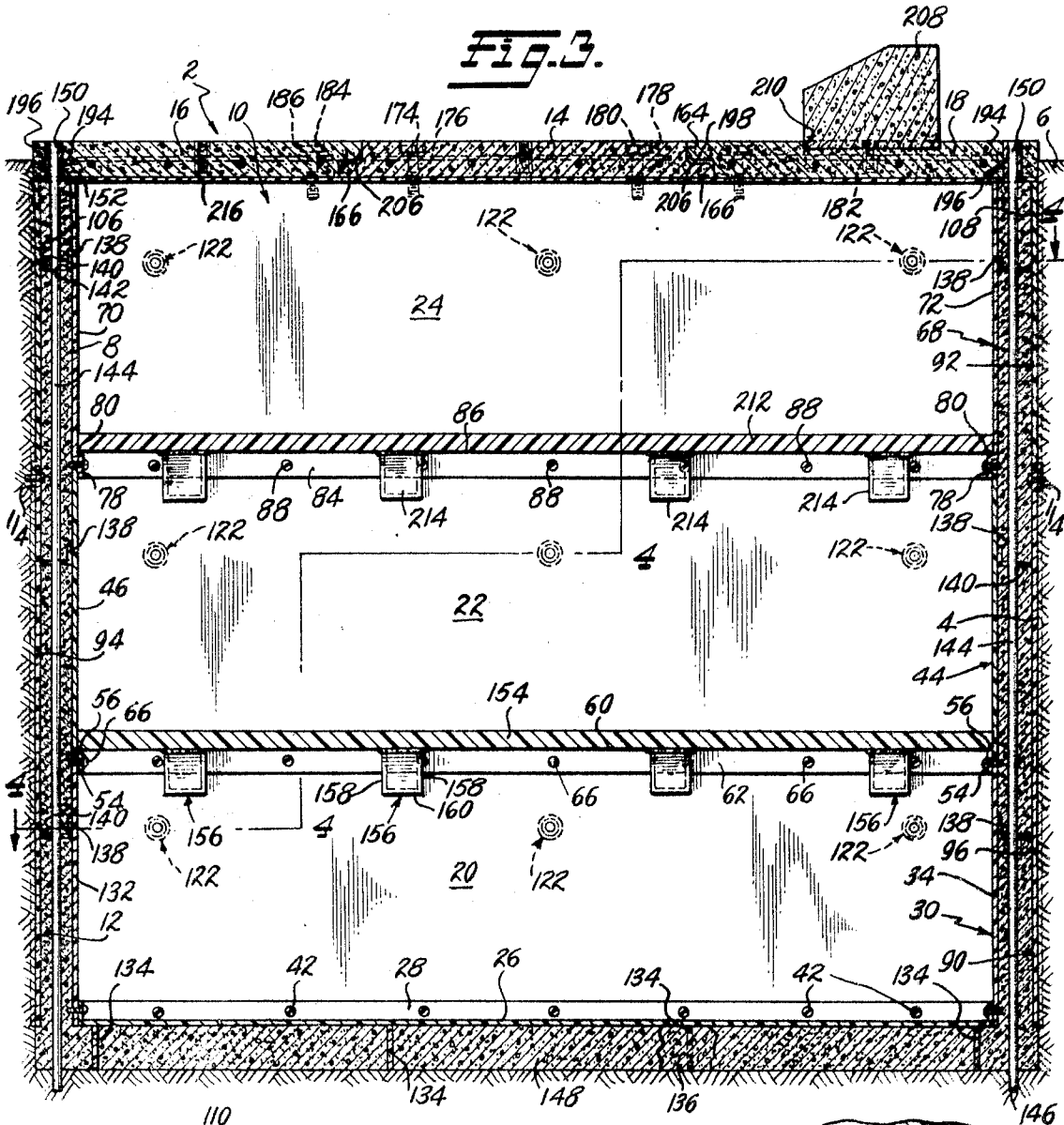


Fig. 11.

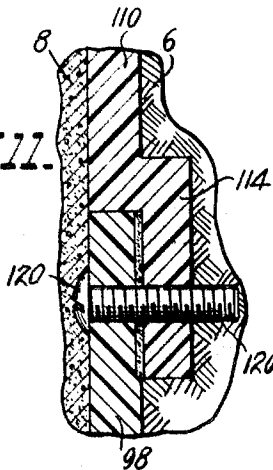


Fig. 9.

