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M. C. GREEN

3,460,705

STORAGE CONTAINER MEANS

Filed May 27, 1968

2 Sheets-Sheet 1

FIG. 1

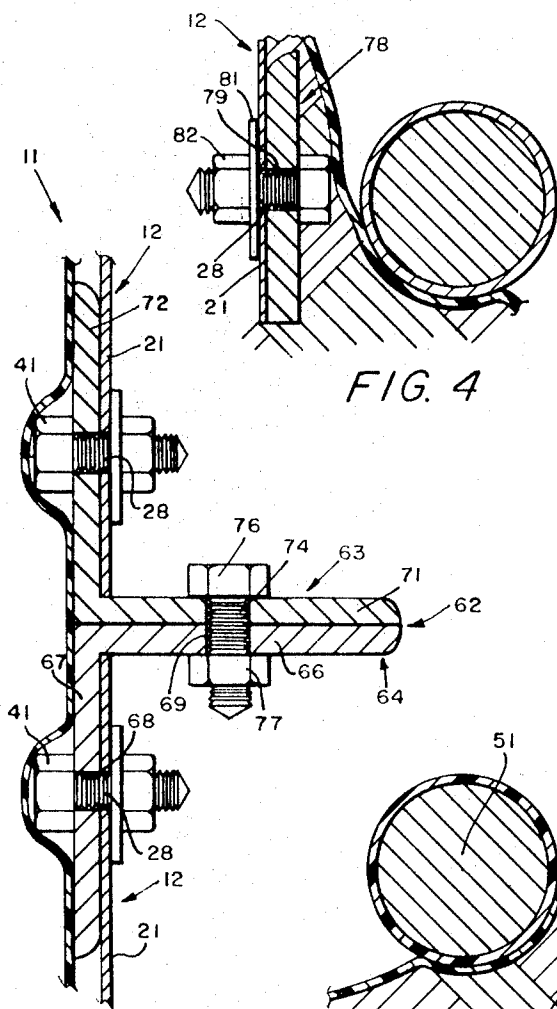
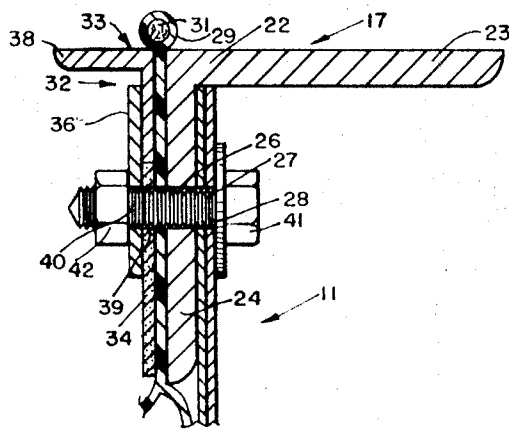
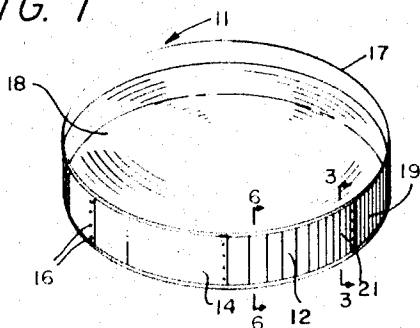
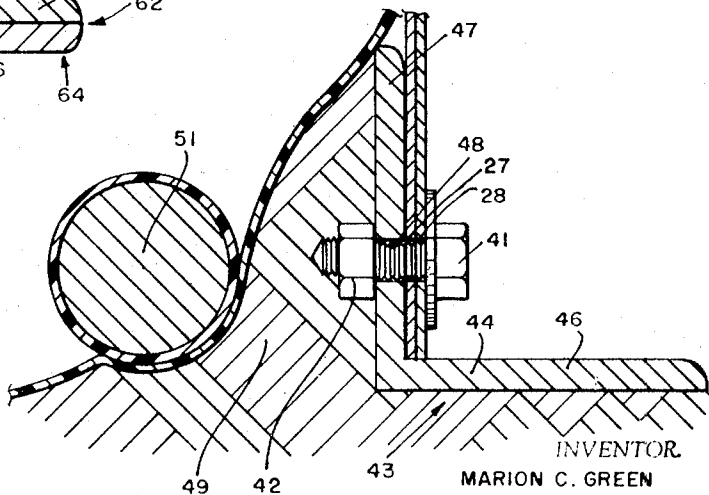


