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BURIAL VAULT

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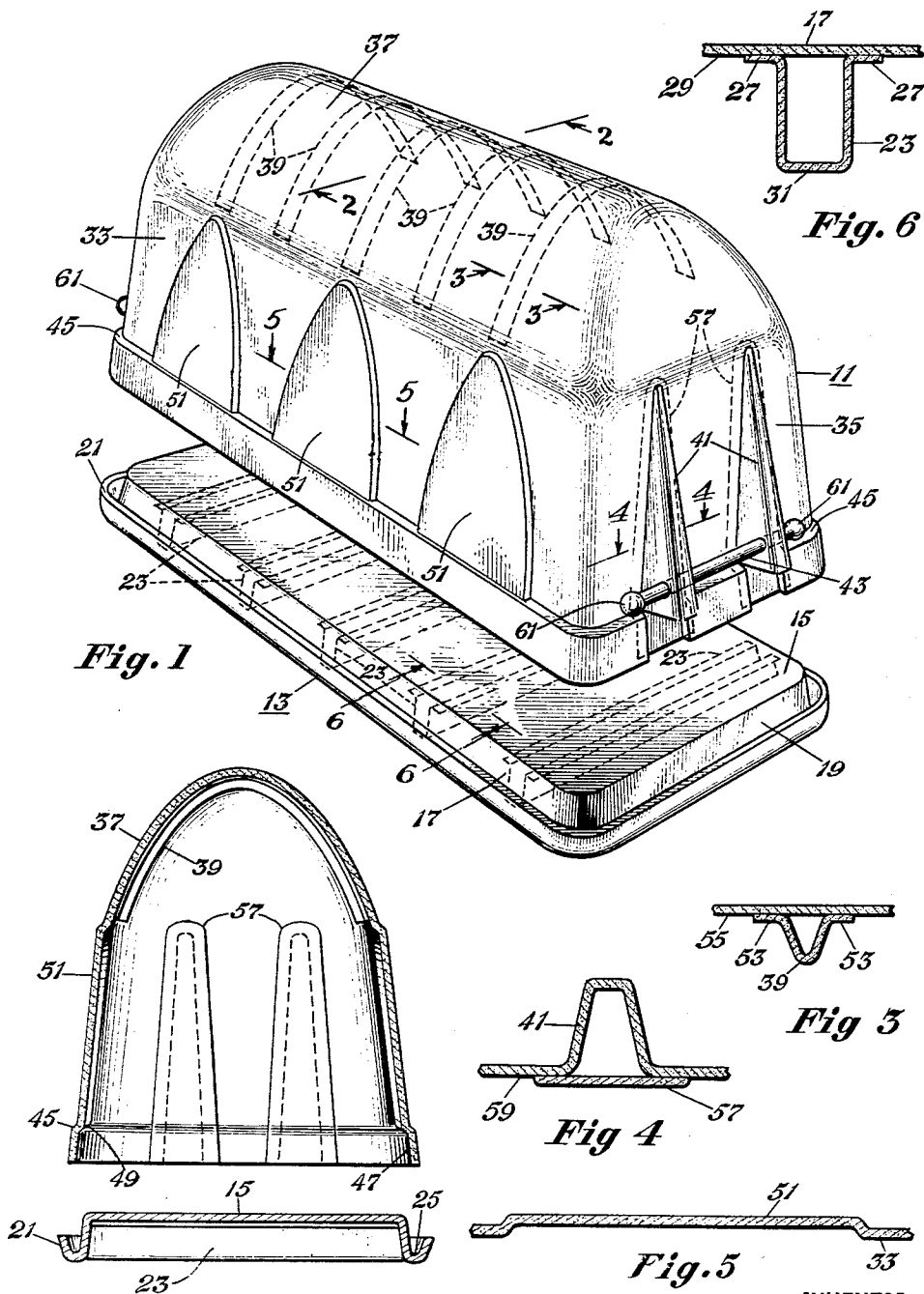


Fig. 1

Fig. 2

Fig. 6

Fig. 3

Fig. 4

Fig. 5

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BURIAL VAULT

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My invention relates to burial vaults, and more particularly to light weight burial vaults of novel and improved structure, and having features not heretofore known in the art.

