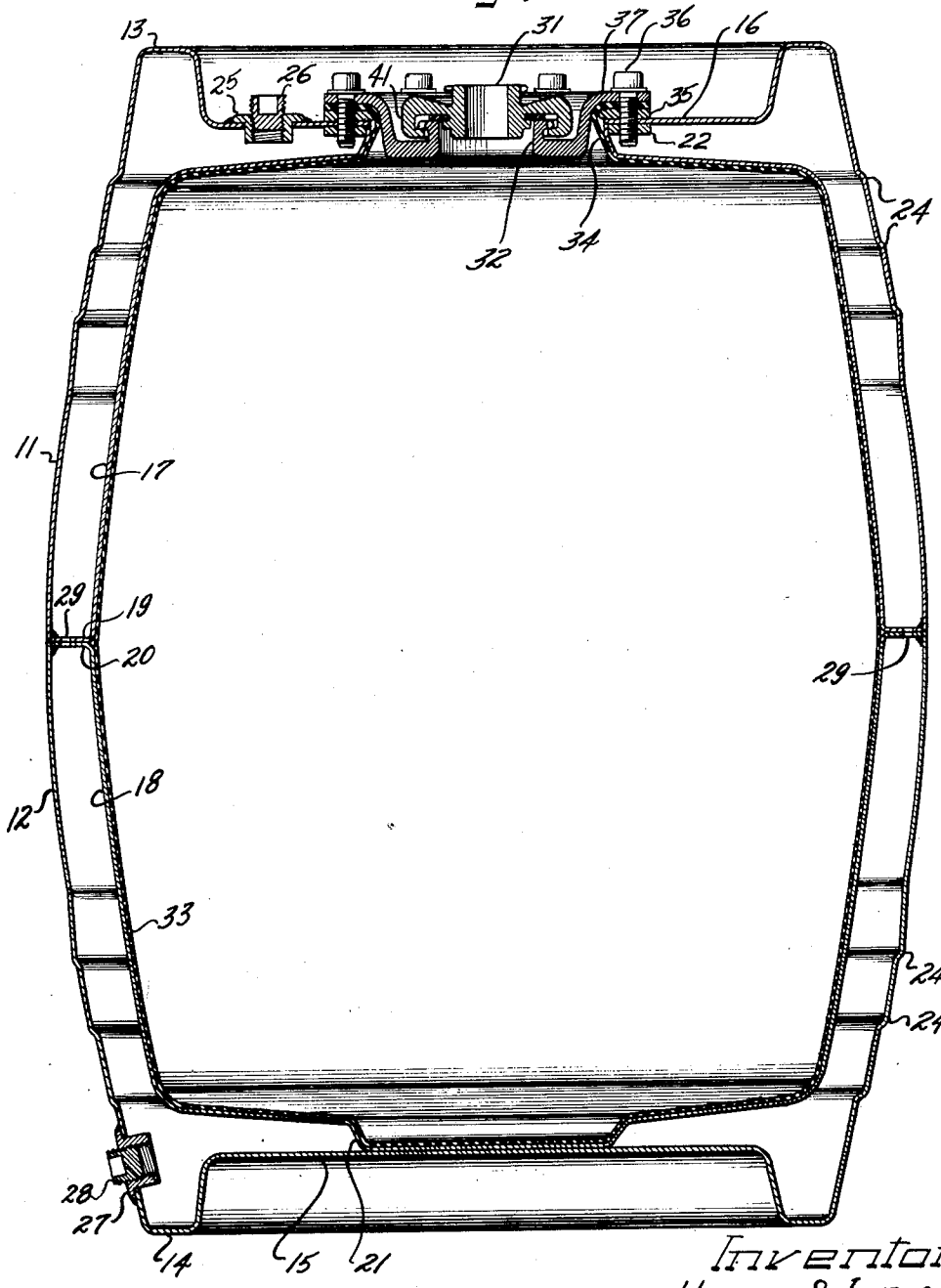
April 11, 1950 H. S. JANDUS 2,503,339

METALLIC BEER BARREL

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Fig. 1.



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Fig. 2.