FIG. 4

FIG. 2



INVENTOR
MARION C. GREEN

BY

John H. Widdowson

ATTORNEYS

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M. C. GREEN

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FIG. 5

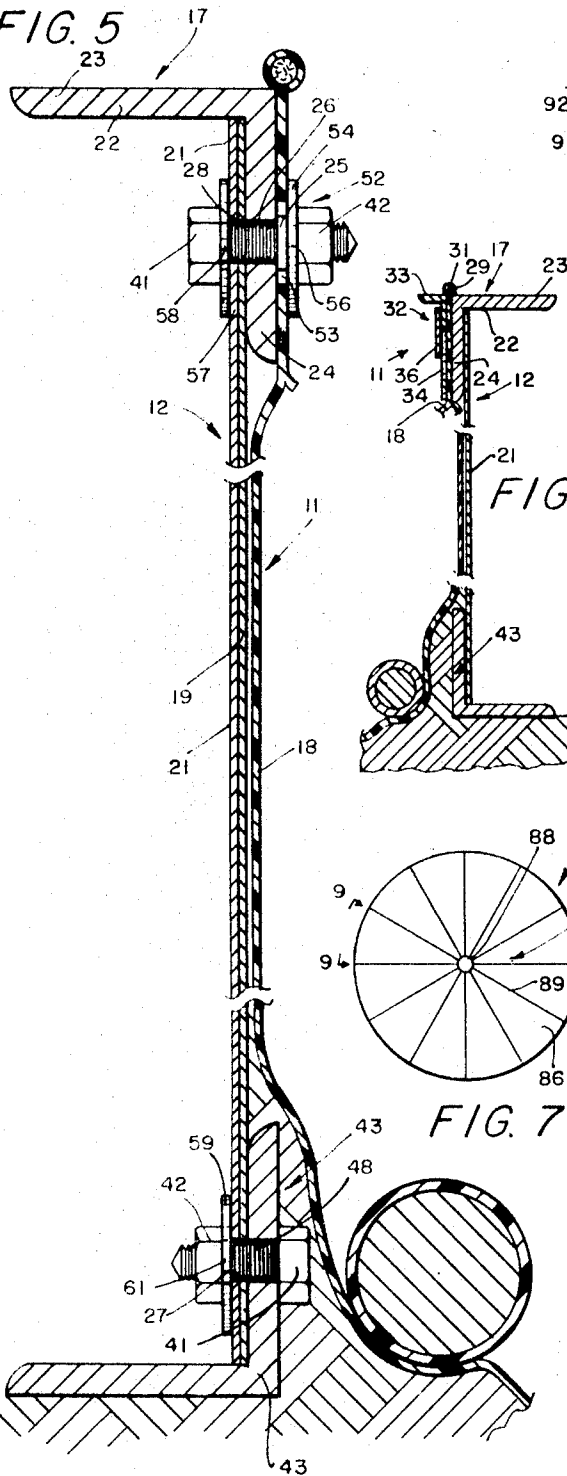


FIG. 8

FIG. 6

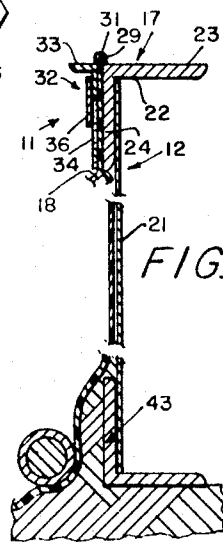


FIG. 7

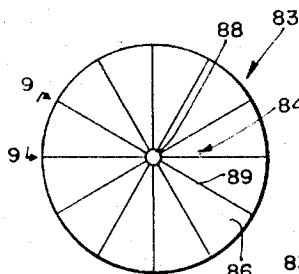
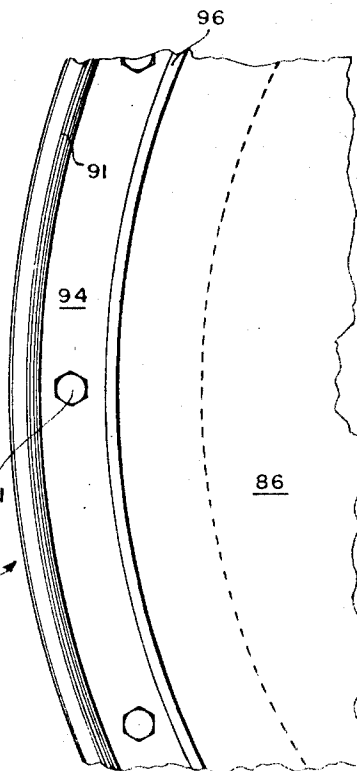


FIG. 9



INVENTOR.

MARION C. GREEN

BY

John H. Widdowson

ATTORNEYS

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3,460,705

STORAGE CONTAINER MEANS
Marion C. Green, 1005 Wichita Plaza Bldg.,
Wichita, Kans. 67202

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14 Claims

ABSTRACT OF THE DISCLOSURE

A self-reinforcing storage container means is provided which is capable of being dismantled and erected a number of times without damage to the container means. The container means is provided with an outer shell formed of a plurality of panel members. A rail means, a flexible liquid impervious liner member, and a securing means are detachably connected to the upwardly extending end portion of the shell. An endless conduit is provided within the upwardly extending portion of the liner means and the conduit has a cable member positioned therein. Thus, the conduit member and cable member cooperate with the rail means and the securing means to prevent slippage of the liner member when fluids or other materials are placed within the liner member and thus the storage container means. Further, a cover means is provided which prevents water, dirt, and the like from contaminating the materials positioned within the storage container means.

This invention relates to a storage container means. In one aspect it relates to a self-reinforcing storage container means. In another aspect it relates to a self reinforcing storage container means which is capable of being dismantled and erected a number of times without damage to the container means. In another aspect it relates to a self reinforcing container means having an outer shell formed of a plurality of panel members and having a one-piece liquid impervious liner member detachably connected thereto so that said liner member remains in the desired position. In another aspect it relates to a self reinforcing storage container means adapted to contain materials above a supporting surface.

