Feb. 15, 1944.

H. D. PENNEY

2,341,740

BARREL OR KEG

Filed July 11, 1940

Fig. 2.

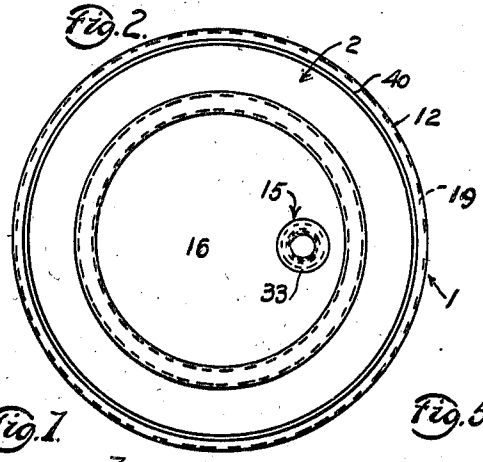


Fig. 3.

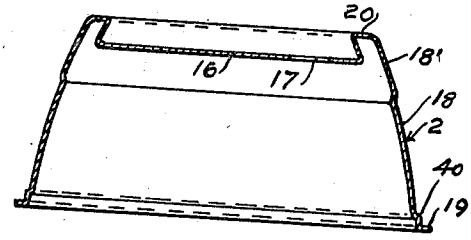


Fig. 4.

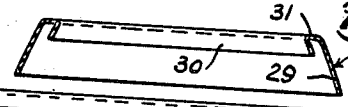


Fig. 5.

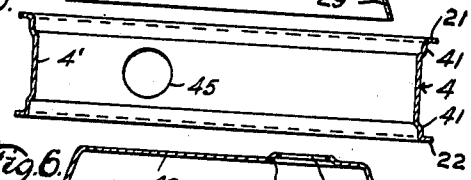


Fig. 1.

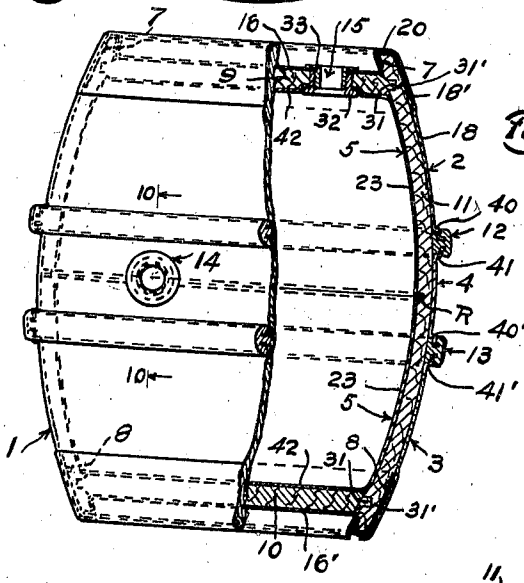


Fig. 6.

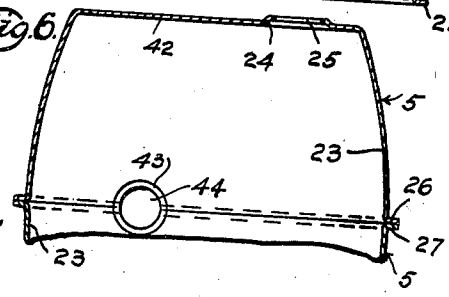


Fig. 7.

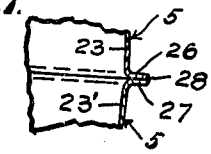


Fig. 10.

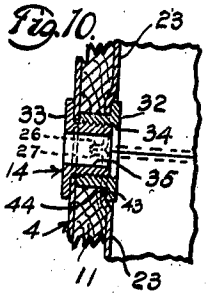


Fig. 8.

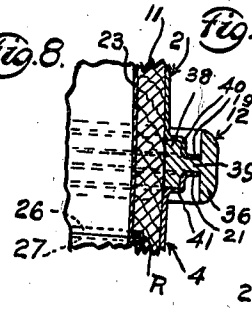
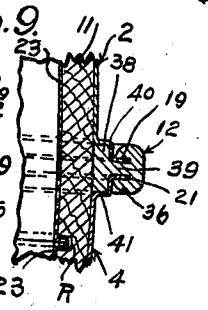


Fig. 9.



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UNITED STATES PATENT OFFICE

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BARREL OR KEG

Harold D. Penney, Pelham, N. Y., assignor to Triplex Barrel Company, Inc., New York, N. Y., a corporation of New York

Application July 11, 1940, Serial No. 344,881

9 Claims. (Cl. 220—10)

The present invention relates to an improvement in barrels for storage and shipment of beverages, such as beer and the like.