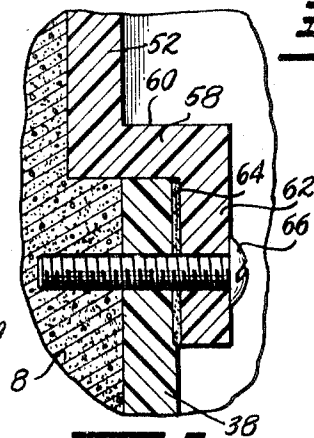
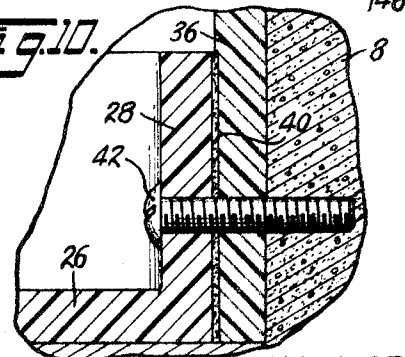
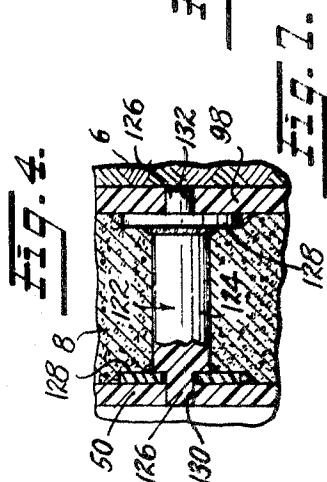
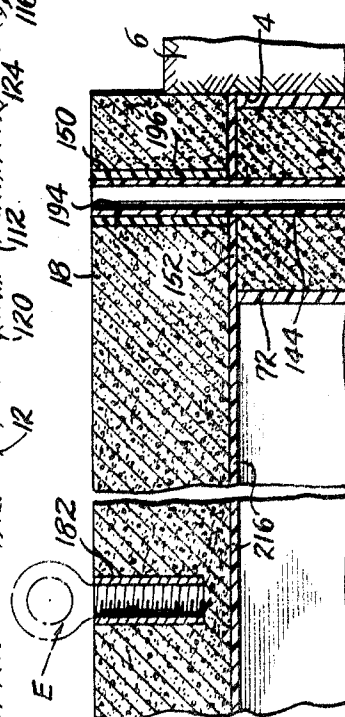
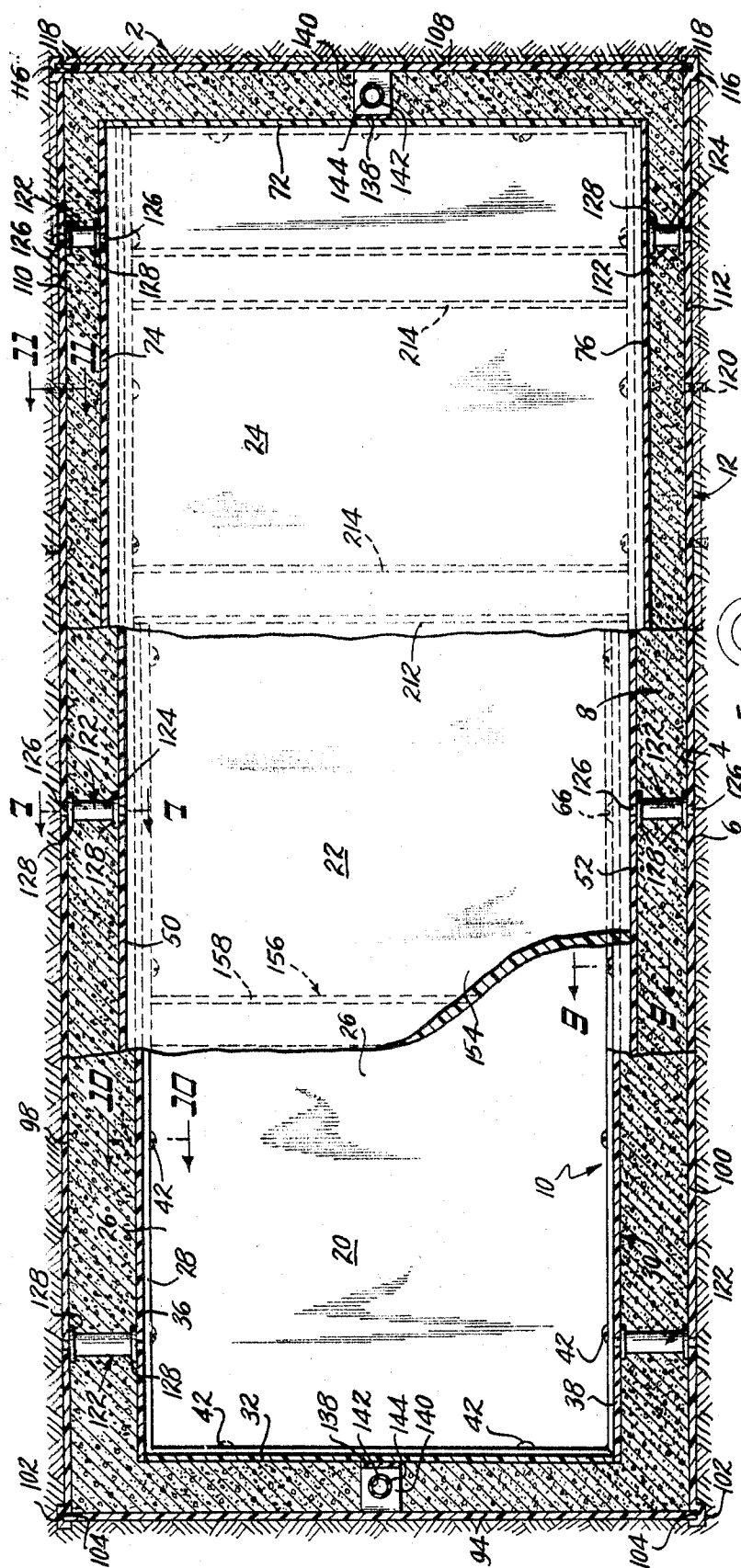