In the past it has been known to provide containers which are adapted to be positioned above a supporting surface. Many of the various types of storage structures are adapted to be erected from prefabricated parts normally purchased in packages or kits. Such structures, however, are usually complicated structures which have numerous parts that require special tools for assembling. Further, the devices of the prior art are such that once the structure is erected it is impossible to dismantle the structure and move it to another location for reuse without damaging and/or destroying many of the parts of the structure. Further, the structures of the prior art require extraneous reinforcing materials in order to prevent the lateral pressure created by the products stored within the container from forcing the sides of the container apart and allowing the liner member to penetrate into the separation thus formed thereby damaging the liner member due to sharp edges and the like of the shell of the container means. Thus, means are constantly being sought wherein a container means is provided which can be readily assembled and dismantled a number of times without damage to the container or the liner member and yet which is constructed and designed to withstand the lateral pressure created on the sidewalls of the container by the material stored therein. Furthermore, the devices of the prior art have employed complicated means in order to maintain the liner member within the shell member of the container means and thus prevent slippage of the same. However, the means of the prior art many times require

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the lapping over of the upward portion of the liner member over a structural material. Thus, upon the insertion of the material or product to be stored in the storage container, the weight created by the material or product causes the liner member to be torn at the upward portion thus allowing the liner member to slip within the vessel.

Accordingly, it is an object of this invention to provide a novel storage container means which is particularly adapted to contain materials above a supporting surface.

Another object of this invention is to provide the storage container means which is self-reinforcing and does not require the necessity of extraneous, expensive, bulky supporting structures.

Another object of this invention is to provide a storage container means which is capable of being erected and dismantled a number of times without damage to the components of the storage structure, and which, when dismantled, can be readily transported from one location to another.

Another object of this invention is to provide a novel liner member to be positioned within the shell member of the storage container means wherein the liner member is prevented from slipping within the shell member as material is placed therein, and yet, which greatly reduces the possibility of damage to the liner member due to the weight of the material itself.

Another object of this invention is to provide a novel storage container means having a cover means mountable thereon to prevent contamination of the materials stored therein.

A further object of this invention is to provide a storage container means which may be economically manufactured, is relatively simple in construction, and which has a long service life.

Various other objects, advantages, and features of the invention will become apparent to those skilled in the art from a reading of the written disclosure, the appended claims, and the drawings.

According to the present invention a self reinforcing storage container means is provided which is capable of being dismantled and erected a number of times without damage to the container or its components.

Further according to the invention a self reinforcing storage container means is provided having an outer shell formed of a plurality of panel members positioned so as to overlap each other thus providing a desired self reinforcing feature.

Further according to the invention a self reinforcing storage container means is provided having a flexible, impervious liner member positioned within the interior of the outer shell of said container means and detachably secured thereto in its upwardly extending end portion thus preventing slippage of the liner member within the shell member as material is placed within the liner member and thus the shell member.

Further according to the invention a novel flexible fluid impervious liner member is provided having an endless conduit within the upward extending portion of the liner member and the conduit is provided with a cable means positioned therein. Thus, the conduit member and the cable means cooperate to secure the liner member within the shell member without the necessity of folding the liner member over edges and the like of the shell member thus preventing the likelihood of tearing and ripping of the liner member due to the edge portion of the shell member.

Further according to the invention a cover means is provided which is detachably connected to the upward portion of the shell member of said self reinforcing stor-

age container means thus preventing contamination of the materials stored therein due to rain, dirt and the like.

Further according to the invention, a self reinforcing storage container means is provided having outer shell members which can readily be stacked on top of each other and secured thereto thus greatly enlarging the storage area contained therein without the necessity of requiring large amounts of surface space in order to store the same.

Drawings accompany and are a part of this disclosure. These drawings depict preferred specific embodiments of the storage container means of the invention, and it is to be understood that these drawings are not to unduly limit the scope of the invention. In the drawings:

FIG. 1 is a perspective view of an embodiment of the storage container means of the invention;

FIG. 2 is an enlarged cross sectional view depicting the means for positioning the shell members of the storage container means of the present invention on top of each other and securing the same together in order to enlarge the total volume of storage space without the necessity of utilizing more surface space;

FIG. 3 is an enlarged cross sectional view of the storage container means of the present invention depicting the self reinforcing feature taken along the line 3—3 of FIG. 1;

FIG. 4 is an enlarged cross sectional view of the storage container means of the present invention depicting one embodiment of the lower extending portion of the shell member to facilitate the stabilization of the storage container means on a supporting surface;

FIG. 5 is a partially broken enlarged cross sectional view of the storage container means of the present invention, depicting a second embodiment of means for detachably securing the liner member within the shell means;

FIG. 6 is a partially broken enlarged cross sectional view of the storage container means taken along the line 6—6 of FIG. 1;

FIG. 7 is a plan view of the cover means of the present invention as viewed from the interior of the storage container means depicting the supporting structures from maintaining the cover means above the surface of the materials stored within the container;

FIG. 8 is a partially broken enlarged cross sectional view of the storage container means of the present invention depicting a novel cover means mounted thereon taken along the line 6—6 of FIG. 6;

FIG. 9 is a partially broken top plan view of the cover means positioned on the storage container means.