One of the main advantages of the present invention is in the method, whereby the various components of the barrel structure are set up in operative assembly for compressively and consecutively uniting and locking the elements thereof in liquid tight assembly.

Another feature of advantage is in the making and enclosing the exterior of the container in an outer metal armor, upon a wooden or fibrous keg forming structure, and the provision in the interior of a stainless steel liner.

Other features of advantage will appear as the herein description proceeds, and it will be obvious that modifications may be made in the structure herein disclosed, without departing from the spirit hereof or the scope of the appended claims.

In the drawing,

Fig. 1 is a fragmentarily sectioned view, in elevation showing the assembly;

Fig. 2 is a plan view of Fig. 1;

Fig. 3 is a transverse sectional view of one of the outer end forming protective shells, in elevation;

Fig. 4 is a transverse sectional view, in elevation, of a metal chimb reinforcing member;

Fig. 5 is a transverse sectional view of a metal bilge reinforcing element and shell connector, in elevation;

Fig. 6 is a transverse sectional view, in elevation, partly fragmented of the metal inner keg liner;

Fig. 7 is an enlarged transverse sectional view, fragmented, showing the manner of connecting the joint liner shells together;

Figs. 8 and 9 are transverse sectional views, enlarged and fragmented showing the sequential steps of outer shell assembly; and

Fig. 10 shows an enlarged and fragmented transverse sectional view of one form of bushing assembly, taken on the line 10—10, Fig. 1, looking in the direction of the arrows.

The container, generally denoted by 1, Fig. 1, is preferably in the form of a bilged keg, and comprises an armoring outer metal shell formed of duplicate end shells, generally denoted by 2 and 3, Figs. 1, 2 and 3, and the central joining metal bilge encompassing annulus generally denoted by 4, Figs. 1 and 5.

The bilged filler over which the shells 2, 3 and annulus 4 are compressively mounted, may comprise two head forming members 9 and 10, preferably made of wood and of circular formation, as shown in Figs. 1 and 2, the perimeters of each thereof being developed into a narrow surrounding flange 31, Fig. 1, said flanges being tightly engaged into a corresponding rabbet 31' which is cut into the wooden container forming staves 11, said rabbet being so located in said staves below the stave rims as to form a chimb 7. The head and stave forming members may be molded of suitable fibrous material, if desired, for lightness and strength, for temperature insulative purposes.

The chimb forming portions 7, at both ends of the container are protected and held in assembled relation by a drawn or spun metal chimb reinforcing rim 4, Figs. 1 and 4, which is utilized as a double functioning means, to reinforce the chimbs, and where stave assembly is used, to spring the stave ends inwardly and hold them by a pressed on fit in firm engagement by their rabbetted seats to the flanged perimeter of the container heads. The chimb rims 7 may, as shown in Figs. 1 and 4 be so spun and formed as to provide an inner flange 30, extending parallel to an outer flange 29, Fig. 4, said flanges being joined together by a chimb flange 31. The flanges may be flared so as to partake of the bilged shape of the wooden or fibre container, as is fully shown in Figs. 1 and 4.

In the assembly construction of the herein container, the interior non-metallic portions, such as the staves 11 and the heads 9 and 10, are erected over the stainless steel liner, generally denoted by 5, Fig. 6, the details of which will be later described, and then the chimb rims 7 are then press fitted to the head ends, and then the central bilge rim 4, Figs. 1 and 5, is then pressed over the assembly to its central position shown in Fig. 1. As thus assembled, the filler portions 9—10 and 11 are encompassed around the liner 5 and compressively held in position therearound.

The metal bilge rim 4, Fig. 5, is provided with a recessed flange construction on both of its ends, comprising circumferential seats 41—41, Fig. 5, which are of slightly larger diameter than the rim diameter 4'. Lateral flanges 21—22 are integrally extended from the recessed portions 41—41.

After the assembly of the parts 4—7—9—10—11 as above described, two metallic rolling hoops, generally denoted by 12 and 13, Figs. 1, 8 and 9 are then pressed into the opposite recessed seats 41—41 in rim 4. These hoops, such as is shown in Fig. 8, are of endless metal, in annular form,

and in cross section are H-shaped and comprise an inner, flat flange 38, which rests and is seated against the stave portion 11, the said flange 38 having an integral central web 39 and an outstanding T-shaped head 36, which is parallel to the flange 38.

The rolling flanges 12—13, as introduced into the assembly with the seats 41—41, of rim 4 have a portion of their flanges 38 seated within the said seats 41, as disclosed in Fig. 8, the lateral flanges 21—22 of the bilge rim resting against one side of the web 39 of the spinning flanges, Figs. 1 and 8.

After the assembly of the spinning rings 12, the end shells 2, as shown in Fig. 3, are then set over the opposite container ends, in contact with the spinning rings 12, the details of which will now be described.