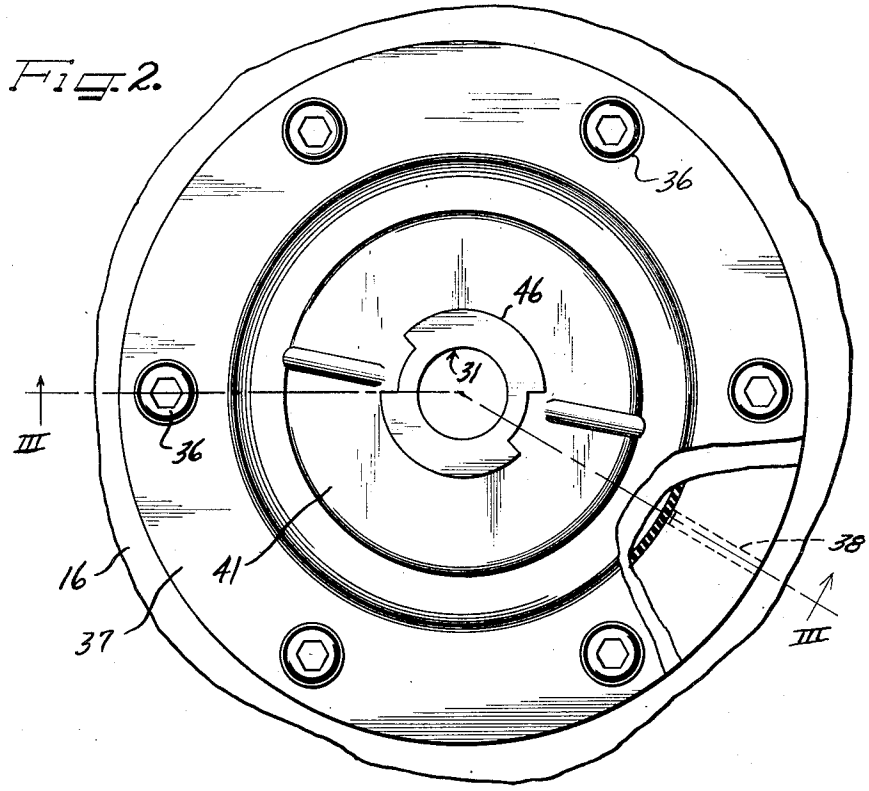
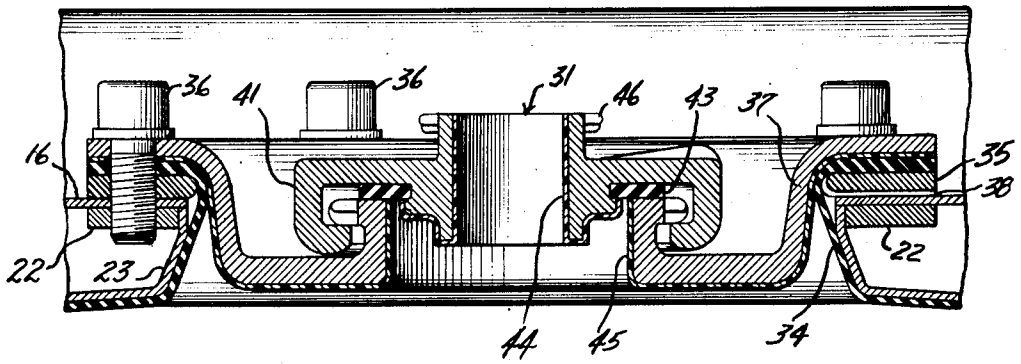


Fig. 3.



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Fig. 4.