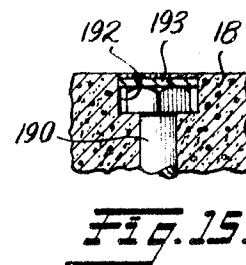
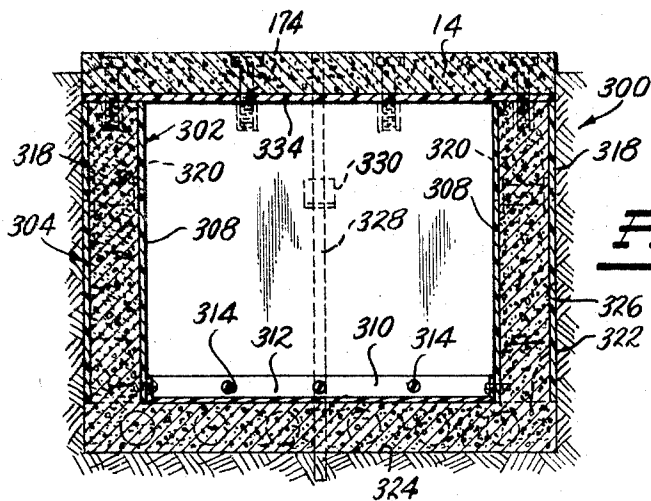
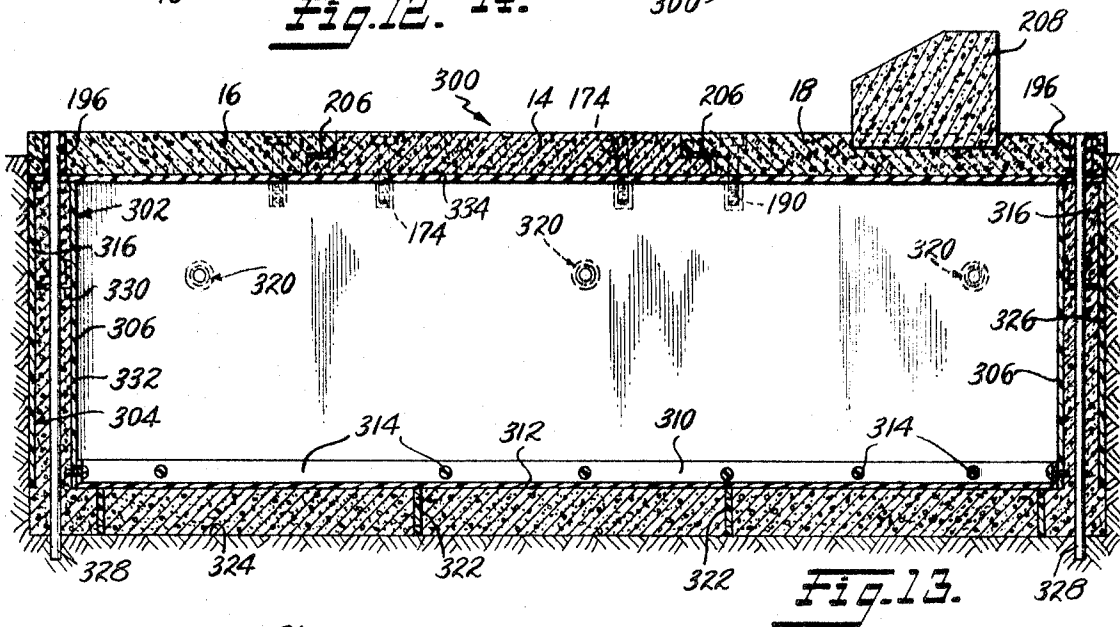
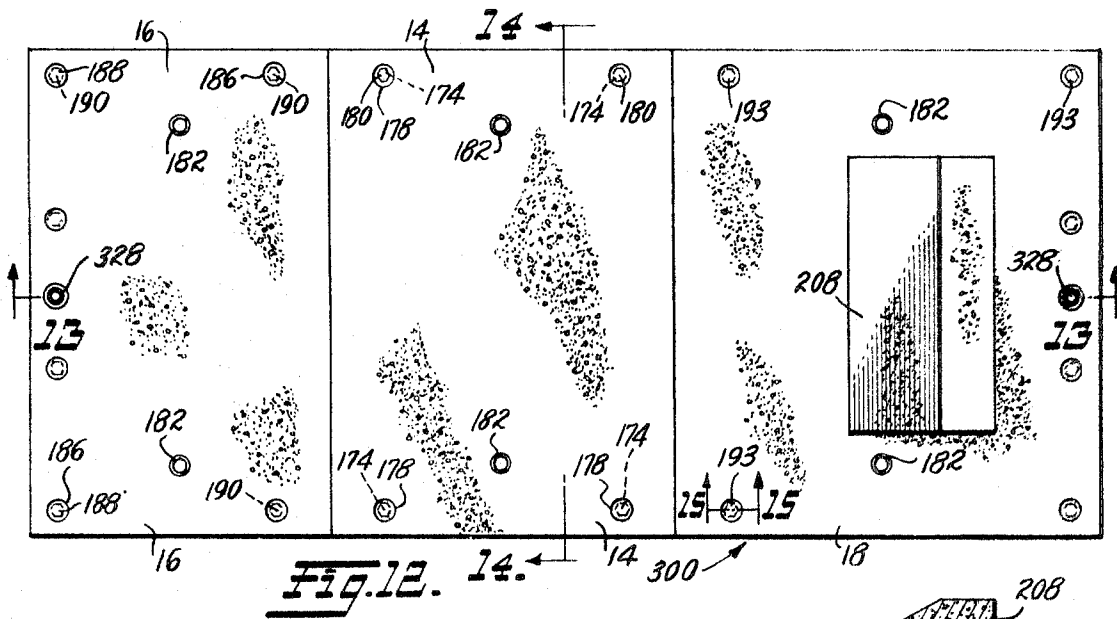
Fig. 10.



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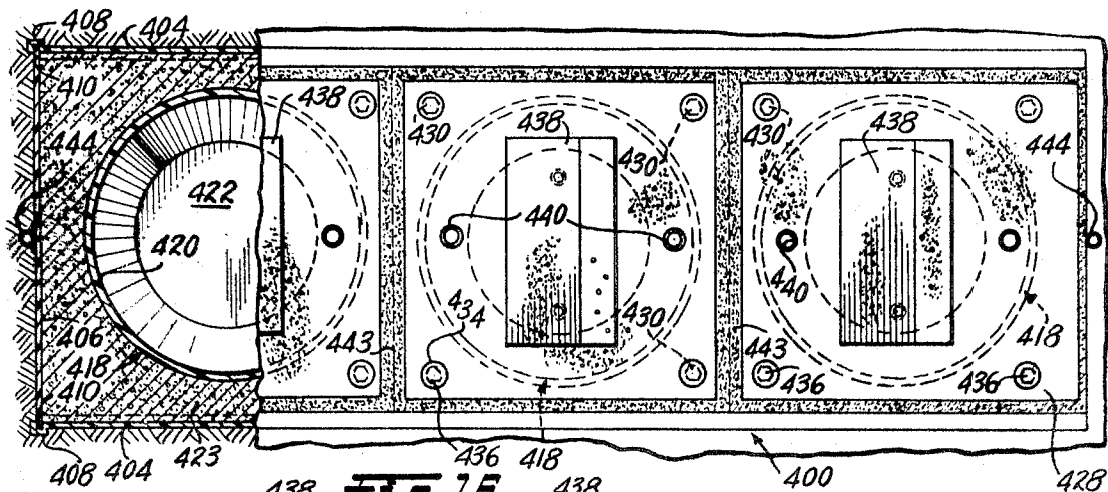


Fig. 16.