In the following is a discussion and description of the invention made with reference to the drawings whereupon the same reference numerals are used to indicate the same or similar parts and/or structures. The discussion and description is of preferred specific embodiments of the new storage container means of the invention, and it is to be understood that the discussion and description is not to unduly limit the scope of the invention.

Referring now to the drawings and particularly to FIG. 1 a storage container means, generally indicated by 11, is depicted having an endless shell member 12. Shell member 12 is formed of a plurality of panel members such as panel members 19 and 21, which are positioned so as to overlap each other a sufficient distance. Each of the panel members are provided with enlarged apertures on their side portions which are aligned so that securing means, such as bolt members 16 can be inserted to secure the panel members of shell member 12 together thus increasing the structural strength of storage container means 11. Rail means 17 is detachably connected in the upper inner end portion of the panel members of shell member 12, and rail means 17 is adapted to conform to the shape of shell member 12, while, at the same time, stabilizing the upwardly extending end portions of the panel members. A flexible, fluid impervious liner member 18 is positioned within shell member 12 and adapted to sub-

stantially conform to the shape of shell member 12. Liner member 18 will be discussed in detail hereinafter.

Referring now to FIGS. 3 and 6, container means 11 is illustrated in cross section to further illustrate the present invention. Storage container means 11 is provided with shell member 12 which is formed of a plurality of panel members, such as panel members 19 and 21. Panel members 19 and 21 are positioned so as to overlap each other for a distance of from about 2 to 4 inches, and panel members 19 and 21 are provided with a plurality of oversized apertures in their adjacent side portions so that the oversized apertures can be aligned and a locking member, such as bolt and nut member 16, can be positioned therein thus securing panel members 19 and 21 together. It has been found that by overlapping the panel members of shell member 12 that the panel members are self reinforcing thus eliminating the necessity of extraneous reinforcing material. Further, by overlapping the panel members of shell member 12 the lateral force created on the panel members by the product stored within container means 11 does not cause the panel members to be separated and thus does not produce an opening into which liner member 18 can be forced and thus damage.

Rail means 17 is detachably connected in the upper inner end portion of panel members 19 and 21. Rail means 17 is preferably formed of a plurality of substantially L-shaped members, such as L-shaped member 22, which are secured to the upwardly extending end portion of shell member 12. L-shaped member 22 is provided with a curvature which conforms to the curvature of shell member 12. L-shaped member 22 can be detachably connected to another of the L-shaped members by any suitable means, such as bolting, clamping, and the like. Since the L-shaped members of rail means 17 are substantially identical to L-shaped member 22, only L-shaped member 22 will be discussed and referred to for the sake of simplicity.

Substantially L-shaped member 22 is provided with an outwardly extending flange portion 23 and downwardly extending leg portion 24. Flange portion 23 is adapted to extend over the upper end portion of the panel members, such as panel members 19 and 21 in FIG. 3 or panel member 21 of FIG. 6, of shell member 12 in order to prevent liner member 18 from contacting the sharp edges of the panel members. Downwardly extending leg portion 24 of L-shaped member 22 is provided with a threaded aperture 26 therethrough which is aligned with oversized apertures 27 and 28 positioned within the upwardly extending portion of panel members 19 and 21, respectively, of shell member 12. Flexible, fluid impervious liner member 18 is positioned within shell member 12 and adapted to substantially conform to the shape of shell member 12 of container means 11. Liner member 18 is likewise provided with enlarged apertures 25 which are aligned with apertures 27 and 28 of panel members 19 and 21 and threaded aperture 26 of downwardly extending leg portion 24 of L-shaped member 22.

Flexible, fluid impervious liner member 18 is a continuous member around the sides and bottom portion of shell member 12. The upper portion of liner member 18 is provided with endless conduit means 29 positioned on the upwardly extending end portion. Endless conduit means 29 is formed by doubling over or hemming the upper portion of liner member 18 and sealing the doubled over or hemmed portion by any suitable means which are well known in the art thus forming the conduit through the upper end portion of liner member 18. A cable member 31 is positioned within endless conduit member 29 thus preventing the flattening of endless conduit member 29 and thus providing a rib or enlarged portion on the upwardly extending end portion of flexible, fluid impervious liner member 18. Securing means 32 is positioned adjacent the interior surface of liner member 18 and below endless conduit member 29. Securing means 32 is detachably connected to rail means 17 and shell member

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12 thereby securing liner member 18 in its desired position.