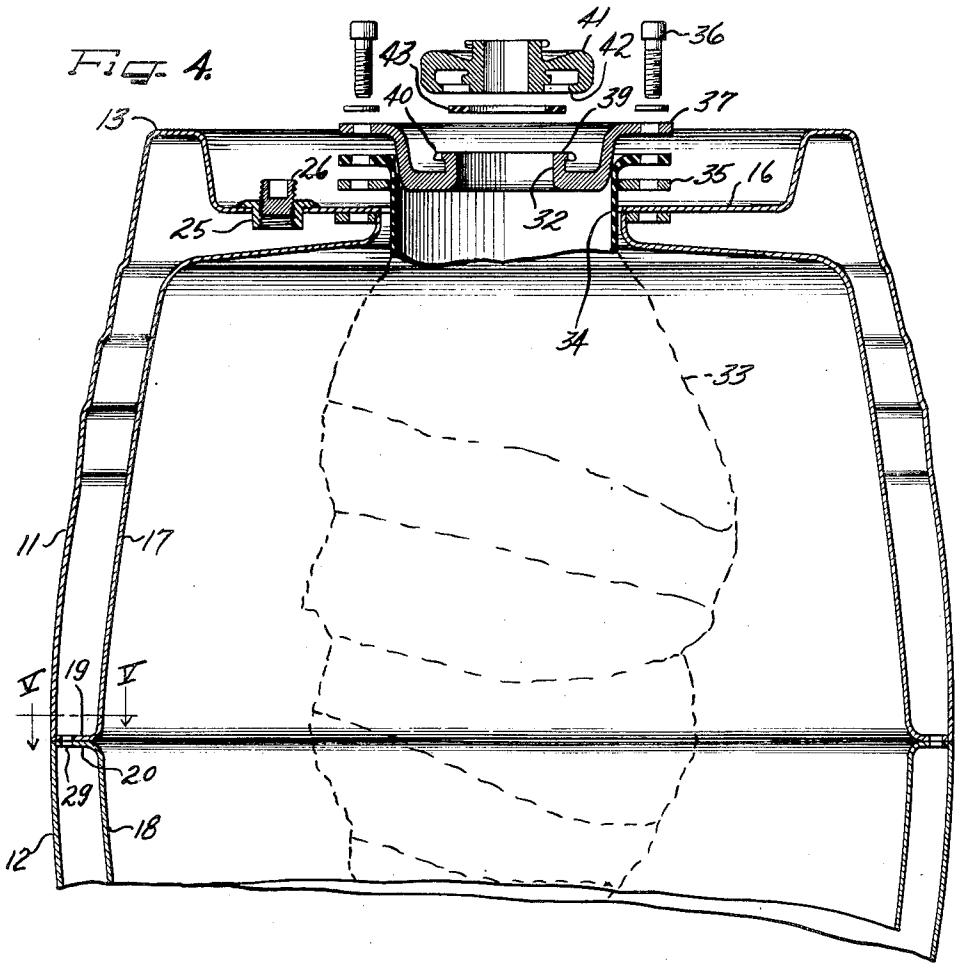
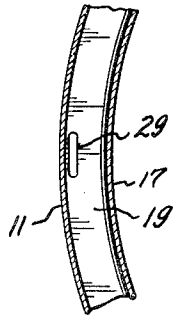


Fig. 5.



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UNITED STATES PATENT OFFICE

2,503,339

METALLIC BEER BARREL

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3 Claims. (Cl. 220—10)

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This invention relates to double walled containers and more particularly to double walled beer barrels made from sheet metal stampings and provided with a removable or permanent liner made of a material suitable as a container for beer.

By constructing such a barrel with double walls, a number of advantages are gained thereby. A sturdy construction of sufficient rigidity to withstand the hard usage to which these barrels are ordinarily subjected can be formed of relatively thin sheet material by stamping methods, portions of the total structure being made in sections which are subsequently secured together, and yet the total weight can be kept within satisfactory limits. To accompany the advantage of using sheet metal suitable for stamping, provision is made for the lining of the inner shell so that the metal itself need not be one that is especially adapted because of its inertness for the reception of beer or other edible products.

A double walled construction is readily adapted for the provisions of an opening into the interior shell, larger than the usual filling opening or tap rod opening such as are usually provided in wooden barrels, for example. Such an enlarged opening can be used to facilitate the cleaning and the inspection of the barrel, and may also be used for the insertion and removal of a separate removable liner, such as is described hereinafter.

Another advantage which resides in the double wall construction is that the space between the inner and outer shells may be employed for the circulation of a cooling fluid such as water.

Accordingly, one of the objects of this invention is to provide an improved double walled container and improvements in the manufacture thereof.

Another object of the invention is to provide a double walled container so designed and constructed as to be appropriately fabricated from thin sheet metal stampings which may be readily assembled into the finished product.

Another object of the invention is to provide improvements in the manufacture of double walled containers provided with unusually large openings to facilitate the cleaning of their interiors.

Another object of the invention is to provide an improved form of double walled container with a removable flexible liner and means facilitating its insertion and removal.

Another object of the invention is to provide an

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improved form of double walled container which may be made of sheet metal stampings and provided with lining material which will render the container suitable for the reception of beverages, or other edible products.

Another object of the invention is to provide a double walled container so constructed as to facilitate the circulation of a coolant between the inner and outer shells of the container.

Other objects and advantages of the invention will be alluded to specifically hereinafter or will become apparent from a perusal of the specification.

In the drawings, which illustrate a preferred form of the invention,

Figure 1 is a vertical central section through a container made in accordance with the present invention;

Figure 2 is a top plan view on an enlarged scale showing the bung end of the barrel;

Figure 3 is a sectional view on the line III—III of Figure 2;

Figure 4 is a central vertical section of the top portion of the barrel showing the bung opening assembly in an exploded view; and

Figure 5 is a sectional view on the line V—V of Figure 4.

