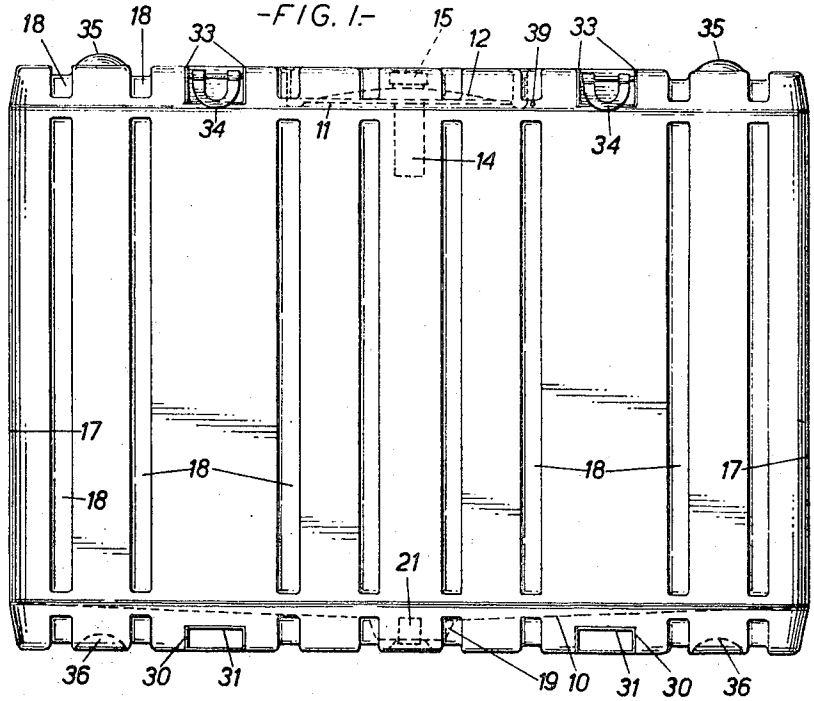
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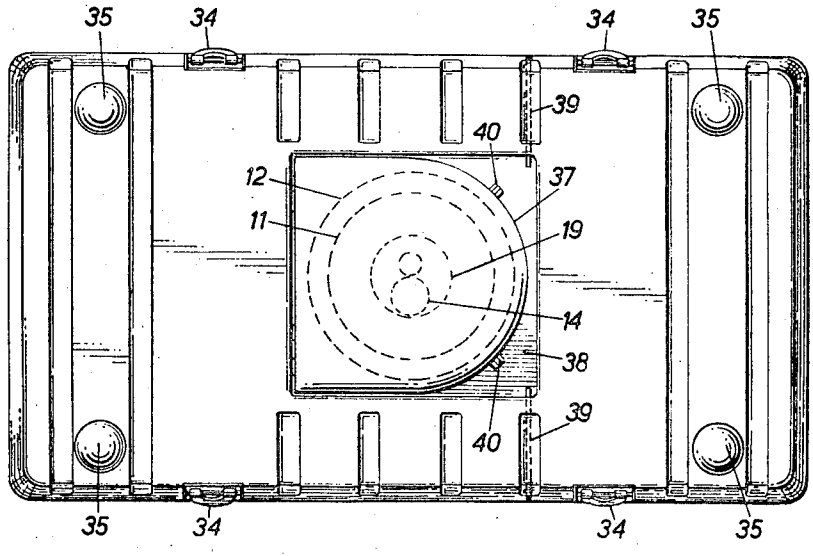
CONTAINERS FOR THE TRANSPORTATION OF LIQUID IN BULK