In accordance with the prior art which I am aware, burial vaults are commonly made of concrete or heavy metal structure. Such vaults are very heavy and difficult to handle, and are subject to rather serious deterioration with time. Concrete vaults are difficult to waterproof, and metal vaults are quite expensive. While some attempts have been made to construct vaults out of lighter weight materials, such as wood and plastic combinations, and in some cases, plastic alone, these have not proved satisfactory, either because of high costs due to complexity of the required manufacturing procedures, or because of failure to meet minimum structural strength requirements.

It is accordingly a general object of my invention to provide an improved light weight burial vault.

Another object of my invention is to provide a light weight burial vault which is economical to manufacture and which fully meets requirements as to structural strength.

Another object of my invention is to provide a light weight burial vault which is fully waterproofed and which is not subject to objectionable deterioration with time.

Another object of my invention is to provide a light weight burial vault which can be readily sealed at grave side before lowering, and wherein the sealing of the grave requires only one lift operation.

Another object of my invention is to provide a light weight burial vault which requires no sealing hardware.

Another object of my invention is to provide a light weight burial vault which will nest for convenient shipping in quantity.

Another object of my invention is to provide a light weight burial vault of novel structure.

These and other objects are effected by my invention as will be apparent from the following description taken in accordance with the accompanying drawing, forming a part of this application, in which:

Fig. 1 is a schematic perspective view showing the burial vault of my invention with the base separated from the cover;

Fig. 2 is a section view taken at lines 2-2 of Fig. 1; and

Figs. 3, 4, 5, and 6 are detail section views taken respectively at lines 3-3, 4-4, 5-5, and 6-6, of Fig. 1.

The burial vault shown in the drawings is made up of two main elements, namely a body or cover 11 and a base 13. The entire burial vault, with the exception of the carrying handles, is made of fibreglass reinforced polyester resin. The base 13 is a rectangular in horizontal cross section, with rounded corners. The base comprises a platform 15, side walls 17, end walls 19, an upturned peripheral flange 21, and transverse brace members 23. The base platform 15 is suitably dimensioned to receive the casket (not shown) which is to be

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housed in the vault. The base side walls 17 and the end walls 19 depend from the platform 15 and diverge outwardly therefrom at a small angle, for example about 5 degrees. The peripheral flange 21 is integral with the bottoms of the base side and end walls 17, 19 and extends upwardly and outwardly therefrom at a small angle. The flange 21, together with the base walls 17, 19 forms a trough 25 having a curved bottom and extending continuously around the base 13. The upper extent of the flange 21 is made approximately half the base height. Each brace member 23 aforementioned, has a transverse cross section in the form of a flat-bottomed U, with a pair of side flaps 27 extending outwardly from the upper ends of the U parallel to the bottom thereof. The brace members 23 are located mutually parallel at spaced intervals on the under side of the platform 15 perpendicular to the longitudinal axis thereof. The side flaps 27 of each brace member are integrally bonded to the platform underside 29, and the ends are shaped to conform to the inner surfaces of the base sidewalls 17 and are integrally bonded thereto. The bottoms 31 of the brace members 23 and the bottom of the flange 21 all lie substantially in a common plane, so that they all act as bearing surfaces for the base 13.

The burial vault body or cover 11 comprises side walls 33, end walls 35, a top 37, top ribs or stiffeners 39, handle supports 41, and carrying handles 43. The cover 11 is generally rectangular shaped in horizontal cross section, with rounded corners. The top 37 is arched in transverse cross section, as shown by Figs. 1 and 2, and is sloped at the ends as shown by Fig. 1. The lower extremity of the top 37 merges with the top portions of the cover side and end walls 33, 35 which depend therefrom and extend outwardly at a small angle. The lower portions of the side and end walls 33, 35 are provided with an outwardly extending offset 45 which extends continuously around the cover periphery except at the handle supports 41. The inner wall 47 of the offset just mentioned mates with the base side and end walls 17, 19, the offset being at a level such that its inner shoulder 49 bears on the edge of the base platform 13 and the cover bottom bears on the floor of the base trough 25 when the cover 11 is positioned on the base 13. The cover side walls 33 are provided with a plurality of offset portions 51, preferably three for each side wall, in the form of arches. Each cover side wall arch 51 is disposed with its base on a line with the top surface of said outwardly extending peripheral cover offset 45 aforementioned. The peak of each said arch 51 terminates at a respective point just below the upper extremity of a respective cover side wall 33. The arches 51 are symmetrically disposed along the respective side wall length. The outward extent of the arch offset 51 is preferably made approximately half that of the peripheral offset 45. Each rib, or stiffener, 39, has a transverse cross section generally in the form of a V, with a pair of side flaps 53 extending outwardly from the upper ends of the V perpendicular to a bisector of the V. The ribs 39 are arched to conform to the contour of the inner surface 55 of the cover top 37, and are symmetrically disposed mutually parallel at spaced intervals transverse to the long dimension of the cover top 37. Preferably, there is a rib 39 centered above each cover side wall arch 51. The lower extremities of each rib 39 terminate at the respective point just above the upper extremity of a respective cover side wall 33. The side flaps 53 of each rib are integrally bonded to the inner surface 55 of the cover top 37. There is a pair of handle supports 41 spaced apart and symmetrically disposed and extending outwardly from each cover end wall 35. Each handle support 41 has a transverse cross section in the form of a flat-bottomed V as shown by Fig. 4. Each handle support is disposed so