Securing means 32 is provided with an anchor means, such as substantially L-shaped liner anchor member 33, a gasket means, such as gasket member 34, and a support means, such as clip member 36. Anchor member 33 is provided with a downwardly extending leg portion 37 which is provided with a curvature which conforms to the interior surface curvature of downwardly extending leg portion 24 of rail means 17, and thus to shell member 12. Anchor member 33 is also provided with flange portion 38 which extends inwardly towards the center portion of shell member 12. Flange portion 38 of anchor member 33 is positioned so that the upper surface of flange portion 38 of anchor member 33 is substantially aligned in the same horizontal plane as the upper surface of flange portion 23 of rail means 17. Gasket member 34 is positioned below and adjacent downwardly extending leg member 24 of anchor member 33, and gasket member 34 is provided with an aperture 39 therein which is aligned with threaded aperture 26 of leg portion 24 of rail means 17 and with apertures 27 and 28 of panel members 19 and 21, respectively, of shell member 12 and with apertures 25 in liner member 18. Clip member 36 is likewise provided with an aperture 40 which is aligned with threaded aperture 26, apertures 27 and 28 of panel members 19 and 21, aperture 39 of gasket member 34 and apertures 25 of liner member 18 thus allowing bolt member 41 to be positioned therein so that when nut member 42 is positioned upon bolt member 41 bolt member 41 thus secures rail means 17, liner member 18, and securing means 32 to the upper portion of shell member 12. As is readily apparent, securing means 32 and rail means 17 conform to the shape of shell member 12 and extend around the inner periphery of shell member 12 thus providing a continuous surface for the support of liner member 18, as shown in FIG. 6, and securing means 32 and rail means 17 cooperate to support endless conduit member 29 of liner member 18 thus preventing liner member 18 from slipping within shell member 12 and reduces the stress placed on liner member 18 around apertures 25 therein when material is placed therein, and at the same time, reduces the possibility of tearing liner member 18 because there are no sharp edges and the like over which liner member 18 is folded. Thus, gasket member 34 extending around the interior of shell member 12 is important because upon securing clip member 36 which also extends around the interior of shell member 12, by bolt member 41 and nut member 42 the lower portion of clip member 36 tends to compress into liner member 18 and shell member 12. Thus, by employing a gasket member 34 formed of metal, thermoplastic materials or a resilient type of material, such as cork, asbestos, rubber, polymeric materials, and the like, clip member 36 remains substantially parallel to downwardly extending leg portion 24 of rail means 17 thereby preventing the lower end portion of clip member 36 from being forced into liner member 18 and thus damaging and/or tearing the same.

A second rail means 43 is detachably connected in the lower inner end portion of the panel members of shell member 12, such as panel members 19 and 21 of FIG. 3 and panel member 21 of FIG. 6. Likewise, second rail means 43 is detachably connected to the other panel members which form the shell member 12. However, since the panel members, as well as the other second rail members are identical to second rail means 43 and panel members 19 and 21 only the relationship of second rail means 43 with panel members 19 and 21 will be discussed and referred to for the sake of simplicity.

Second rail means 43 is preferably formed of a plurality of substantially L-shaped members, such as L-shaped member 44, and each of the L-shaped members are provided with a curvature which conforms to the curvature of the inner surface of shell 12. The L-shaped members

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of second rail means 43 can be detachably connected to each other by any suitable means, such as bolting, clamping, and the like. L-shaped member 44 is provided with an outwardly extending flange portion 46 and an upwardly extending leg portion 47. Flange portion 46 is adapted to extend under the lower end portion of panel members 19 and 21 of shell member 12 in order to support the same. Upwardly extending leg portion 47 of L-shaped leg member 44 is provided with a threaded aperture 48 therethrough which is aligned with oversized apertures 27 and 28 positioned within the lower end portion of panel members 19 and 21, respectively, of shell member 12. A locking means, such as self-tapping bolt member 41 is positioned within apertures 27 and 28 of panel members 19 and 21 and threaded aperture 48 of upwardly extending leg portion 47 of L-shaped leg member 44. Nut member 42 is positioned upon the threaded end portion of self-tapping bolt member 41 in order to further secure self-tapping bolt member 41 and thus secure second rail means 43 to panel members 19 and 21 of shell member 12.

When employing a storage container of the design shown in FIG. 3 and described above it is often desirable to employ a dirt cove or support 49 within the lower inner portion of container means 11 in order to further stabilize container means 11. Further, by employing the dirt cove or support 49 flexible, fluid impervious liner member 18 is positioned away from self-tapping bolt member 41 and nut member 42 thus preventing damage to liner member 18. A liner retainer means, such as rod member 51 is positioned within the bottom portion of liner member 18 thus maintaining liner member 18 in the desired position within the lower portion of shell member 12. Any suitable liner retainer can be employed such as a junk wire rod, a steel rod, and the like.

Referring now to FIG. 5 storage container means 11 is shown in detail illustrating another embodiment of securing means for maintaining liner member 18 within shell 12. Shell member 12, which is formed of a plurality of panel members which overlap each other to strengthen shell member 12, as previously discussed, is shown having panel members 19 and 21 secured to first rail means 17 and second rail means 43. Flexible, fluid impervious liner member 18 is then secured to first rail means 17 by securing means 52.