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-FIG. 1.-



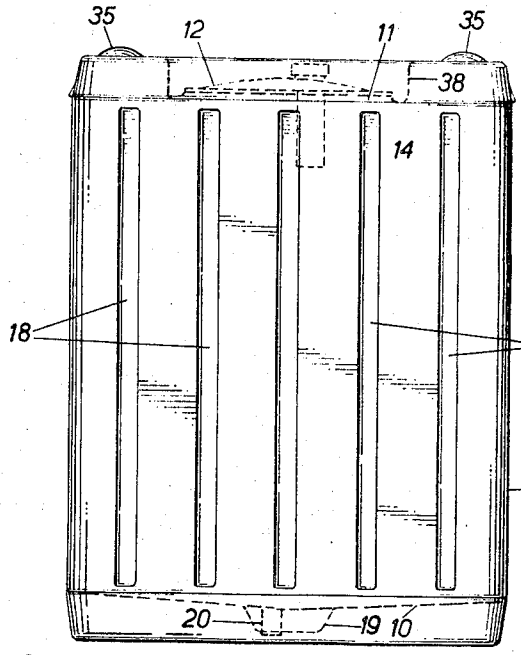
-FIG. 2.-



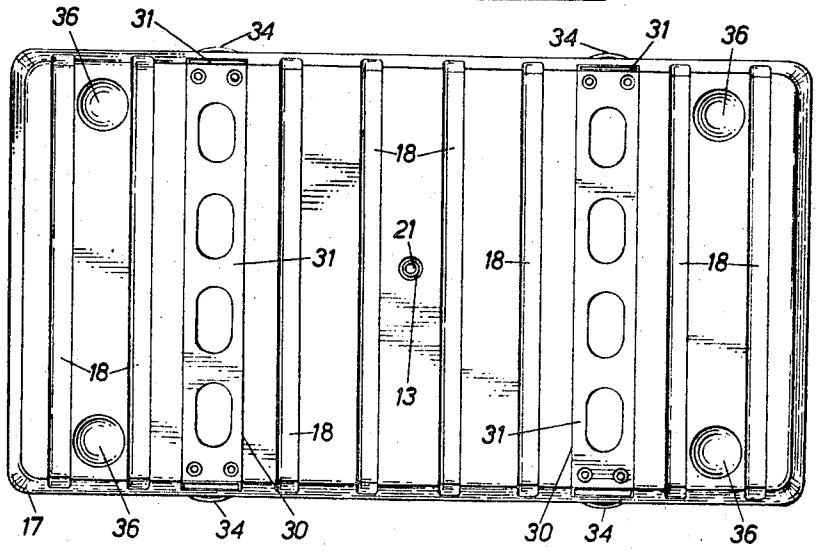
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-FIG. 3-