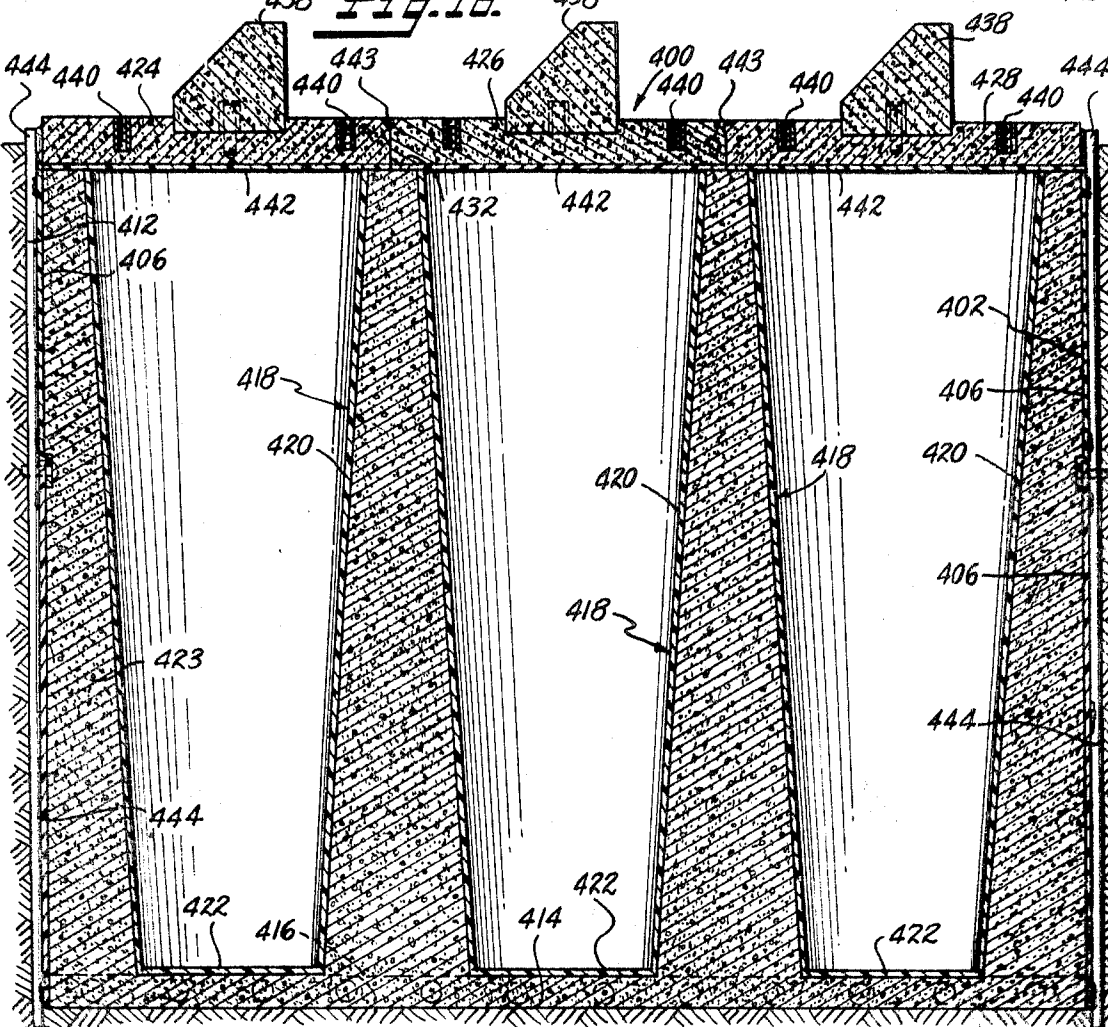


Fig. 17.

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WATERPROOF CONCRETE BURIAL VAULT AND METHOD OF CONSTRUCTION

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to burial vaults, and more particularly to a waterproof burial vault and the method for constructing the same in situ.

2. Description of the Prior Art

It is a common practice to place a casket within an underground burial vault, the vault serving primarily to protect the casket and keep it dry. There have been numerous constructions proposed for such burial vaults, including the use of involved composite constructions utilizing many layers of different materials in an effort to achieve a watertight vault. Usually such vaults are very heavy and are constructed in a factory far removed from the cemetery, and hence considerable cost in transportation, installation equipment and labor must be entailed to place them in a particular grave site.

There is need for a burial vault that can be easily and economically constructed at the grave site, whereby cost can be held to a minimum, and which positively seals a casket placed therein from the entry of ground water or other fluids. The present invention satisfies that need.

A problem with burial vaults where ground waters are abundant has been that such waters frequently accumulate beneath the vault, generating pressures that can shift the vault's position and cause resultant damage to the grave site. The present invention includes means for alleviating this problem, and thus contributes to reduced cemetery upkeep costs and peace of mind to the concerned relatives and friends of a deceased.

SUMMARY OF THE INVENTION

In the present invention the burial vault is constructed in situ from concrete, the first step after digging of the grave being to place therein spaced, concentrically disposed inner and outer forms of plastic. Concrete mix containing a suitable waterproofing compound is then poured into the form and allowed to set, after which the vault is ready for use.

The plastic forms remain in the vault, and in addition to molding the concrete serve to provide a vault lining for use in making each burial compartment watertight. A vault constructed according to the invention can be designed to accommodate a single casket, or a plurality of caskets. When the vault is for a single casket, the casket is first lowered into place and then a plastic plate is sealed to the upper edges of the inner form to completely seal off the casket compartment or chamber. A concrete slab cover is then secured to the upper end of the vault, to complete the burial.

In one multiple casket version of the invention the vault contains a plurality of casket compartments, one above the other. After a casket is placed in the lowest compartment, a braced plastic plate is installed to seal that compartment, the plate serving as a floor to support the next casket. By the concept of the invention whereby each compartment is totally sealed after a casket has been placed therein, the placing of several caskets one above the other in the same vault is rendered both totally safe and acceptable to the sensitivities of those burying a deceased. The multiple casket vault of the invention is especially useful to bury several members of a family, requiring but a single cemetery grave site to do so.

In another multiple casket vault constructed according to the invention, the caskets are placed vertically into separate vertically disposed compartments or chambers, each compartment being sealed by a plastic plate after use and being closed by an individual concrete slab cover.

To relieve any water pressure that might accumulate therebeneath, at least one pressure relief tube is made a part of the vault and extends vertically over the height thereof. Preferably two such relief tubes are used, one at each end of the vault, and said tubes function to prevent any pressure buildup beneath the vault.

It is an object of the present invention to provide a burial vault having a completely leakproof burial chamber.

Another object is to provide a method for constructing a watertight concrete burial vault in situ at the grave site.

A further object is to provide form structure for constructing a concrete burial vault, which forms remain in place and serve to made the vault watertight.

Yet another object is to provide a burial vault equipped with means to relieve the pressure of underground water that accumulates therebeneath.

