FIG. 1

FIG. 2

H. MULDER

CHIME STRUCTURES FOR BARRELS

Filed Nov. 4, 1960

3,095,111
CHIME STRUCTURES FOR BARRELS

Harry Mulder, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Nov. 4, 1960, Ser. No. 67,188
2 Claims. (Cl. 220—66)

This invention relates to barrels and casks and the provision of a separately fabricated, double-walled rim or chime for the end walls of said barrels and casks.

More specifically, the invention is directed to the formation of disconnected chimes to be secured to and partly encircling the end wall of the barrel, such as a beer barrel, to serve multiple purposes of protecting the center in fitting the and such the barrel is filled, tapped and cleaned, and providing flat planar surfaces for stacking other barrels, preferably with the aid of a board laid therebetween.

In the construction of barrels, especially the types of barrels used for storage of liquids for human consumption, it is highly desirable to provide an interior surface which will not rust, which can be easily cleaned and which will drain readily when inverted. These same features are also desirable in the storage of other types of liquids, such as industrial liquids not intended for human consumption. In order to achieve some of these features it has been the practice in recent years to construct the barrel of corrosion resisting materials such as stainless steel by stamping operations and then welding together the several sections to form the completed barrel. During the course of the stamping operations, the various sections which go to make up the completed barrel, are provided with annular corrugations for purposes of adding strength and rigidity; rolling surfaces by which the completed and filled barrel may be manually moved from place to place; and chimes or double-walled rims to facilitate standing the barrel upright on either of its end walls or heads; and if a tap fitting is to project outwardly from one of the heads of the completed barrel, to form the chimes so that they will project higher than the tap fitting so as to protect it against blows which might damage it so as to render useless the entire barrel.

The interior surface of the completed barrel thus presents a profile of ridges and deep valleys, all making it more difficult to drain and clean the barrel, depending on the degree of the profile, especially in the area of the chimes which surround the tap fitting. When the barrel is inverted, the liquid collects within the double-walled rim or chimes and requires a series of intricate maneuvers of the barrel before complete drainage is obtained.

One of the objects of the present invention is the provision of a separately fabricated chime structure for an improved barrel construction. The improved barrel has a smooth dome-shape end head or end wall from which the tap fitting projects and the separately fabricated chime structure is secured to the outside surface of the dome-shape end wall, preferably by a spot welding process. Therefore, the interior surface of the dome-shape end wall does not present any deep collecting areas when the barrel is inverted and drainage as well as cleansing is greatly facilitated.

The double-walled rims or chimes can be produced by high precision stamping methods and in the manner formed provide unusual strength when secured in place on the barrel.

Another object of the invention is to form the chime structures so as to present a flat top surface on which a board may be supported to form one leg in a tier of such barrels. In practice, the plurality of barrels are arranged in side-by-side relationship and a flat board or boards are placed across the plurality of flat surfaces so presented by the chime structures and then other barrels are arranged in a similar side-by-side fashion on top of the board. Generally the arrangement is staggered so that no one barrel is being directly supported on top of another barrel; although with the present chime construction this could be done without any damage occurring.

A further object of the invention is to interrupt the spacing of the chimes secured to the dome-shape end wall so that the chimes only partially encircle the tap fitting. This is done so that the heads of the barrels having the tap fitting projecting outwardly therefrom may be readily flushed to clean away any surface accumulation of dirt and debris and prevent the flushing water from collecting in pools about or around the tap fitting within the well of the usual chime structure.

Another important object of the invention is to provide a partially encircling three-dimensional chime structure which will afford protection to the tap fitting from inadvertent damage.

A preferred embodiment for carrying out the invention and its objects as well as other objects inherent in its construction is shown by way of example in the accompanying drawings and described in detail herein.

In the drawings:

FIG. 1 is a top view of a barrel, illustrating the disposition of the chime structures with respect to the tap fitting.

FIG. 2 is a view in elevation of the barrel with the upper part thereof taken in section along line 2—2 of FIG. 1.