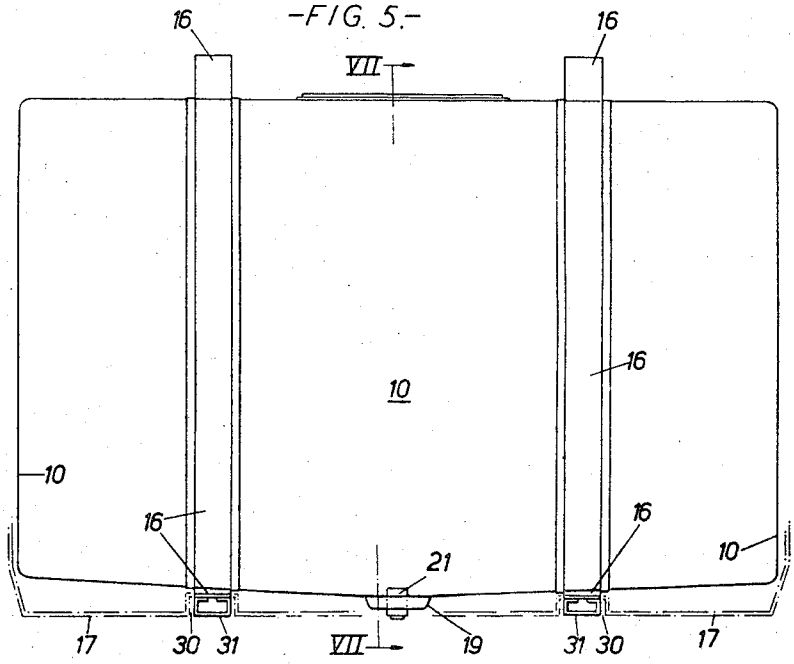


-FIG. 4-

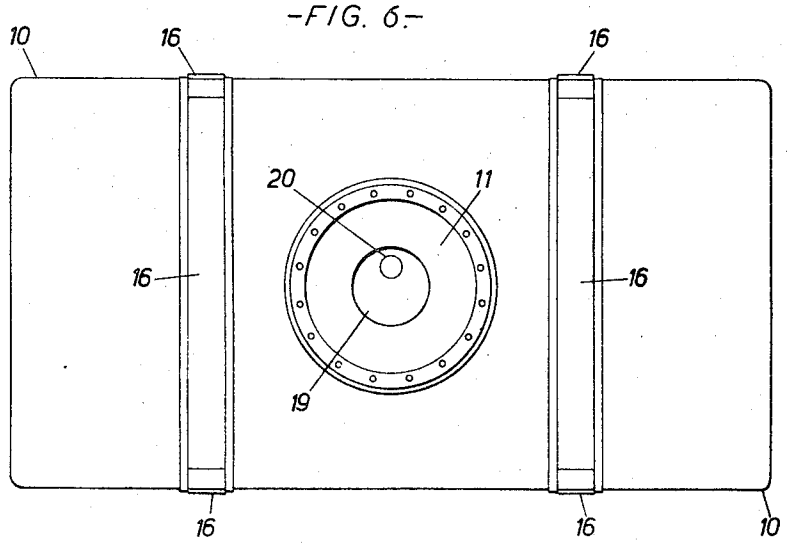
CONTAINERS FOR THE TRANSPORTATION OF LIQUID IN BULK

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-FIG. 5.-



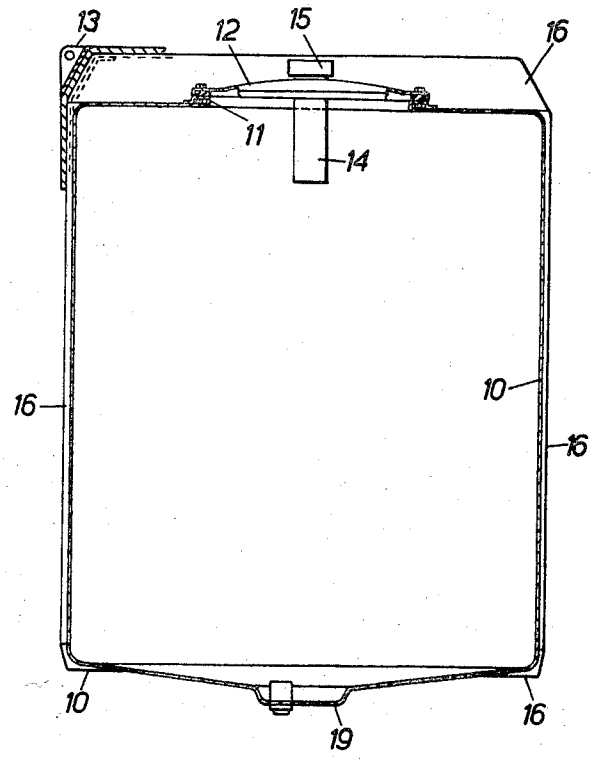
-FIG. 6.-



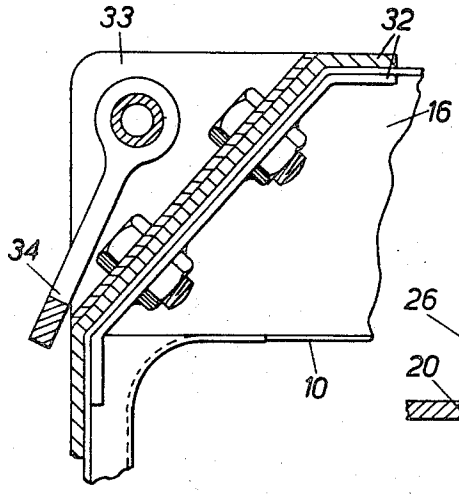
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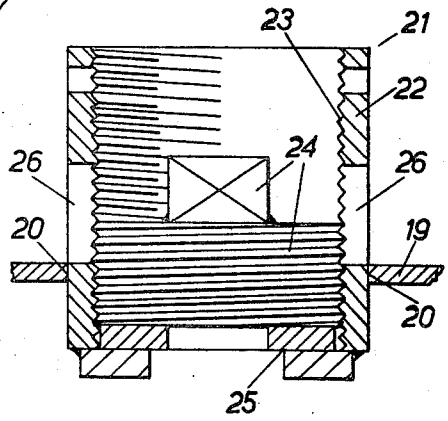


-FIG. 7.-



-FIG. 8.-

-FIG. 9.-



United States Patent Office 3,406,855 Patented Oct. 22, 1968

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CONTAINERS FOR THE TRANSPORTATION OF LIQUID IN BULK

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Filed June 17, 1966, Ser. No. 558,397
3 Claims. (Cl. 220—1.5)

ABSTRACT OF THE DISCLOSURE

The present portable container is for transporting liquids in an inner tank of stainless steel housed within a protective outer case of glass fiber reinforced plastic and said inner tank and outer casing have apertures in register for filling and drainage purposes, reinforced channel guides in the bottom of said outer casing for receiving the arms of a pick up handling device, spaced reinforcement and stiffening means on said inner tank registering with and connected to said channel guides of said outer casing, ribs in the side and end walls of said outer casing contacting and supporting said inner tank, shackles secured to the reinforcing members of said inner tank and projecting through said outer casing for use with lifting apparatus and the bottom of said inner tank sloping towards a sump portion containing the drain aperture in which is mounted a drain plug operable by a key inserted through the filling aperture of the inner tank.