Referring further to the drawings, the barrel generally consists of inner and outer shells, the outer shell being formed from two sheet metal stampings 11 and 12 constituting the upper and lower halves of the completed outer shell. The upper half is provided with an annular chime 13 while the lower half is provided with an annular chime 14. The bottom wall 15 is recessed inwardly considerably from the plane of the outer surface of the chime. The top wall 16 of the outer shell is provided with a large central opening in which is fixed a removable assembly which carries both a bung opening of standard size and an enlarged opening whose purpose will later be described.

The inner shell is likewise formed of two sheet metal stampings which are afterwards united to form a single inner shell. It may be pointed out here that due to the use of lining material for the protection of the beer it is not necessary to use for these stampings a metal which without other treatment is suited for a beer container. Accordingly a mild steel well adapted to the forming of the stamping of the character shown may be used.

The inner shell, formed of an upper stamping 17 and a lower stamping 18, is designed to be united securely to the outer shell by means of

flanges 18 and 20 formed on the upper and lower halves respectively of the inner shell, these flanges being united to each other by welding, prior to placing the inner shell inside of the outer shell. At the time the inner and outer shells are placed together the perimeters of the flanges are brought into abutment with the opposing edges of sections 11 and 12 of the outer shell after which the flanges and the two outer shell edges are all welded together in one operation. Thus the flanes furnish a means for uniting the inner and outer shells at their equators and also serve as a spacer between them.

The bottom end of the inner shell is also dished downwardly as at 21 opposite the bung opening to provide a flat area of considerable extent which may be securely welded to the bottom wall 16 of the outer shell. Thus the bottom half of the inner shell is firmly united to and braced upon the outer shell, but otherwise is generally spaced apart therefrom.

Provision for uniting the top half of the inner shell to the top half of the outer shell is as follows. Before assembling the inner and outer shells, a steel ring 22 is welded to the under side of the top wall 16, as is best illustrated in Figure 3. The upper half of the inner shell is formed with an upwardly extending neck 23 which is, during the assembly of the inner and outer shells, welded securely to the ring 22 and the top wall 16, thus providing a firm union between the inner and outer shells at this plane and also providing a leakproof connection between them at that position. To add further strength to the outer shell a series of annular corrugations such as 24 may be provided in the upper and lower halves of that shell.

The top wall 16 is also preferably provided with a bushing 25 which may be welded in place as indicated and provided with a threaded plug 26 for sealing the same. Also the lower half of the outer shell in the vicinity of the bottom chime may be provided with a bushing 27 and a threaded plug 28.

It should be noted that the flanges 19 and 20 are provided with elongated slots 29 in register with each other, as many of these slots being provided as is necessary to facilitate the circulation of a coolant between the inner and outer shells supplied through one of the bushings 25 or 27 and exhausted through the other, or perhaps merely contained between and sealed between the inner and outer shells. Even when no coolant is being employed, if the plugs 26 and 28 be in place a dead air space of considerable insulation value is provided between the inner and outer shells.

Due to the fact that standardized equipment of various types is already in wide use throughout the beer manufacturing and dispensing industries, this barrel is designed to accommodate such equipment. For example, the opening 31 which I have provided in this barrel is intended to accommodate standard tap pipes. However, equipment for filling beer barrels requires an opening of a larger diameter, corresponding to the diameter of the usual bung openings and such an opening 32 is provided. Furthermore, as I prefer to use a removable flexible liner, the insertion and removal of that liner is facilitated by providing a still larger opening in the top of the barrel, and accordingly such an opening is provided within the neck 23 of the inner shell.

The removable liner may be fabricated from various materials which are inert to the action of beer and which can be made available in thin, flexible premolded form. Among such materials are certain of the final type plastics, such as "Koroseal" or "Vinylite." Such a liner, premolded to fit the internal dimensions of the inner shell, may be inserted thereinto and is generally indicated as 33. This liner will be provided with a neck 34 which is pulled up through the neck of the inner shell and extended outwardly to overlie a washer 35. The liner is then clamped against the washer by means of a plurality of cap screws 36 extending through the fixture 37 which may be a metal forging, casting or stamping, or is otherwise formed from metal or even from non-metallic material. Threaded apertures having been provided in the ring 22 to receive the threads of the bolt, the neck of the liner is thus brought down into sealed relation with the top wall of the drum and the under surface of the fixture 37. The washer 35 is provided with a plurality of grooves 38 constituting air passages extending radially outwardly from its inner to its outward edges, spaced apart at frequent intervals around its circumference, for the purpose of permitting the escape of air which might become trapped between the liner and the inner shell when the liner is being distended.