Grommet member 53 is secured to liner member 18 so as to be positioned around aperture 25 therein and thus strengthen liner member 18 around aperture 25. Rail means 17 is again depicted as a substantially L-shaped member 22 having an outwardly extending flange portion 23 and a downwardly extending leg portion 24. Flange portion 23 is adapted to extend over the upwardly extending end portion of panel members 19 and 21 of shell member 12 so as to prevent liner member 18 from contacting the upper edge portions of panel members 19 and 21. Downwardly extending leg portion 24 of L-shaped member 22 is provided with a threaded aperture 26 therein which is aligned with oversized apertures 27 and 28 positioned in the upwardly extending end portions of panel members 19 and 21. Likewise, liner member 18 is positioned within storage container means 11 so that aperture 25 provided in liner member 18 and surrounded by grommet 53 is aligned with oversized apertures 27 and 28 of panel members 19 and 21 and threaded aperture 28 of downwardly leg portion 24 of L-shaped leg member 22. A first support member 54 is provided with an aperture 56 therethrough and support member 54 is positioned against liner member 18 so that opening 56 is aligned with apertures 25 in liner member 18 and threaded aperture 26 of downwardly extending leg member 24 of L-shaped member 22 and apertures 27 and 28 in panel members 19 and 21 of shell member 12. A second support member 57 is likewise provided with an aperture 58 therethrough and second support member 57 is positioned against the exterior surface of panel member 21 so that

aperture 58 of support member 57 is aligned with aperture 28 of panel member 21 as shown. Thus, an aligned opening is provided through second support member 57, panel members 19 and 21, L-shaped member 22, liner member 18, and first support member 54, so that self-tapping bolt member 41 can be positioned therein. Nut member 42 is then positioned on the threaded end portion of bolt member 41 thus securing panel members 19 and 21, L-shaped member 22, and liner member 18 and first and second support members 54 and 57 together.

A second rail means 43, such as substantially L-shaped member 44, is likewise secured to the downwardly extending end portion of panel members 19 and 21 of shell member 12 similar to FIG. 3. However, support member 59 having aperture 61 therein, is positioned against the exterior surface of panel member 21 so that aperture 61 in support member 59 is aligned with threaded aperture 48 in second rail means 43 and enlarged apertures 26 and 27 of panel members 19 and 21. Thus, support member 59, as well as support members 54 and 57, referred to hereinbefore, functions as a washer type means for nut member 42 and self-tapping bolt member 41 employed to secure first and second rail means and panel members 19 and 21 together.

Referring now to FIG. 2, an enlarged cross sectional view depicting connecting means 62 for positioning two of shell members 12 on top of one another and securing the same together by connecting means 62 in order to enlarge the total volume of storage space within storage container means 11 without the necessity of utilizing more surface space is illustrated.

Connecting means 62 is provided with complementing connecting members 63 and 64 which are adapted to be detachably secured together. Connecting members 63 and 64 are each formed of a plurality of connecting members which can be detachably secured to each other by any suitable means, such as bolting, clamping, and the like. Desirable results have been obtained wherein connecting members 63 and 64 are substantially L-shaped and wherein each is provided with a curvature which conforms to the curvature of the inner surface of the two shell members 12 of storage container means 11 which are stacked in order to provide a large total volume for storage without the necessity of additional surface space.

Connecting member 64 is provided with an outwardly extending flange portion 66 and a downwardly extending leg portion 67. Leg portion 67 is provided with threaded aperture 68 therein which is aligned with oversized aperture 28 positioned within the upwardly extending end portion of panel member 21 of lower position shell member 12 and secured thereto by bolt member 41. Flange portion 66 of connector member 64 is likewise provided with threaded aperture 69 therein.

Connecting member 63 is also provided with an outwardly extending flange portion 71 and an upwardly extending leg portion 72. Leg portion 72 is provided with threaded aperture 73 therein which is aligned with oversized aperture 28 positioned within the downwardly extending end portion of panel member 21 of upper position shell member 12 and secured thereto by bolt member 41. Flange portion 71 is provided with threaded aperture 74 which is aligned with threaded aperture 69 of flange portion 66 of connecting member 64 so that the two complement each other and can be detachably secured together by any suitable means, such as self-tapping bolt member 76. In order to further secure connecting members 63 and 64 together nut member 77 is positioned on the threaded end portion of self-tapping bolt member 76 as shown in the drawings.

Referring now to FIG. 4, the lower portion of shell member 12 is illustrated having another embodiment of rail means 78 detachably connected thereto. As is readily apparent rail means 78 is an upright member having the curvature of the inner surface of shell member 12. The lower end portion of rail means 78 is flush with the lower

edge portion of panel member 21 of shell member 12 and as such allows the lower portion of shell member 12 and thus rail means 78 to be positioned within the ground and stabilized therein by having dirt and the like positioned on both sides of shell member 12. Rail means 78 is secured to the lower extending portion of panel member 21 of shell means 12, and, thus the remaining panel members by having threaded aperture 79 positioned therein which is aligned with oversized aperture 28 within shell member 12 so that a bolt member 41 can be positioned therein. A washer member 81 and nut member 82 are then positioned upon the threaded end portion of bolt member 41 thus further securing rail means 78 to panel member 21 of shell means 12.