Other objects and many of the attendant advantages of the present invention will be readily apparent from the following Description of the Preferred Embodiments, when taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top plan view of the multichamber horizontal vault of the present invention, with the cover sections in place;

FIG. 2 is a transverse vertical sectional view taken on the line 2-2 of FIG. 1, showing in particular the construction of the inner and outer plastic forms;

FIG. 3 is a longitudinal vertical sectional view taken on the line 3-3 of FIG. 1, showing in particular the arrangement of the pressure relief tubes and the construction of the reinforced plastic sheets;

FIG. 4 is an enlarged staggered horizontal fragmentary sectional view, taken on the line 4-4 of FIG. 3;

FIG. 5 is an enlarged fragmentary vertical sectional view taken on the line 5-5 of FIG. 1, showing in particular the vault seal arrangement;

FIG. 6 is an enlarged fragmentary vertical sectional view taken on the line 6-6 of FIG. 1, showing the seal between sections of the cover;

FIG. 7 is an enlarged fragmentary vertical sectional view taken on the line 7-7 of FIG. 4, showing the construction of one of the spacers;

FIG. 8 is an enlarged fragmentary vertical sectional view taken on the line 8-8 of FIG. 2, showing in detail one of the reinforced plastic sheets;

FIG. 9 is an enlarged fragmentary vertical sectional view taken on the line 9-9 of FIG. 4;

FIG. 10 is an enlarged fragmentary vertical sectional view taken on the line 10-10 of FIG. 4;

FIG. 11 is an enlarged fragmentary vertical sectional view taken on the line 11-11 in FIG. 4;

FIG. 12 is a top plan view of a single casket vault constructed according to the invention;

FIG. 13 is a vertical sectional view taken on the line 13-13 in FIG. 12;

FIG. 14 is a transverse vertical sectional view taken on the line 14-14 in FIG. 12;

FIG. 15 is an enlarged vertical sectional view taken on the line 15-15 in FIG. 12, showing how the bolts securing the vault lid are sealed;

FIG. 16 is a top plan view, partially broken away, of a multiple vertical burial vault constructed according to the invention, wherein the pressure relief tube is secured to the exterior of the outer plastic mold; and

FIG. 17 is a vertical sectional view through the vault of FIG. 16.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to FIGS. 1-11 of the drawings, there is shown therein at 2 a multiple-casket horizontal vault constructed according to the invention. The vault 2 is constructed in situ within a grave 4 dug in the earth 6, and includes a rectangular boxlike concrete body 8 having an inner plastic form 10 and an outer plastic form 12 thereon, the upper end of the vault being closed by a middle concrete slab lid section 14 and two end lid sections 16 and 18, respectively.

The inner and outer forms 10 and 12 are made of polyvinylchloride or some other suitable plastic, and after serving to

mold the concrete as it is poured remain in position on the finished vault body 8 to help render watertight the casket chambers within the vault. The vault 2 contains three casket chambers, a lower chamber 20, a middle chamber 22 and an upper chamber 24, it being understood that a vault with more or less chambers than the three shown can also be constructed according to the invention.

The inner form 10 includes a rectangular bottom plate 26 having an upstanding flange 28 on the periphery thereof, which flange is telescopically received within the lower end of a rectangular lower form section 30 having planar end walls 32 and 34 and planar side walls 36 and 38, respectively. In order to connect the flange 28 to the lower form section 30, and to make a watertight structure, the entire periphery of the flange 28 is secured by chemical fusion, or welding, to the walls of the section 30, as indicated at 40 in FIG. 10. In addition, spaced screws 42 are threaded through the flange 28 and the walls of the section 30. The screws 42 are optional and can be omitted if desired, but if utilized should project substantially beyond the walls of the lower section 30 so that they serve as anchors in the concrete body 8.

Received on the lower form section 30 is a middle form section 44, comprising end walls 46 and 48 and side walls 50 and 52, respectively, the upper ends of said walls being planar. The end walls 46 and 48 are spaced apart the same distance as the end walls 32 and 34, and have downwardly extending flanges 54 on the inner lower edges thereof that are received within the lower section 30, the upper surfaces of the flanges 54 defining shoulders 56 that extend at a right angle to the end walls 46 and 48.

The sidewalls 50 and 52 of the middle form section 44 are spaced further apart than the sidewalls 36 and 38, and have inwardly extending rims 58 on the lower edges thereof that project perpendicularly from their associated sidewalls. The upper surfaces of the rims 58 define shoulders 60, and said rims have downwardly extending flanges 62 thereon that are received within the lower section 30 and which are integral with the flanges 54. The flanges 54 and 62 are welded to the inner upper edges of the walls of the lower form section 30, as shown at 64 in FIG. 9, whereby a watertight connection is made. In addition, optional screws 66 corresponding to the screws 42 also serve to secure together the middle and lower inner form sections 44 and 30.

Received on the middle form section 44 is an upper form section 68, comprising end walls 70 and 72 connected by sidewalls 74 and 76, the upper ends of all of said walls being planar. The end walls 70 and 72 are spaced apart the same distance as the walls 46 and 48, and have downwardly directed flanges 78 on the lower edges thereof that define shoulders 80.

The side walls 74 and 76 are spaced apart further than the wall 50 and 52, and have inwardly directed rims 82 thereon that terminate in downwardly directed flange 84, and which define shoulders 86. The flanges 78 and 84 are received within and are welded to the middle form section 44, and again optional screws 88 are utilized to further secure the two form sections.

Because of the welded construction throughout, it is seen that there are no breaks or openings in the inner form 10. Thus, said form is completely leakproof and watertight.

The outer form 12 consists of a lower section 90 and an upper section 92, the lower section 90 comprising planar end walls 94 and 96, and sidewalls 98 and 100, respectively, the sidewalls 98 and 100 having enlargements 102 on their opposite ends each containing a groove 104 for receiving the vertical side edge of one of the end walls 94 and 96. The end walls 94 and 96 are inserted into the grooves 104, and are welded in place to form a watertight joint.

The outer form upper section 92 comprises end walls 106 and 108 and sidewalls 110 and 112, respectively, and has a length and width identical to that of the lower section 90. The outer bottom edges of the walls 106, 108, 110 and 112 have downwardly directed flanges 114 thereon, which receive the upper end of the lower section 90 and which are welded

thereto. The opposite ends of the sidewalls 110 and 112 have enlargements 116 thereon containing grooves 118, which receive the vertical edges of the end wall panels 106 and 108, the latter being welded in place. Optional screws 120 are also utilized to secure together the two sections 90 and 92.

The overall height of the outer form 12, which is constructed to be watertight, is the same as that of the inner form 10, and the two forms are assembled concentrically to define a uniform space of several inches width therebetween for receiving concrete. The forms 10 and 12 are held in concentric relationship by a plurality of spacer dowel assemblies 122, the details of one such assembly being shown in FIG. 7.

