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CHIME CONSTRUCTION FOR STEEL BARRELS

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Fig. 1

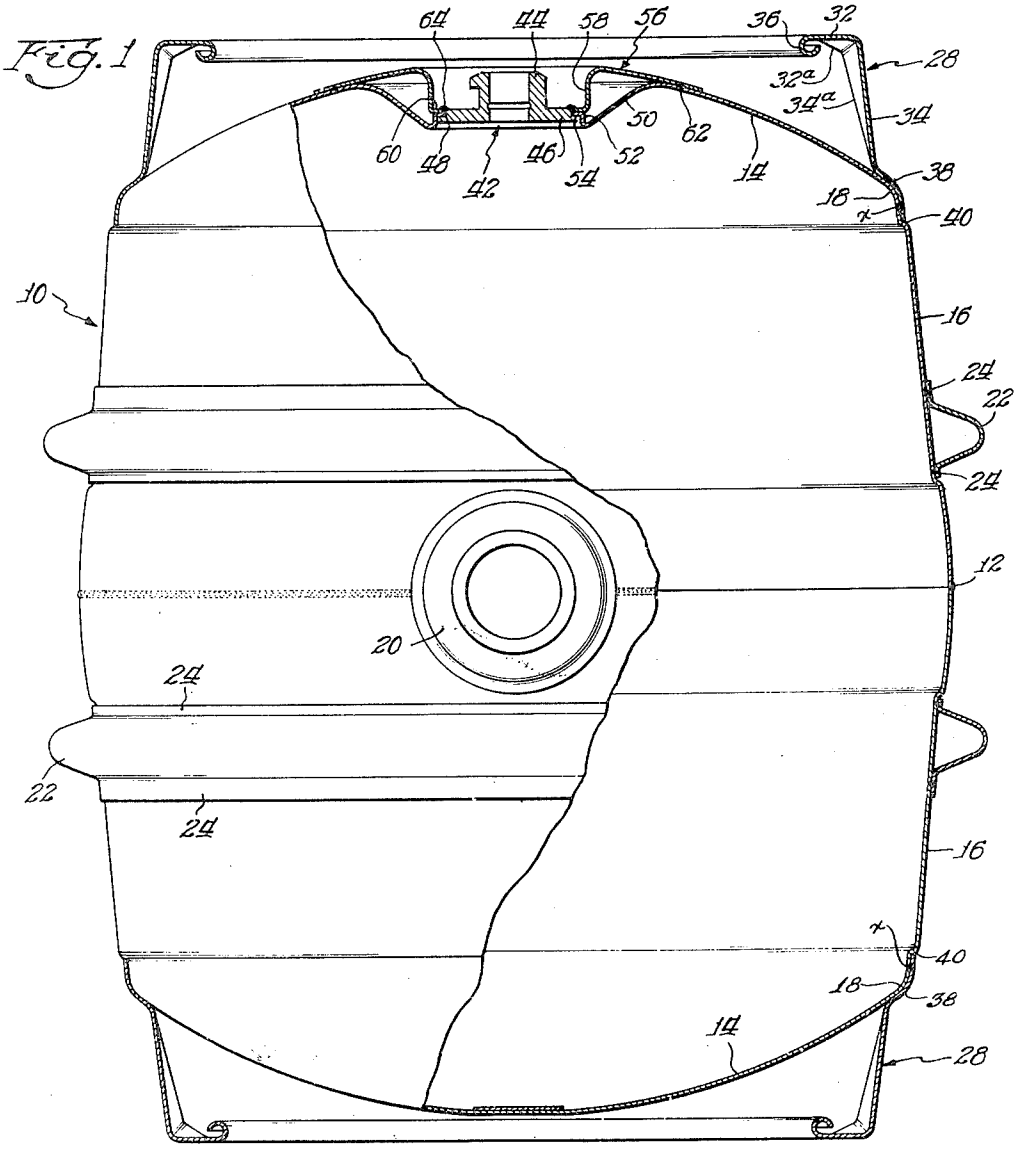


Fig. 3

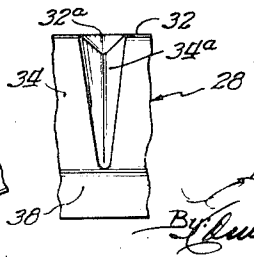
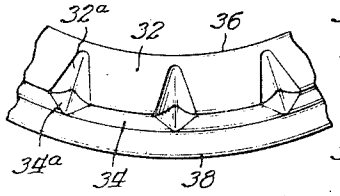


Fig. 2



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CHIME CONSTRUCTION FOR STEEL BARRELS

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5 Claims. (Cl. 220—74)

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The present invention relates to metal barrels and more particularly to a novel chime arrangement for steel barrels and the like.