The container end closing armor shells 2 and 3, as shown in Fig. 3, are preferably of stamped or spun metal, and the said shells are of duplicate construction, and are thus symmetrical, as will be seen in Fig. 1.

The said end shells may be compressibly assembled to the container, and in detail, comprise a single flanged, closed end member of bilged outline, the filler encompassing portion 18 snugly engaging the filler elements 11, the lower ends of said shells being provided with a rolling flange receiving recess 40, to receive and seat one side of the flange 38, as shown at 40, Fig. 8. The recessed seat 40 is provided with a lateral flange 19, Figs. 1, 3, 8 and 9, which, as seen in Figs. 8 and 9 rest against flange 39 of the rolling ring 12 and in a position opposite to the flange 21 of the rim 4.

The upper, closed end, or head of the shell 2, on its wall 18, is so shaped as to form an annular recess 18', to receive therein the chimb rim 7, as shown in upper and lower closing positions, in Fig. 1.

The closed ends of shells 2 and 3, Figs. 1 and 3, are so formed as to provide an annular seat 20 to receive and enclose therein the chimb rim 31 of the element 7, as shown in Fig. 1.

As thus described, the steps of assembly bring the outer shells, filler, liner, bilge rim and spinning rings into associate assembly. The shells 2 and 3 are then placed under compressive assembly and the flanges 36 of the rolling rings 12 and 13 are then rolled over onto the lateral flanges 19 of the shells 2 and 3 and the lateral flanges 21—22 of the bilge rim 4, as shown in Figs. 1 and 9, and the complete, compressive assembly of the various container forming elements is thus accomplished.

The inner container liner, as previously noted is preferably made of spun, or drawn stainless steel, this material being preferred because it has no deleterious effect on contained beverages, and in the case of beer, does not require the coating of the interior of the container with hydrocarbon products, such as asphalt, pitch or the like.

The liner, generally denoted by 5, Figs. 1 and 6 is made of two formed metal shells 23, having bilged, cylindrical walls, with integral heads 42. Both shells may be of duplicate construction, and are each provided with lateral flanges 26—27, which are joined in assembly, as shown in Fig. 6, the said flanges being suitably welded together in a fluid tight manner.

One of the shells 5 may be provided with a recessed opening 24—25, Fig. 6, in the head therein, to permit the mounting therein of a bung bushing 15—32—33, Figs. 1 and 2, of any desired type.

It is sometimes desirable that a bung bushing be provided at approximately the bilge center of the container, and to this end, the liner is provided with a recessed opening 43—44, Fig. 6, at the juncture of the liner flanges 26—27, and as more fully shown in Fig. 10. Corresponding registering apertures may be provided in the filler 11 and the bilge ring 4, so that a threaded compressive bung bushing, generally denoted by 14 may be provided, this latter comprising two threadedly interfitting, flanged bushings denoted by the indices 32—33—34—35, which may be clamped in operative position in a leakproof manner.

Owing to the construction of the herein beverage container the fibrous or wooden filler element between the inner metal liner and the outer metal armour the filler element acts as a temperature insulator thereby to retard the loss of temperature between the liquid contents and the atmospheric surroundings, and also to prevent atmospheric radiation, externally of the container thus to preserve, with greater efficiency the temperature of the liquid contents therein.

Having thus described the invention, what is claimed is:

1. A container comprising a substantially cylindrical filler; a rolling hoop of approximately H-shaped cross section clamped around the filler and having outer rolling flanges, a web having flat faces substantially perpendicular to the filler wall, and a base flange having a wide substantially cylindrical face engaged substantially throughout with the filler; outer shells tightly engaging over the head and side portions of the filler; margins of the shells at the hoop tightly engaging the filler at the base flange and being bent to form flanges engaged throughout with substantially the entire adjacent face of the web and the outer and edge faces of the base flange; each rolling flange having smooth flat face pressed throughout into firm engagement with the adjacent shell flange at all parts of the web, the edge of the rolling flange pressing on the shell flange at the outer face of the base flange and pressing the shell flange into tight flat engagement with the entire adjacent face of the web and with the outer face of the base flanges; the edge of the shell flange terminating on the web where the rolling flange joins the web face.

2. A container comprising a substantially keg-shaped filler; rolling hoops of approximately H-shaped cross section clamped around the filler, each hoop having outer rolling flanges, a web part having flat faces substantially perpendicular to the filler wall, and a base flange having a wide substantially cylindrical face engaged substantially throughout with the filler; outer shells tightly engaging over the heads and side portions of the filler; margins of the shells at the hoops tightly engaging the filler at the base flanges and being bent to form flanges engaged throughout with the entire adjacent face of the web and the outer and edge faces of the base flange; each rolling flange having a smooth flat face pressed throughout into firm engagement with the adjacent shell flange at all parts of the web, the edge of the rolling flange pressing on the shell flange at the outer face of the base flange.