Referring now to FIGS. 7, 8, and 9 cover means 83 for storage container means 11 of the present invention is shown. Storage container means 11 is provided with a shell member 12 which is formed of a plurality of panel members which overlap each other to strengthen shell member 12, as illustrated having panel member 21 secured to rail means 17 and to liner member 18 by securing means 52 as described with reference to FIG. 5. Likewise, rail means 17 can be secured to liner member 18 and panel member 21 by securing means 32 described with reference to FIG. 3. Cover means 83 is then detachably secured to flange portion 23 of rail means 17 thus preventing dirt, water, and the like from contaminating the product stored within storage container means 11. Covering means 83 is provided with support means 84 adapted to be positioned on the upper portion of storage container means 11. Cover member 86, having a shape similar to the exterior shape of container means 11 is then positioned on top of support means 84. An anchor means 87 is then detachably secured to flange portion 23 of rail means 17 so that cover member 86 is positioned therebetween thus securing cover member 86 to storage container means 11.

Support means 84 is provided with a center support member 88, here shown as a ring member, and a plurality of finger members 89. Each of finger members 89 is secured in one of its end portions to center support member 88, and the other end portions of finger members 89 extends outwardly and downwardly therefrom. Finger members 89 are preferably provided with a bow shape thus providing a convex shape to the support means 84 of cover means 83.

Cover member 86 is adapted to be positioned on support means 84 and then secured to rail means 17 around the outer periphery of cover member 86 by anchor means 87. Cover member 86 is provided with an endless conduit member 91 around its outer edge portion. Endless conduit member 91 is formed by doubling or hemming the outer edge portion of cover member 86 and then sealing the same by any suitable means which are well known in the art such as by adhesive, clamp, heat sealing, sewing, and the like. Cable member 92 is positioned within endless conduit member 91 thus providing a rib or enlarged portion on the outer extending edge portion of cover member 86. Cover member 86 is then detachably secured to the flange portion 23 of rail means 17 by utilizing anchor means 87.

Anchor means 87 is preferably formed of a plurality of substantially L-shaped members, such as L-shaped member 93, which are detachably secured to the upper surface portion of flange portion 23 of rail means 17. However, it should be understood that any suitable type member can be employed for anchor means 87 as long as it is adapted to maintain the outer portion of cover member 86 securely to flange portion 23 of rail means 17. Each of L-shaped members 93 of anchor means 87 can be detachably connected to another of the L-shaped members by any suitable means, such as bolting, clamping, and the like. Since the L-shaped members of anchor means 87 are substantially identical to L-shaped member

93, only L-shaped member 93 will be discussed and referred to for the sake of simplicity.

Substantially, L-shaped member 93 is provided with an outwardly extending flange portion 94 and an upwardly extending leg portion 96. Flange portion 94 is adapted to be positioned upon the upper surface of flange portion 23 of rail means 17 and is adapted to be detachably secured thereto. However, the end portion of cover member 86 is positioned between flange portion 94 of anchor means 87 and flange portion 23 of rail means 17 thus securing cover member 86 therebetween. Flange portion 94 of anchor means 87 and flange portion 23 of rail means 17 can be detachably secured together by any suitable means. For example, threaded aperture 97 positioned within flange portion 94 of anchor means 87 is aligned with threaded aperture 98 positioned within flange portion 23 of rail means 17. Likewise, cover member 86 is provided with an aperture 99 therein which is aligned with threaded apertures 97 and 98 of flange portions 94 and 23 of anchor means 87 and rail means 17, respectively, so that the same can be secured thereto by self-tapping bolt member 101. Nut member 102 is then positioned upon the threaded end portion of bolt member 101 to further secure the same. However, it is to be understood that any suitable means for securing anchor means 87 to rail means 17 so that cover member 86 can be positioned therebetween and readily secured thereto can be employed in the practice of the present invention. Thus, by employing endless conduit member 91 around the outer edge portion of cover member 86 and anchor means 87 and flange portion 23 of rail means 17 cover member 86 is firmly secured between the same and endless conduit member 91 prevents slippage of cover member 86 from between anchor means 87 and rail means 17.

The foregoing discussion and description is made in connection with preferred specific embodiments of the storage container means of the invention. However, it is to be understood that the discussion and description is only intended to illustrate and teach those skilled in the art how to practice the invention.

I claim:

1. A container means which is adapted to be erected and subsequently dismantled and transported to another location and thereagain erected without damage to the container means comprising:

- (a) a shell member formed of a plurality of detachably connected panel members;
- (b) a rail means detachably connected in the upper inner end portion of said shell member, said rail means having an extending flange portion extending over the upper edge portion of said shell members;
- (c) a flexible liner member positioned within said shell member and adapted to substantially conform to the shape of said shell members;
- (d) an endless conduit means positioned in the upper end portion of said liner member;
- (e) cable means positioned within said endless conduit;
- (f) a support means positioned adjacent said liner member so that the upper surface of said support means is adjacent the lower surface of said conduit means of said liner member; and
- (g) a securing means connected to said shell member, said rail means, said liner member and said support means detachably connecting same together in their respective extending end portions, said rail means and said support means being constructed and adapted so that they cooperate with said conduit means of said liner means to prevent said liner means from slipping from the desired position when material is placed in said storage container means.

2. The storage container means according to claim 1 wherein said panel members each having a plurality of apertures positioned on their adjacent edge portions, said panel members being positioned so that they overlap the

adjacent edge portion of the adjacent panel member for a distance of about two to four inches thus providing self reinforcing of said shell member.