The fixture 37 and upwardly extending collar 39 provide the bung size opening 32. The top edge of this collar is provided with a peripheral flange 40 notched out at intervals to permit a cap member 41 having a cooperating interrupted flange 42 to be dropped down over the flanges of this collar through the interruptions in the flange 40 and thereafter rotated into a tight wedged position. It will be understood that the cooperating interrupted flanges on the cap and collar, as is customary in such assemblies, have tapered contacting surfaces so that rotation in one direction will wedge the cap downwardly upon the collar while rotation in the opposite direction will loosen it and permit its removal. A compressible gasket 43 will be provided between the collar and cap to seal the joint.

In Figure 3, I have indicated a liner 44 which will preferably be of sprayed material in the nature of a coating inert to the action of beer which may be applied to the indicated surfaces of this cap. Likewise a similar coating 45 may be applied as shown to the fixture 37.

The smallest size opening 31 in the cap member 41 will be the size usually provided for the tap pipe used in the dispensing of beer, and during transportation and storage of this barrel may be closed with a plug of wood or some other suitable material. An interrupted flange 46, best shown in Figures 2 and 3, should be provided on the cap 21 adjacent the opening 31 to facilitate the attachment of tap pipes or other fixtures which must be united thereto in sealed relation.

In Figure 4, which shows the fixture 37, cap 41 and other associated parts in an exploded view preliminary to assembly, the removable liner 33 is also shown in the act of being assembled into the barrel, the dotted portions thereof indicating that it is compacted to a size permitting it to be inserted through the opening in the top of the drum, after which it may be expanded in any appropriate manner to lie snugly against the inner shell.

It will now be perceived that I have provided a new type of beer barrel and a method of forming the same including the inner and outer shells which can be drawn in four separate sections and thereafter united by welding in a simple and ef-

ficient manner. While a removable liner such as 33 is preferred, yet I may also provide a sprayed coating for the inside surface of the inner shell, selecting some coating material which is inert to the beer and having other characteristics suitable for application to and adhesion to the inner steel shell.

While the foregoing description and accompanying drawings illustrate a preferred manner of constructing the barrel in accordance with the present invention it should be understood that the invention comprehends variations and modifications differing from the enclosed embodiment, without departing from the scope of the invention defined in the appended claims.

I claim as my invention:

1. A double-walled beer barrel comprising spaced-apart inner and outer shells, the outer shell having a top wall inwardly and downwardly depressed to provide a depressed flat wall portion surrounded by a chime at the upper margin of the barrel, a circular opening in said wall, an inner shell having an upwardly extending neck registering with said opening, an annular reenforcing member secured to the lower surface of the top wall surrounding said opening, means for securing the neck of said inner shell to said top wall adjoining said opening therein, a rigid fixture adapted to be positioned upon said opening and having a peripheral portion, means for removably securing the peripheral portion of said fixture to said reenforcing member is sealed relation with the neck of said inner shell to constitute a closure for said neck, said fixture having a bung-sized opening, and a detachable closure member for said bung opening, said member being provided with a pipe tap opening.

2. A double-walled beer barrel comprising spaced-apart inner and outer shells, the outer shell having a top wall inwardly and downwardly depressed to provide a depressed flat wall portion surrounded by a chime at the upper margin of the barrel, a circular opening in said wall, an inner shell having an upwardly extending neck registering with said opening, an annular reenforcing member secured to the lower surface of the top wall surrounding said opening, means for securing the neck of said inner shell to said top wall adjoining said opening therein, a collapsible flexible liner adapted for insertion through said top wall opening and adapated by distension to snugly fit the interior surface of said inner shell, said liner having a neck shaped to extend up through and to flare outwardly around the opening in said top wall, a rigid fixture having a peripheral portion adapted to overlie the margin of said top wall opening and the flared portion of said liner neck, means for removable securing the peripheral portion of said fixture to said reenforcing member upon the top wall in sealed relation with said inner shell neck and said liner neck, said fixture having a bung-sized opening, and a detachable closure member for said bung-sized opening, said member having a beer pipe tap opening therein.

3. In a double-walled metal barrel having inner and outer generally spaced apart shells, the combination therewith of a preformed flexible liner disposed within the inner shell for containing a liquid, the inner shell having an upstanding neck having a diameter substantially larger than a bung-sized opening, the outer shell having a port registering with said neck, means permanently uniting said neck to the margin of said port, said liner having an outwardly flared neck extendable through said port, a rigid member having a peripheral flange adapted to rest upon the outwardly flared neck of said liner for clamping it upon the margins of said port opening, means for removably securing said rigid member in clamping relation upon the margin of said port opening for sealing the liner neck thereto, said rigid member having a centrally located opening therein of standard bung-size, a removable cap member adapted for attachment to said member for sealing the margin of said bung opening, said cap itself having a centrally located opening of beer tap pipe size.

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