Referring to FIG. 2 first, a barrel is illustrated, indicated generally at 10, constructed of stainless steel and having a dome-shape end wall 12. The end wall constitutes a part of the upper shell or bowl-like member 14. The upper shell is secured to the medial section 16 by a fusion welding process. The medial section in turn is secured by a similar process to a lower shell or cup-like member 18.

The medial section 16 is bulged outwardly from the periphery of the upper and lower shells in order to provide annular flattened bearing or rolling surfaces 20 on which the barrel may be trundled.

The barrel is preferably provided with circumferential corrugations at 22 and 24 in order to add to the strength of the construction and to enable the barrel to better withstand hard usage.

Projecting outwardly from the center of the dome-shape end wall 12 is a tap fitting 26 which is also fusion welded, as indicated at 28, to form a part of the integral barrel unit.

The invention is indicated at 30 and consists of two unitary and arcuate stamped chime structures spot welded to the outer surface of the dome-shape end wall 12 as indicated at 32, for example. The shape of the structures could be described as similar to the arcuate shape of kidney beans and in the manner attached, partly encircle the tap fitting 26, as may be observed from FIG. 1.

Each double-walled rim or chime construction is stamped from a single sheet of metal; although it may also be molded if the nature of the material used lends itself more readily to that process.

Each stamping construction presents a circumflexed, arcuate flat planar top surface 34. The arcuate side surfaces 36 preferably slope downwardly and taper slightly outwardly from all points of the periphery of the top surface so that the transverse distance across the bottom of the stamping construction is greater than at the top. The side surfaces merge at their base into an inclined peripheral flange 38 which extends continuously around
side surfaces 36 and projects angularly outwardly from their lower edges in such manner as to conform to the surface of the dome-shape end wall 12 so that said flange 38 may be subsequently spot welded thereto. This results in an unusually strong but simple construction in which the flat arcuate surfaces afford means for vertical stacking such barrels.

Although two chime constructions or double-walled rims are illustrated partially encircling the tap fitting, obviously the size of the fabricated chimes could be such as to permit additional ones to be similarly secured and still maintain the disconnected character of the construction to fulfill the objects of the invention, if deemed desirable or advantageous.

What is claimed is:

1. In a barrel having a dome shape end wall surface, a pair of disconnected double-walled chime sections, each of said chime sections comprising a unitary fabricated structure having a circumflexed flat top surface and outwardly sloping side surfaces projecting downwardly from the periphery of said circumflexed surface, said sloping surfaces bordered at their base by an inclined angular peripheral flange, each said peripheral flange of said pair shaped to conform with and be secured to the end wall surface of said barrel and each chime section extending axially beyond and partially encircling said end wall surface so as to leave portions of the end wall surface free between the respective adjacent ends of said pair of chime sections for the drainage of accumulations of water or beverage.

2. A barrel having a dome shape end wall surface, a discontinuous double-walled chime structure secured to said end wall surface and fabricated from a plurality of arcuate metal stampings, each metal stamping having a flat planar end surface and outwardly sloping arcuate side surfaces all projecting axially outwardly beyond said barrel end wall surface to provide handholds for gripping, said sloping surfaces each bordered at its base by an outwardly projecting continuous peripheral flange conforming and secured to said end wall surface, and the planar flat end surfaces of said chime structure being formed so that a plurality of said barrels may be vertically stacked one upon the other.

References Cited in the file of this patent

UNITED STATES PATENTS

<table>
<thead>
<tr>
<th>Number</th>
<th>Inventor</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,038,420</td>
<td>Coakley</td>
<td>Apr. 21, 1936</td>
</tr>
<tr>
<td>2,128,297</td>
<td>Ingersoll</td>
<td>Aug. 30, 1938</td>
</tr>
</tbody>
</table>

FOREIGN PATENTS

<table>
<thead>
<tr>
<th>Number</th>
<th>Country</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>759,545</td>
<td>France</td>
<td>Nov. 23, 1933</td>
</tr>
<tr>
<td>689,628</td>
<td>Great Britain</td>
<td>Apr. 1, 1953</td>
</tr>
</tbody>
</table>