Referring to FIG. 7, the dowel assembly 122 includes a cylindrical body 124 of plastic having reduced diameter end portions 126. Plastic washers 128 are received on the end portions 126 and are welded to the dowel body 124, and the inner and outer form walls 50 and 98, respectively, have holes 130 and 132 therein of a diameter to snugly receive said end portions. The end portions 126 are inserted into the holes 130 and 132, and the washers 128 are then welded to the sidewalls 50 and 98. The result is a watertight assembly, the dowel assemblies 122 all cooperating to hold the inner and outer forms 10 and 12 in a fixed concentric relationship, and also serving to anchor the forms to the concrete 8. A total of 18 dowel assemblies 122 is shown in the drawings; obviously, more or fewer can be employed, as desired and as are proved necessary for a given size vault.

In use, after the grave 4 has been dug, the concentrically arranged inner and outer forms 10 and 12 are lowered therein, with the bottom wall 26 of the inner form 10 and the bottom edge of the outer form 12 resting on a plurality of parallel, spaced, vertically disposed spacer bars 134. The bars 134 are made of plastic and can be welded to the undersurface of the bottom wall 26, and each has a plurality of large holes 136 therethrough for the flow of concrete. The earth of the grave 4 therethrough provides a form around the periphery of the spacer bars 134.

The forms 10 and 12 can be fabricated and assembled in concentric relationship either at the factory, or at the grave site. Thus, the versatility of the invention is increased.

With the forms 10 and 12 in place, concrete mix is poured into the space therebetween to form the unitary concrete vault body 8. The concrete mix has added thereto a waterproofing compound, such as that known commercially as Berylex, which reacts with the concrete to provide a water-impervious finished product when the concrete has set and cured. Thus, the watertightness of the burial or casket chambers 20, 22 and 24 in the vault is not only assured by the use of the inner and outer plastic forms 10 and 12, but also by the concrete body 8.

Concrete burial vaults have been known to shift their position in the earth over a period of time, often producing an unsightly appearance and requiring expensive repair work to reset them. It has been found that a major cause for this shifting can be the accumulation of ground water under pressure beneath the vault, and the present invention includes means to relieve this pressure and thus alleviate vault shifts from this cause.

Referring again to FIGS. 1-11, the exterior of each of the inner form end walls 32, 46, 70, 34, 48 and 72 has the base leg of an L-shaped plastic bracket 138 welded thereto, the projecting leg 140 of each bracket lying in a horizontal plane, and the brackets 138 on each end of the inner form 10 being in vertical alignment. The bracket legs 140 each have a hole 142 therethrough, the holes 142 at each end of the inner form 10 being in alignment and receiving a pressure relief tube 144. The pressure relief tubes 144 are secured to the brackets 138, and are of a length so that the lower ends 146 thereof extend below the bottom wall 148 of the vault body 8, and so that the upper ends 150 thereof project substantially above the flat top face 152 of the vault body 8.

The pressure relief tubes 144 function to relieve to atmosphere any ground water or other ground pressures that accumulate beneath the vault 2. While the tubes 144 are shown

embedded within the vault body 8 in FIGS. 1—11, they can optionally be located on the exterior of the outer form 12, as will be described in connection with another embodiment of the invention.

After the vault body 8 has been cast in situ and has cured, it is ready for use. A casket is first placed in the lower casket chamber 20, after which said chamber is closed and sealed by a reinforced rectangular plastic sheet 154 of substantial thickness. Secured by welding to the bottom surface of the sheet 154 at spaced intervals are pairs of aligned, boxlike reinforcing ribs 156. The ribs extend transversely of the sheet 154 and each aligned pair has an overall length about the same as the distance measured between the opposed flanges 62. Each rib 156 include a pair of spaced, parallel, right triangular sidewalls 158, the base of the triangle being disposed near the outer edges of the sheet 154, and the hypotenuse tapering to the center of the sheet. The sidewalls 158 are boxed in by a plate 160, the result being that each rib 156 constitutes a structural cantilever-type brace supporting the plastic sheet 154.

The sheet 154 is installed with the peripheral edges thereof resting on the shoulders 56 and 60, said peripheral edges being welded to the shoulders over the entire length thereof. Thus, when the sheet 154 is installed, the casket chamber 20 is completely sealed and watertight, having been rendered watertight first by the inner plastic liner 10 and the plastic sheet 154, and secondly by the waterproofed concrete vault body 8 and, to the extent that it covers the exterior of the vault body 8, by the external plastic form 32.

After sealing of the casket chamber 20, the reinforced plastic sheet 154 functions as a shelf to support a casket within the chamber 22. If the chamber 22 is not to be used immediately, the cover slabs 14, 16 and 18 are installed to close the burial vault 2.

The cover slab 14 is constructed of concrete having reinforcing rods 162 embedded therein, and has a length slightly greater than the distance measured between the exterior of the sidewalls of the outer form 12. The slab 14 has the general cross section of an inverted T, the lower half of the vertical side edges 164 thereof having rectangular flanges 166 formed thereon. Each flange 166 includes a flat horizontal top surface 168 and a flat vertical side surface 170, joined by an angled flat surface 172. The cover slab 14 is secured to the vault body 8 by four bolts 174, the bolts being passed through bores 176 in the slab and being threaded into inserts (not shown) embedded in the top surface 152 of the vault body. The upper end of each bore 176 has a recess 178 to receive the head of the bolt 174, said recess having a height substantially greater than the height of the bolt head, and being sealed by a disk 180 of neoprene or other suitable resilient sealing material pressed therein on top of the bolt head. The cover slab 14 also has two centrally located, threaded inserts 182 embedded therein, into which eyebolts for use in lifting the slab can be threaded.

The end cover slab 16 has a length corresponding to that of the slab 14, and is also constructed of reinforced concrete. It is secured in position by six bolts 184, the head of each bolt being received in a recess 186 closed by a resilient sealing disk 188. The end slab 18 is of like construction, and is secured in place by four bolts 190 having their heads received in recesses 192, the recesses 192 being sealed by resilient disks 193. Both of the cover slabs 16 and 18 have inserts 182 embedded therein to receive a lifting eyebolt E, and each slab has a bore 194 therethrough for reception of the upper end 150 of the pressure relief tube 144, a resilient sealing sleeve 196 of neoprene or some other suitable material being disposed in each of the bores 194 to seal about the relief tubes 144.