It is one of the principal objects of this invention to simplify the construction of metal barrels such as contemplated herein and to improve the efficiency, operation and dependability of such barrels.

Another principal object hereof is to provide an improved chime structure for steel barrels which will effect a comparatively light construction by eliminating certain components and at the same time will provide a sturdy assembly capable of withstanding severe usage.

Another principal object is to provide a novel arrangement wherein the chimes are assembled with the barrel shell exterior welds, thus reducing the number of parts and eliminating liability of unobserved leakage occurring which heretofore has not been detectable due to obscured or hidden welding.

A further principal object is to provide a barrel with a novel chime ring which is formed from sheet metal and suitably mounted on the barrel sections preferably by welding at the same time other portions such as rolling hoops are welded to the barrel sections.

Still another object is to provide an improved chime ring which is prefabricated or preformed so that it is adapted for telescopic cooperation with a sectional barrel shell that is also preformed in a manner to readily receive the chime ring, the arrangement being such that a plurality of welding operations are effected at the same time on one machine.

A still further object is the provision of a separate chime ring that may be readily attached to the barrel and is so constructed that it provides a continuous and convenient hand grip, and is reinforced in a manner which provides a sturdy support for the barrel body when placed upon its end.

Another object hereof is to provide an improved chime arrangement constituting a convenient hand grip and which protects the tap fitting and the barrel head from damage. In this connection the tap fitting assembly is well back of the plane of the chime where it will not contact the surface on which the chime is resting.

The above-mentioned and other aims and advantages of the present invention will be apparent to persons skilled in the art after the improvements are understood from the within description taken in connection with the accompanying drawings which form a part of this specification, and in which:

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Fig. 1 is a fragmentary sectional view partly in elevation showing the improved barrel;

Fig. 2 is a fragmentary plan of a side portion of the chime ring assembly; and

Fig. 3 is a fragmentary elevation of the structure shown in Fig. 2.

The drawings are to be understood as being more or less of a schematic character for the purpose of disclosing a typical or preferred form of the novel chime and tap ring arrangement contemplated herein, and in these drawings like reference characters identify the same parts in the different views.

The barrel shown in the drawings is fabricated entirely of metal, preferably sheet steel, of a gauge suitable for withstanding the severe usage to which barrels of this character are frequently subjected. The barrel comprises a body or shell 10 formed preferably of two similar bowl-shaped sections of rather deep dimensions arranged with their annular proximate edges in abutting relation to each other and welded together as indicated at 12. The heads 14 of the barrel have a shallow dome shape, and the junction between the walls forming the heads and the side wall 16 of the barrel are of arcuate section as shown at the terminals 18. The usual bung hole fitting 20 is inserted in an aperture located centrally of the shell or side wall 16, said fitting 20 being anchored to the margin of the aperture in any suitable manner, preferably by a leak-proof seam weld. Sheet metal bilge hoops 22 of U-section have lateral wings 24 which are welded to the bilge region of the barrel to constitute rolling tracks or rings at the sides of the bung hole fitting 20.

The chimes 28 at the barrel terminals are made of separate blanks of sheet steel that are assembled with and anchored to the barrel in a novel and effective manner. The construction and arrangement of these chimes is such that they effectively reinforce and support the ends of the barrel, and they also provide suitable hand grips by which the barrel may be lifted. Each chime comprises an annulus of approximately L-shape cross section, having a radially inwardly extending flange 32 and an axially longitudinally extending flange 34, the latter constituting the outer peripheral wall of the chime. Reinforcing means for strengthening the chimes extend transversely of the flanges 32 and 34 respectively and preferably take the form of a plurality of channels or indentations 32a and 34a

which may be produced during the fabrication of the chime and prior to assembly with the barrel. A reversely bent bead **36** is formed at the radially inner margin of the radial flange **32**. The chime **28** also has an arcuately formed region or outwardly curved annular embossment **38** extending along the margin of the main or axial flange **34**, and, as seen in Fig. 1, the inner concave surface of this embossment **38** conforms to the convex surface of the curved corner or arcuate terminal region **18** of the barrel. An abutment is made on barrel wall **16** proximate the curved corner region **18** by providing a well defined annular shoulder **40** in said wall.

In assembling a chime on the barrel the longitudinal supporting or axial flange **34** is telescoped on the end of the barrel shell so that the annular boss **38** will fit over the curved corner region **18** of the barrel and the marginal end edge of flange **34** will engage the abutment shoulder **40** on the barrel wall. After being positioned in this manner the chime is permanently anchored to the barrel by a suitable welding as at *x* which unites the contacting portions of the shell and chime. It will be seen that when the chime has been assembled with the barrel, the radially inward flange **32** projects above and overhangs the dome-shaped head **14**, and it is free and unattached to the barrel so that ample space is provided when it is desired to utilize the hand grip to lift the barrel.