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that a longitudinal bisector plane is perpendicular to the bottom edge of the cover 11. The size of the handle support transverse cross section diminishes from bottom to top, so that the top of the handle support 41 merges with the cover end wall 35 adjacent its upper extremity. The lower end of each handle support 41 terminates at the level of the ledge formed by the cover peripheral offset 45. As will be hereinafter more fully explained, the handle supports 41 are formed as an integral part of the cover 11, and the lower end portions then cut off at the level above mentioned. This operation leaves a V-shaped slot in the respective cover end wall, which is completely covered by an overlay piece 57 which is integrally bonded to the inner surface 59 of the end wall and extends down to the level of the respective end wall lower edge. A carrying handle 43, shown as a bar or rod, with a removable decorative ball 61 on each end, extends through holes in the lower end portion of each pair of handle supports 41 parallel to the respective end wall lower edge.

In construction of the burial vault of my invention, the base 13 less the transverse brace members 23 is all made in one piece, and the cover 11 less the ribs 39, overlay pieces 57, and carrying handles 43 is all made in one piece. In construction of the base 13, a form is used which is built to have the same contour as the finished base, except in reverse.

A parting film is first sprayed onto the form; then the desired exterior finish, for example paint, is applied to the film; then a layer of polyester resin is applied onto the finish; then a layer of fibreglass cloth is applied to the first layer of polyester resin; then a second layer of polyester resin is applied to the cloth; then the structure is built up to the desired thickness by applying layers of fibreglass mat and polyester resin in alternation; then a layer of fibreglass cloth is applied to the last exposed layer of polyester resin; and then a final layer of polyester resin is applied to the cloth layer last mentioned.

The actual process of building up a structure of fibreglass reinforced polyester resin is well known in the art and is therefore not set forth in detail herein. The transverse brace members 23 are built up on a separate form and are fixed to the base proper before it has been removed from its form, in the positions heretofore described. In order to fix one structure of fibreglass reinforced polyester resin to another, it is only necessary to apply an activated coating of polyester resin to the parts and then join them, and they become integrally fixed one to the other when the activated resin sets. In construction of the cover 11, a form is used which is built to have the same contour as the finished cover, except in reverse. A parting film is first applied onto the form, the desired exterior finish is applied to the film, and then the cover is built up to the desired thickness in the same manner as described above in connection with the base construction. After the cover is removed from its form, the handle supports 41, which originally extend all the way down to the cover end wall bottom edge, are cut off at approximately the level of the top of the peripheral offset 45, so that they will clear the base flange 21 when the cover 11 is placed on the base 13. This operation of course leaves an open slot in the end wall 35 at each support location. In order to effect vault sealing, these slots are covered completely with previously prepared overlay pieces 57 which are applied to the inside surface 59 of the end wall 35 before the cover is removed from its form. A hole is cut in each handle support 41 at its lower end portion at a common level and transversely of the respective support. A carrying handle 43 is received by each pair of said holes in the manner hereinbefore stated. The ribs 39 are built up on a separate form and are fixed to the inside surface 55 of the cover top 37 before the cover 11 has been removed from its form, in the positions heretofore described. It should be mentioned that generally, the forms should have a minimum

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of about 5 degrees of inward taper in the direction of part separation to facilitate removal of the part from the form.