The inner face of each end slab 16 and 18 has a rectangular flange 198 thereon, designed to mate with the flanges 166. The flanges 198 include a flat bottom surface or face 200 and a flat vertical surface 202, connected by a flat angled surface 204. Received between each set of flanges 106 and 198, and running the full length thereof, is a Z-shaped resilient seal 206,

the opposite legs of which are engaged and compressed by the flat angled surfaces 172 and 204, and the body of which is engaged and compressed by the flat horizontal surfaces 168 and 200.

For installations of the cover slabs 14, 16 and 18 up until the vault 2 is finally filled and closed, a normal rectangular gasket or seal (not shown) is placed on the surface 152, to complete the sealing of the vault. One of the cover slabs, in the drawings the slab 18, usually has a headstone 208 mounted thereon in a recess 210, although the use of such a stone and its placement is a matter of choice.

When it is desired to place a casket in the second casket chamber 22, the slab covers 14, 16 and 18 are removed, and the casket is lowered to rest on the reinforced sheet 154. Another reinforced sheet 212, having reinforcing ribs 214 on the undersurface thereof, is then rested on and welded to the shoulders 86 and 80, which completely seals the chamber 22. The slabs 14, 16 and 18 can then be replaced until the time for using the upper casket chamber 24 occurs, at which time they are again removed.

After a casket has been placed in the upper casket chamber 24, a plastic sheet 216 is placed on the vault body to rest on the surface 152, said sheet having holes therethrough for passage of the bolts 174, 188 and 190, and the pipes 144. The sheet 216 is welded to the top edge of the inner form 10, which thus seals the chamber 24, and the slab covers 14, 16 and 18 are then replaced, the portion of the sheet 216 lying on the surface 152 serving as a gasket.

It is obvious that a horizontal vault containing nearly any desired plurality of casket chambers can be constructed according to the invention. The inner and outer plastic forms 10 and 12 are locked in place by the spacer assemblies 122, and the screws 42, 66, 120 and 88, and function with the plastic sheets 154, 86 and 216 to make each chamber fully watertight, and totally separate from the other chambers. Thus, a multiple-chamber horizontal vault can be used for one family or for unrelated persons, and with the vertical stacking feature in a single grave site provides efficient use of expensive cemetery land.

The concepts of the invention, however, are also adaptable for in situ construction of a single casket vault, and such is shown at 300 in FIGS. 12—15. The vault 300 is made utilizing inner and outer plastic molds 302 and 304, respectively, the inner mold 302 including planar end walls 306 and planar sidewalls 308 welded at their mating vertical edges, and welded to the upstanding integral flange 310 formed on a plastic bottom wall 312, optional screws 314 being utilized to further connect the flange 310 to its associated walls.

The outer form 304 comprises planar end walls 316 connected by welding to planar sidewalls 318, and has the same height as the inner form. The inner and outer forms 302 and 304 are mounted in concentric relationship by spacer assemblies 320 identical to the assemblies 122, and rest on perforated strips 322 placed on the bottom earth wall 324 of a grave 326. Pressure relief tubes 328, corresponding to the tubes 144, are secured by brackets 330 to the end walls 306, and the space between the inner and outer forms 302 and 304 is filled with concrete, with Berglex or the like added thereto, to form the vault body 332.

After a casket has been placed in the vault body 332, a plastic sheet 334 is placed thereon and welded to the top edges of the inner form walls 308 and 306 to completely seal the casket chamber. The installation is then completed by installing cover slabs 14, 16 and 18, identical to the same slabs shown in FIGS. 1—11.

The present concept can also be employed to construct a vertical multiple-casket burial vault, such being shown at 400 in FIGS. 16 and 17. In said FIGS. an outer, rectangular form 402 is constructed like the outer form 12 from sidewalls 404 and end walls 406, the former having enlargements 408 therein provided with slots 410 to receive the lateral edges of the end walls 406, the entire assembly being welded together. The outer form 402 is placed in a grave 412 to rest on the bot-

tom wall 414 thereof, and a plurality of perforated plastic bars 416 are welded to extend between the form end walls 406.

Disposed to rest on the bars 416 (which correspond to the bars 134 and 322) are three plastic inner forms 418, each comprising a frustoconical body 420 shaped to receive a frustoconical casket therein, and a bottom wall 422, the inner forms 418 being watertight. The spaces between the inner and outer forms 402 and 418 are then filled with concrete containing Berylex, or the like, to form a concrete vault body 423.

The three casket chambers are individually closed by rectangular concrete slab covers 424, 426 and 428, secured by bolts 430 threaded into inserts embedded in the top surface 432 of the vault body 423, the bolt heads being received in recesses 434 closed by resilient disks 436. Each cover has a headstone 438 mounted thereon, and has inserts 440 embedded therein to receive a lifting eyebolt.

After a casket has been placed in one of the casket chambers, a rectangular plastic sheet 442 is placed over the mouth of the inner form 418 and welded thereto, and the appropriate cover 424, 426 or 428 is then installed. Again, the result is a watertight, plastic-lined casket chamber. When all the covers 424, 426 and 428 are installed, the joints therebetween are filled with mortar 443.

It was mentioned hereinabove that the pressure relief tube of the invention could be embedded in the vault body, or that it could be secured to the outer form. In FIGS. 16 and 17 the latter construction is shown, and pressure relief tubes 444 are welded to the exterior surfaces of the end walls 406.

While the inner and outer plastic forms of FIGS. 1-14, and the outer form of FIGS. 16 and 17 have been shown as being made up from separate pieces, which makes for ease of transport, it would also be possible to mold them as one-piece units. Alternatively, the walls defining each casket chamber could be molded in one piece as subunits, and these could then be secured together to form a vault of any desired height. All of these constructions for the forms are within the concept of the invention.

Obviously, many other modifications and variations of the present invention are possible.

I claim:

1. A waterproof burial vault constructed in situ, comprising: at least one watertight inner plastic form having a bottom wall and open at the top; an outer plastic form of larger size than said inner plastic form and disposed in spaced relationship thereabout, said inner and outer plastic forms being adapted to be placed within a dug grave; a plurality of spacer bars beneath at least said inner form for supporting the same in an elevated position above the bottom of said grave, said spacer bars having openings therein for the flow of wet concrete around said bars, and the upper edges of said inner and outer plastic forms being spaced so that concrete can be poured between said forms; a unitary concrete vault body cast in situ between said inner and outer forms and including a bottom wall within which said spacer bars are embedded, whereby said forms and said concrete vault body constitute a unified burial vault body open at the top, said inner form defining at least one casket receiving chamber; a sheet of plastic adapted to be secured in a watertight manner to the upper edge of each said inner plastic form completely around the periphery thereof to seal said chamber; and cover means placed on said concrete vault body to complete said burial vault.