This invention relates to containers for the transportation of liquids in bulk, and more particularly, although of course not exclusively, the transportation of wines, sherries and the like, and the invention has for its object to provide an improved container which is especially suited to the purpose intended and can more readily be handled by conventional handling equipment, as for example fork-lift trucks, hoisting apparatus, and the like, than heretofore.

The invention is further described with the aid of the accompanying explanatory drawings which illustrate, by way of example only, one mode of embodiment.

In said drawings:

FIGS. 1, 2, 3 and 4 are respectively a side elevation, a plan view, an end elevation and an underneath plan view of a container according to the invention.

FIGS. 5 and 6 are respectively a side elevation and plan view of the container's inner metal tank or shell.

FIG. 7 is a section taken as on line VII—VII of FIG. 5.

FIG. 8 is an enlarged (as compared with the preceding views) fragmentary section depicting a lifting shackle, and

FIG. 9 is an enlarged fragmentary section of the drain plug.

Referring now to said drawings, the container comprises a stainless steel inner tank or shell **10** (FIGS. 5, 6 and 7) of generally rectangular shape and provided in its top wall with a man-hole **11** having a cover **12** adapted to be bolted in liquid-tight position. Said cover **12** is provided with a tube **14**, screw-fitted with a dust cap **15**, wherethrough the tank is normally filled and emptied. Around the top, sides, and bottom of said shell **10** are secured, as by welding, and at two longitudinally spaced positions, strengthening members **16** of channel section. Enclosing the tank or shell **10** is a moulded, fibre-glass-reinforced plastics casing **17** formed with relatively depressed ribs or flutings **18** at those parts between and on either side of said reinforcing members **16** and which ribs or flutings **18** contact the inner shell **10** to support same.