The tap fitting **42** is secured in a novel manner at a tap hole in the central region of a head **14** to facilitate inserting the tap rod or tube into the barrel. As shown in Fig. 1, this fitting **42** comprises an axial tubular stub **44** terminating at its inner end back of head **14** in an annular flange **46** having a shouldered portion **48** on its surface next said head. There is a depressed region **50** in the domed head **14** which is located centrally thereof. In the central portion of this depression there is a tap hole that is surrounded by an annular flange of L-section the upstanding portion **52** of which flange preferably contacts the edge of fitting flange **46**. The radial portion **54** of this flange rests on the outer surface of said fitting flange in abutting relation to the shoulder **48**.

For the purpose of assisting in anchoring the tap fitting in place, an annular bracket **56** is provided which is made of stamped sheet steel, and is so constructed and arranged as to provide a rigid reinforcement for the assembly. This annular bracket has an inverted dish-shape in cross section and is arranged in overlying relationship to a portion of the head **14** beyond the depression **50**. The inner margin of bracket **56** is formed with an axial flange **58** terminating in a radial flange **60** which is superposed on the radial flange **54** of the barrel head.

The overlying portions of the head, the fitting flange and the bracket are united by an outside weld **64**. Thus the superposed radial flanges **54** and **60** of the head and bracket are anchored to each other and are securely attached to the fitting flange at shoulder **48** by the outside weld which provides a visible leakproof seam.

It will be seen the highest portion of the bracket **56** is back of or beneath the plane of radial flange **32** of the chime **28**, and the outer end edge of tap fitting stub **42** is back of or beneath the plane of the high portion of bracket **56**. In this manner the bracket and the tap fitting on the barrel head are well protected by the chime **28** when the barrel is up-ended and resting on a chime.

Hence, damage to the tap fitting and bracket are avoided, and rupture of the welds **62** and **64** is prevented. Furthermore, any accidental leakage through a ruptured hidden seam is an impossibility with the present structure due to the fact that all the welding is on the exterior of the barrel head where any leakage will be visible and may be readily repaired without dismantling or removing any portion of the barrel.

While the present invention has been described in a typical or preferred embodiment thereof, it will be apparent to persons skilled in the art that changes or modifications thereof may be made without departing from the spirit of the present improvements. It is aimed in the appended claims to cover all such changes or modifications.

I claim:

1. A barrel formed of sheet metal comprising a hollow shell; heads integral with said shell for closing the ends thereof; arcuate terminal portions at the junctions of said shell and heads; shoulders on said shell adjacent said arcuate terminal portions; and annular sheet metal chimes of angular cross section telescoping the ends of said shell in abutting relation to said shoulders, said chimes having annular regions which are free of contact with the shell and heads, and the regions of said chimes which are adjacent the shoulders being shaped to conform to the shape of the arcuate terminal portions and welded thereto.

2. A barrel as defined in claim 1 wherein the sheet metal chimes are of L-shape cross section and have transversely arranged indentations in the flanges of the chimes and serving to reinforce said chimes.

3. A barrel formed of sheet metal comprising a hollow shell; heads integral with said shell for closing the ends thereof; there being arcuate terminal portions at the junctions of the shell and heads; abutments on the shell adjacent said terminal portions; and annular sheet metal chimes telescoped on the axial portions of the shell and extending beyond said heads, each chime comprising an axial flange welded to the telescoped region of the shell with its edge in engagement with said abutment; a radial flange extending inwardly from said axial flange and being free and unattached to the barrel to provide a hand grip; and indentations in said axial and radial flanges, said indentations having varying dimensions that increase toward the junction of said flanges and are effective to reinforce the chime.

4. A barrel formed of sheet metal comprising a hollow shell; heads integral with said shell for closing the ends thereof; arcuate terminal portions at the junctions of the shell and heads; abutments on the shell adjacent said terminal portions; annular sheet metal chimes of substantially L-shape cross section; the radial flanges of said chimes being free of contact with other portions of the barrel to provide a hand grip; and annular embossments of arcuate cross section at the margins of the axial flanges of said chimes, said embossments conforming to said arcuate terminal portions and seated in overlying relation thereon and welded thereto, the edges of said embossments being engaged with said abutments.

5. A barrel formed of sheet metal comprising a hollow shell; heads integral with said shell for closing the ends thereof; arcuate terminal portions at the junctions of the shell and heads; abutments on the shell adjacent said terminal portions; annular sheet metal chimes of substantially L-shape cross section; and annular embossments of arcuate cross section at the margins of

the axial flanges of said chimes, said embossments conforming to said arcuate terminal portions and seated in overlying relation thereon and welded thereto, the edges of said embossments being engaged with said abutments.

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