Use of the burial vault of my invention simplifies grave side procedures because the base can be placed on the conventional casket lowering mechanism, then the casket on the base for the usual graveside services, after which the cover is placed on the base before lowering, and the vault is sealed by simply placing activated polyester resin in the base trough. The sealed vault is then lowered into the grave by the conventional casket lowering mechanism, dispensing with the requirement for a separate special hoist that would be needed in the case of a concrete or heavy metal vault.

Another advantage of the burial vault of my invention is that it is light in weight, and the covers can be nested for shipment, thus saving on shipping costs in general, and also making quantity air shipment feasible. The construction of the burial vault of my invention also makes it economically feasible to stockpile quantities of them for possible use in disaster areas, in which case they could be easily and quickly transported to the disaster area and if desired, could be used as casket and burial vault combined.

The burial vault of my invention not only is strong, impervious to moisture, not subject to objectionable deterioration with time, and requires no sealing hardware, but also is attractive, and is relatively economical to manufacture.

While I have shown my invention in only one form, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various changes and modifications without departing from the spirit thereof.

I claim:

1. A burial vault comprising, a base including a platform, side and end walls depending from said platform and integral therewith, a peripheral flange extending all around said base and integral at its bottom with the bottoms of said walls, said flange and the lower portions of said walls together forming a peripheral trough, and reinforcing means fixed to said platform and said walls; a cover comprising a top, side and end walls integral with said top and depending therefrom, a peripheral offset at the lower portions of said side and end walls and extending outwardly therefrom, with the inner surface of said offset matching the contour of the outer surface of said base side and end walls, with the inner shoulder of said offset adapted to bear on said platform and the lower edge of said offset bearing on the bottom of said trough when said cover is in place on said base, a plurality of second outwardly extending offsets in each said cover side wall, each said last mentioned offset extending to a level adjacent the side wall upper extent and merging at its bottom with said peripheral offset, portions of said cover end walls being formed to provide outwardly extending protrusions adapted to serve as handle supports, an overlay piece made of fibreglass and fixed integrally to the inside surface of said respective end wall for each said protrusion, said overlay piece completely covering the opening in said end wall surface caused by the forming of the respective protrusion, with each said overlay piece extending down to the level of the lower edge of said respective end wall, said cover, said base, and said reinforcing means being made of fibreglass reinforced polyester resin.

2. The invention in accordance with claim 1, wherein there is a pair of said handle support protrusions formed in each end wall, with the protrusions of each pair extending mutually parallel and spaced and perpendicular to the bottom edge of said cover, each said protrusion having a transverse cross section in the form of a flat bottomed V with said cross section diminishing in size in the direction from bottom to top and merging at its top with said respective end wall adjacent the upper extent thereof, the lower edge of said protrusion ter-

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minating adjacent the level of the upper edge of said peripheral offset.

3. A burial vault comprising, a base including a platform, side and end walls depending from said platform and integral therewith, a peripheral flange extending all around said base and integral at its bottom with the bottoms of said walls, said flange and the lower portions of said walls together forming a peripheral trough, and reinforcing means fixed to said platform and said walls, said reinforcing means including a plurality of support members made of fiberglass reinforced polyester resin and each having a generally flat-bottomed U-shaped transverse cross section with a pair of side flaps extending outwardly from the top edges of said U, said members being disposed mutually parallel at spaced intervals transversely of the long dimension of said base, with said flaps integrally joined to the inner surface of said base platform and their ends conforming in contour and integrally joined through a respective base sidewall, the bottoms of said members lying in a common plane, which includes the bottom surface of said base trough; a cover comprising a top, side, and end walls integral with said top and depending therefrom, a peripheral offset at the lower portions of said side and end walls and extending outwardly therefrom, with the inner surface of said offset matching the contour of the outer surface of said

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base, side, and end walls, with the inner shoulder of said offset adapted to bear on said platform and the lower edge of said offset being on the bottom of said trough when said cover is in place on said base, a plurality of second outwardly extending offsets in each said cover sidewall each said last-mentioned offset extending to a level adjacent the sidewall upper extent and merging at its bottom with said peripheral offset; said cover and said base being made of fiberglass reinforced polyester resin.

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