The bottom of said shell **10** is arranged to slope towards a down-set medial portion or sump **19** wherein is formed a drain opening **20** fitted with and adapted to be closed by a plug member **21** arranged to be in register with an aperture **13** (FIG. 4) of the outer casing **17**. Said plug **21** comprises, see more particularly FIG. 9, a cylindrical member **22** formed with a screw-threaded bore **23** wherein works a correspondingly screw-threaded plug **24**. The lower end of said member **22** is fitted with and partially closed by an apertured disc **25**, and the walls thereof are formed with openings **26** communicating with the interior of the shell **10**. The plug **24** has a squared upper end as shown so as to be actuable by a tubular key when inserted through the man-hole **11**, or tube **14**, and thus the plug can, by manipulation of the key, be turned and moved from the position shown, in which it bears against and seals the aperture **25** and therefore closes the sump **19**, to a position above the lateral openings **26**. In this latter position the shell or tank **10** can be completely emptied of any dregs as the apertures **26** are arranged to be level with and allow drainage of the floor of the sump portion **19**.

The base of the outer casing **17** is formed with a pair of transverse recesses **30** which are disposed in register and alignment one with each of the stiffening members **16** of the inner shell **10**, and the said recesses **30** are reinforced by the insertion therein of mild steel channel or box section components **31** which are bolted to the stiffening members **16** of the inner shell **10** through the bottom of the recesses **30** of outer casing **17**. Said reinforcing components **31** are spaced apart and dimensioned so as to receive the arms of a conventional fork-lift truck, or similar appliance, whereby the container can safely be lifted and stacked as required without danger or damage to or distortion of the container.

Also, the upper corners (see more particularly FIGS. 7 and 8) of the stiffening members **16** extending across the roof of the shell **10** are fitted with reinforcing plates **32** and have bolted thereto duplex lugs **33** between which are pivoted shackle members **34**. These latter project through provided apertures of the outer casing **17** and are adapted to be engaged by lifting appliances.

The outer casing **17** is provided in its upper surface with a hinged cover **37** in register with man-hole **11** of the inner shell **10**. Said hinged cover **37** is located within a recess **38** formed in the roof of said outer cover **17** and ducts **39** are provided for draining away any liquid which may collect therein. Also, lugs as **40** are provided on the cover **37** in order to provide for the locking of said cover in closed position.

In order that containers as described may be stacked one upon another without danger of becoming displaced during transportation thereof, the protective outer casing **17** is formed or provided on its upper surface with spaced projections **35** (or/and depressions) and on its undersurface with correspondingly positioned depressions **36** (or/and projections). Thus, individual containers of a stack of containers according to the invention become locked against lateral displacement.

In experimental practice, containers according to the invention have been constructed with a capacity of between 500 and 600 gallons and have been capable of being readily and safely handled by conventional lifting appliances. Further, their double-skinned construction enables the inner tank or shell **10** to be constructed from a lighter gauge metal than has hitherto been possible in the construction of containers for the bulk transportation of liquids.

What I claim as my invention and desire to secure by Letters Patent is:

1. A portable container for the transportation of

liquids, comprising an inner tank of stainless steel, having opposing closable filler and drain apertures, and a protective outer casing of glass-fibre-reinforced plastics surrounding said inner tank with openings in register with the apertures of said tank, reinforced channel guides provided in the bottom of said outer casing for receiving the arms of pick-up handling devices, spaced reinforcement and stiffening means provided on said inner tank in register with and connected to the reinforced channel guides of said outer casing, relatively depressed ribs provided in the side and end walls of said outer casing which ribs contact and support said inner tank, and shackles secured to the reinforcing members of said inner tank projecting through said outer casing for use with lifting apparatus.

2. A container, as claimed in claim 1, wherein the bottom of said inner tank slopes towards a down-set sump portion containing said drain aperture and a drain plug is mounted in said drain aperture.

3. A container, as claimed in claim 2, wherein said drain plug is positioned for being operable by means of a key inserted through the filler aperture of said inner tank.

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