3. A container as in claim 2, the rolling flanges pressing the shell flanges into tight engagement with the entire adjacent face of the web and

outer face of the base flanges and drawing the head-engaging shells tightly against the heads; pressure on the rolling flanges pressing said margins into tighter engagement with all parts of the web faces and the outer face of the base flanges; no part of any of the shells being between the filler and base flange, and the inner face of the base flange and the adjacent inner face of the shells at the filler being flush with each other, whereby the hoop transmits stresses from the rolling flanges through the shell and base flanges to a wide area of the filler at, and on both sides of, the base flange thereby to provide firm support on the filler for the hoops without denting and cutting the shells by the edge of the base flange; the outer edge of each shell flange being disposed against the adjacent web where the inner face of the adjacent rolling flange joins the web.

4. A container comprising a substantially keg-shaped filler; a rolling hoop of approximately H-shaped cross section clamped around the filler and having outer rolling flanges, a web part having flat faces substantially perpendicular to the filler wall, and a base flange having a wide substantially cylindrical face engaged substantially throughout with the filler; outer shells tightly engaging over the heads and side portions of the filler, margins of the shells at the hoop tightly engaging the filler at the edge of the base flanges and being bent to form flanges engaged throughout with the outer faces of the base flange and the entire adjacent face of the web and engaged snugly in the angle where the web meets the base; the edge of the shell flange engaging snugly against the outer edge of the web and in the angle where the rolling flange meets the web thereby to prevent any movement of the flange inwardly or outwardly relative to the axis of the container; the rolling flanges having smooth flat faces pressed into firm engagement with the shell flanges at the web, pressing the shell flanges into tight engagement with the adjacent face of the web.

5. A container as in claim 4, the outer edge of the shell flange being disposed against the flat face of the web.

6. A container comprising a substantially barrel-shaped filler having heads and projecting chimbs; a chimb-reinforcing rim provided with an inner flange engaging the inner face of the filler chimb, an outer flange tightly engaging around the outer face of the filler chimb, and a connecting part engaging the end edge of the chimb; said outer flange being converged toward the edge of the chimb and tightly driven onto the filler chimb and filler wall with a wedging action; outer shells engaging over the exterior of the rims and the end portions of the filler with a wedging fit and rolled into firm contact with and tightly engaging and fitting on the outer faces of the inner and outer flanges of said reinforcing rims and the heads and the sides of the filler; the margins of the shells being disposed intermediately of the ends of the side wall of the container near the mid-part thereof; and means engaging said margins and drawing said shells tightly against the rims and consequently drawing the rims against the chimbs of the filler; said shells serving to hold the rims in firm contact with the filler chimbs and hiding and protecting the rims against contact with exterior objects, thereby preventing the rims from being pried or knocked off or stolen while the shells are intact in place.

7. A container comprising a substantially keg-shaped filler having heads and projecting chimbs; a chimb-reinforcing rim provided with an inner flange engaging the inner face of the chimb, an outer flange tightly engaging the outer face of the chimb, and a connecting part engaging the end edge of the chimb; said outer flange being converged toward the edge of the chimbs and tightly driven onto the chimb with a wedging action; outer shells engaging over the rims and end portions of the filler with a wedging fit and rolled into firm contact with and tightly engaging and fitting on said reinforcing rims, chimbs and the heads, and the sides of the filler; and means drawing said shells tightly against the rims and consequently the rims tightly against the chimbs to tighten and bind the filler.

8. A container comprising a container shaped filler having heads and projecting chimbs; a chimb-reinforcing rim provided with an inner flange engaging the inner face of the chimb, an outer flange tightly engaging the outer face of the chimb, and a connecting part engaging the end edge of the chimb; rolling hoops spaced and wedged around the filler; outer shells engaging over the side and end portions of the filler, the edge margins engaging adjacent rolling hoops; said hoops being provided with means drawing said shells tightly against the rims and the rims against the chimbs.

9. A container comprising a keg; a metal liner fitted within the keg; an outer shell engaging and secured over the outer portions of the keg; the keg, the outer shell, and said liner being provided with registering openings, the opening in the liner being countersunk; an internally threaded outer sleeve snugly fitting and secured in the opening against the inner face of the outer shell and having an integral inner flange in the countersink adapted to be welded to the metal liner in the countersink; and an inner sleeve having threaded engagement in the outer sleeve and having an outer flange engage over the outer shell, said inner sleeve being easily movable and replaceable by turning the inner sleeve while the outer sleeve is stationary in place, and having an outer flange engaging the outer face of the shell; said flanges and threads cooperating to force said outer shell tightly against the outer end face of the outer sleeve, and to force the inner flange tightly against the inner liner.

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