2. A waterproof burial vault as recited in claim 1, wherein the concrete of said vault body contains a waterproofing compound to render the same impervious to the passage of water.

3. A waterproof burial vault as recited in claim 1, including a plurality of separate inner forms arranged in side-by-side spaced relationship, each inner form defining a single casket receiving chamber and resting on a plurality of said spacer bars, and said cover means including a separate cover for each casket chamber.

4. A waterproof burial vault as recited in claim 1, wherein said outer form comprises: a pair of end walls and a pair of sidewalls, one of said pair of sidewalls and end walls being

planar, and the other thereof having groove defining means on the vertical edges thereof, the vertical edges of said planar walls being received within said grooves and being secured in a watertight manner to said other walls.

5. A waterproof burial vault as recited in claim 1, including at least one pressure relief tube mounted to extend from beneath said vault body bottom wall to the top of said burial vault, said relief tube being open at both ends for relieving pressure accumulations beneath and outside of said burial vault.

6. A waterproof burial vault as recited in claim 5, wherein said pressure relief tube is embedded within said concrete vault body.

7. A waterproof burial vault as recited in claim 5, wherein said pressure relief tube is secured to the exterior of said outer plastic form.

8. A waterproof burial vault as recited in claim 1, wherein the top surface of said unified burial vault body is planar, and wherein said surface has a plurality of spaced inserts embedded therein, said cover means including; at least two cover slabs disposed to rest side by side on said planar vault body top surface, the confronting sides of said slabs having overlapped flanges thereon, and said slabs having bores therethrough aligned with said embedded inserts; a resilient Z-shaped seal disposed between said overlapped flanges; seal means between said slabs and the top planar surface of said vault body; and a plurality of bolts received in said bores and threaded into said embedded inserts for securing said cover slabs in place.

9. A waterproof burial vault as recited in claim 8, wherein said bores are recessed to receive the heads of said bolts, said recesses having a depth substantially greater than the height of said bolt heads; and further including disks of resilient material received within said recesses on top of said bolt heads, said disks sealing said bores against the passage of liquid.

10. A waterproof burial vault as recited in claim 8, wherein said sheet of plastic secured to the open end of said inner plastic form extends outwardly over said top planar surface of said vault body, said outwardly extending portion of said sheet serving as said seal means between said cover slabs and the vault body.

11. A waterproof burial vault as recited in claim 1, wherein in addition to said bottom wall said inner form includes a pair of end walls and a pair of sidewalls, and wherein said outer form includes a pair of end walls and a pair of sidewalls, said burial vault further including; a plurality of spacer means interconnecting walls of said outer form with their confronting inner form walls, said spacer means serving both to hold said inner and outer forms in concentric relationship during the pouring of said concrete vault body, and to anchor said inner and outer forms to said vault body.

12. A waterproof burial vault as recited in claim 11, wherein each of said spacer means comprises: an elongated body disposed between said inner and outer forms and having a reduced diameter portion on each end thereof; and a washer received on each reduced diameter end portion and secured to said elongated body, the reduced diameter end portions of said body being received in confronting openings in the opposed walls of said inner and outer forms, and said washers abutting against and being secured to said opposed walls.

13. A waterproof burial vault as recited in claim 11, wherein said inner form contains a plurality of casket-receiving chambers disposed vertically one above another, said sidewalls and said end walls of said inner form having inwardly extending shoulder means thereon at the juncture of each chamber with the chamber thereabove, and said burial vault further including; a reinforced sheet of plastic disposed to rest on each said shoulder means and adapted to be sealed in a watertight manner to the sidewalls and the end walls of said inner form for sealing the casket chamber therebelow, each said reinforced sheet further serving as a shelf to support a casket received in the casket chamber immediately thereabove.

14. A waterproof burial vault as recited in claim 13, wherein each said shoulder means is continuous and presents a planar upper surface for receiving and supporting the edges of said reinforced sheet.

35. A waterproof burial vault as recited in claim 13, wherein said reinforced sheet comprises: a planar sheet of plastic of substantial thickness; and a plurality of pairs of aligned cantilever type boxed beams secured to the undersurface of said planar sheet.

16. A waterproof burial vault as recited in claim 13, wherein said inner form comprises: a rectangular bottom wall having an upstanding flange extending about the periphery thereof; a pair of planar end walls and a pair of planar sidewalls defining the lowermost of said casket chambers, the vertical edges of said planar sidewalls and end walls being secured together in a watertight manner, and the bottom edges of said planar sidewalls and end walls being secured in a watertight manner to said upstanding flange; and a pair of sidewalls and end walls for each upper casket chamber, the vertical edges of said upper chamber side and end walls being secured together in a watertight manner, the top ends of said upper chamber side and end walls being planar, and the bottom edges of said upper chamber side and end walls having inwardly and downwardly extending flanges thereon, the upper surfaces of said flanges defining said shoulder means, and said flanges being received within and secured in a watertight manner to the end walls and sidewalls defining the casket chamber therebelow.

17. A waterproof burial vault as recited in claim 16, further including a plurality of elongated fasteners extending through

said upstanding flange and said downwardly extending flanges, and projecting substantially beyond the outer surface of said inner form, the extending portions of said fasteners being embedded in said concrete vault body to further secure said inner form thereto.

18. The method for constructing in situ a waterproof burial vault, comprising the steps of: excavating a grave in the earth to a depth so that the bottom thereof lie at the level at which the bottom of the vault is to be positioned; positioning within said grave an outer plastic form having disposed therewithin at least one inner plastic form of watertight construction having a bottom wall and being open at the top, said inner plastic form defining at least one casket receiving chamber and being spaced from said inner form, said inner and outer forms being held above the bottom of said grave by spacer means disposed therebetween, and the top edge of said inner and outer forms being spaced for pouring concrete therebetween; pouring concrete mix into the space defined between said inner and outer plastic forms, and between said forms and the walls of said grave at the bottom thereof; curing said concrete with said plastic forms in place, whereby to produce a unified vault body containing at least one waterproof casket receiving chamber; securing a plastic sheet across the open upper end of said inner plastic form in a watertight manner; and mounting cover means to the upper end of said vault body, over said plastic sheet.

19. The method as recited in claim 18, including additionally adding a waterproofing compound to said concrete mix before the pouring thereof.

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