3. The container means according to claim 2 wherein said rail means comprises a plurality of substantially L-shaped members detachably connected together and each of said L-shaped member is provided with a threaded aperture through its downwardly extending end portion, said threaded aperture being aligned with apertures positioned within the upwardly extending end portion of said panel members of said shell member and apertures in the upper portion of said liner member.

4. The container means according to claim 3 wherein said liner member is:

- (a) one-piece, heavy duty plastic liner fabricated to the interior dimensions of said shell member of said storage container means and said liner is provided with a grommet positioned around each of the apertures positioned within said liner.

5. The container means according to claim 4 wherein said support means comprises a plurality of substantially L-shaped support members, detachably connected together so as to conform to the shape of said shell means, each of said support members having a threaded aperture extending through the downwardly extending end portion, said threaded aperture being aligned with the threaded aperture of said rail means and the aperture in the upper portion of said liner.

6. The container means according to claim 5 wherein said securing means comprises:

- (a) an anchor means having a downwardly extending leg portion, said anchor means having a curvature conforming to the curvature of said rail means and extending around the inner periphery of said rail means;
- (b) a gasket member having an aperture therein, said gasket member being positioned adjacent the lower edge portion of said leg portion of said anchor means and extending around the inner periphery of said rail means; and
- (c) a clip member having an aperture therein which is aligned with the aperture of said gasket member and thus with apertures in said panel sections of said shell means; said liner member, and said rail means, said clip member having a curvature conforming to the structure of said anchor means and extending around the inner periphery of said anchor member.

7. The container means according to claim 5 wherein said securing means comprises:

- (a) a first support member having a curvature conforming to the curvature of said rail means and extending around the inner periphery of said rail means, said first support member having an aperture therein, and being positioned adjacent the interior surface of said liner member so that the aperture in said first support member is aligned with the aperture in said liner member and the aperture in said rail means; and
- (b) a second support member having a curvature conforming to the curvature of said shell member and having an aperture therein, said second support member being positioned adjacent the exterior surface of said shell member so that the aperture of said second support member is aligned with the aperture in said shell member, said first support member, liner member, rail member, shell member, and said second support member, defining an unrestricted opening therethrough.

8. A container means according to claim 6 which includes a connecting means for mounting two of said shell members so that one is positioned on top of the other wherein said connecting means comprises:

- (a) a first connecting member detachably secured to the bottom portion of the upper of said shell members, said first connecting member having an out-

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wardly extending flange portion having a threaded aperture therethrough; and

- (b) a second connecting member detachably secured to the upper portion of the lower of said shell members, said second connecting member having an outwardly extending flange portion and having a threaded aperture positioned therethrough, said first and second connecting members cooperating so that the threaded aperture in the flange portion of said first and second connecting members are aligned; and
- (c) a bolt member positioned within the aligned apertures within the flange portions within said first and second connecting members thereby securing the same together.

9. The container means according to claim 7 which includes a second rail means detachably connected in the lower inner end portion of said rail means thereby stabilizing the lower end portion of said shell means.

10. The container means according to claim 9 wherein said second rail means comprises a plurality of substantially L-shaped members detachably connected together and wherein each of said L-shaped members is provided with a threaded aperture through its upwardly extending end portion, said threaded aperture being aligned with apertures positioned within the lower extending end portion of said wall members of said shell means and having an outwardly extending flange portion extend under the lower edge portion of said wall members of said shell means.

11. The container means according to claim 9 wherein said second rail means is an upright member having the curvature of the inner surface of said shell means, said upright member being positioned so that the lower end portion of said rail means is flush with the lower edge portion of said shell means thus allowing the lower portion of said shell means and thus said second rail means to be positioned within the ground and stabilized therein by dirt and the like positioned on both sides of said shell means.

12. The container means according to claim 9 which

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includes a cover means adapted to be detachably secured to the upper portion of said shell member.

13. The container means according to claim 12 wherein said cover means comprises:

- (a) a support means adapted to be positioned on the upper portion of said shell member;
- (b) a cover member having a shape similar to the exterior shape of said shell member, said cover member being positioned on top of said support means; and
- (c) an anchor means detachably secured to the flange portion of said rail means thus securing said cover means between said anchor means and said flange portion of said rail means.

14. The container means according to claim 13 wherein said support means comprises a center support and a plurality of finger members, each of said finger members being secured in one of its end portions to said center support member, and the other end portions of said finger members extending outwardly from said center support member, and said cover member is provided with an endless conduit member around its outer edge portion, and a cable member positioned within said conduit member thus providing a rib on the outer extending edge portion of said cover member, said cable member and said endless conduit member cooperating with said flange portion of said rail means and said anchor means thus securing said cover member on top of said support means,

References Cited

UNITED STATES PATENTS

3,225,362	12/1965	Barrera	4—172
3,241,701	3/1966	Boggs.	
3,260,399	7/1966	Sieg	220—18
3,280,408	10/1966	Gershman.	
3,409,916	12/1968	Billig.	

GEORGE E. LOWRANCE, Primary Examiner

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