J. W. DARLEY, JR.

METALLIC BARREL.

APPLICATION FILED OCT. 21, 1915.

1,240,029. Patented Sept. 11, 1917.

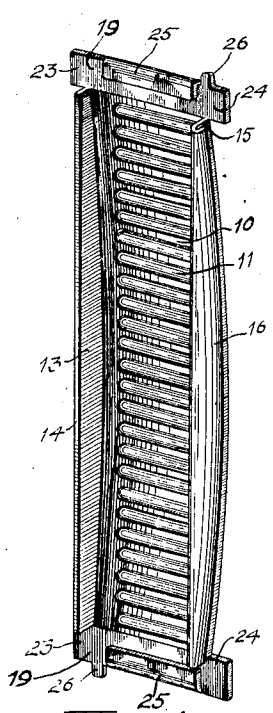


Fig. 4

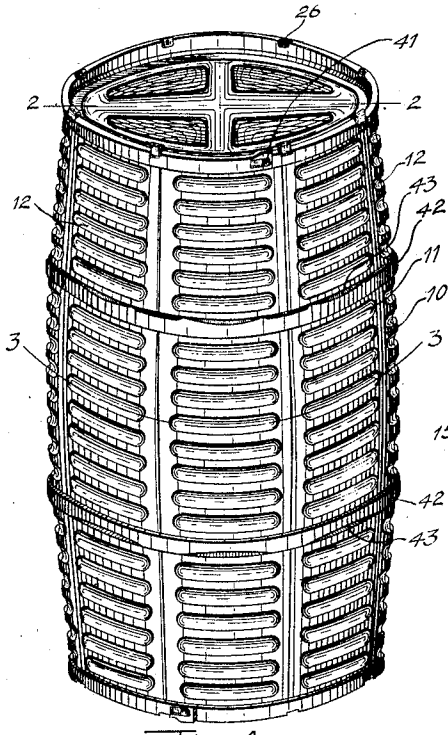


Fig. 1

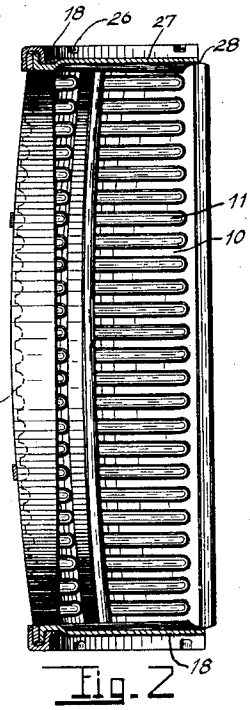


Fig. 2

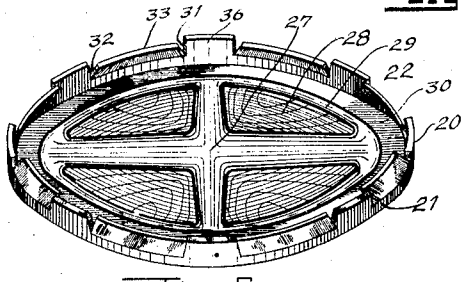


Fig. 5

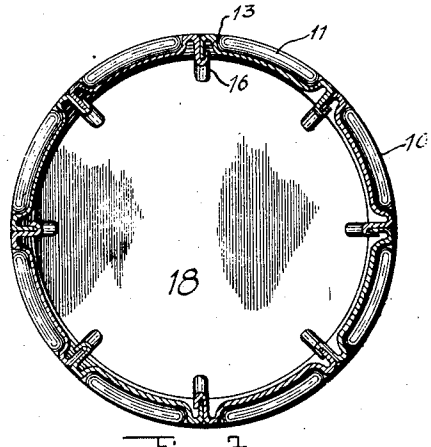


Fig. 3

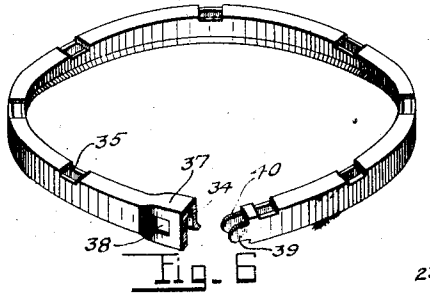


Fig. 6

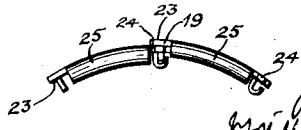


Fig. 7

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UNITED STATES PATENT OFFICE.

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METALLIC BARREL.

1,240,029. Specification of Letters Patent. Patented Sept. 11, 1917.

Application filed October 21, 1915. Serial No. 57,189.

To all whom it may concern:

Be it known that I, JOHN W. DARLEY, Jr., a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Metallic Barrels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to metallic barrels, and the object of my invention is to produce a metal barrel, which shall be light, strong, of a bilged form and which shall be so constructed that the head can be readily removed where access to the interior is desired.

A further object of my invention is to provide a barrel which can be readily knocked down when the barrel is to be reshipped for re-use as a container.

This present application for United States Letters Patent relates only to the construction of the staves and hoops of my improved barrel.

Another application for United States Letters Patent, Serial No. 57,190 is filed herewith covering the head and chine ring for use with my improved barrel.

In the drawings

Figure 1, is a perspective view of my improved barrel;

Fig. 2, is a partial longitudinal section of my improved barrel along the line 2—2 of Fig. 1;

Fig. 3, is a transverse section along the line 3—3 of Fig. 1;

Fig. 4, is a perspective view of one stave;

Fig. 5, is a perspective view of one head;

Fig. 6, is a perspective view of the chine ring showing the ends thereof separated; and

Fig. 7, is a top plan view of the juncture of two staves.

In the drawings, 10, represents a stave of which there may be any approved number used in the barrel, there being eight barrels shown. Each stave on its outer surface is provided with a plurality of corrugations 11 extending from its outer surface inwardly. The corrugations 11 are substantially semi-circular in cross section and are provided with rounded ends. There may be any desired number of corrugations employed, but they should extend inwardly from the outer surface of the staves as shown, in order to insure an approximate smooth surface for the barrel to roll upon.

The corrugations 11 do not extend across the full width of the staves but smooth borders 12—12 are provided between the ends of said corrugations and the edges of said staves.

Each stave along one edge is provided with a rib 13 projecting radially inward, and the inner edge of said rib is substantially straight as shown at 14 in Fig. 4.

On the other edge of each stave is provided a rib portion 15, which projects radially inward and has formed integrally on its inner edge, a curved flange 16, the flange 16 is substantially straight longitudinally, but its outer edge is curved as shown.

The rib 13 and the rib formed of the straight portions 15 and 16 are of the same length and extend between the inner surfaces of the heads 18 as shown in Fig. 2.

The edge 14 and the portion 16 are formed substantially straight longitudinally so as to give said ribs a greater radial width at the largest part of the bilge of the barrel than said ribs have at the ends. By this means said ribs are made very much stronger and the barrel is rendered more able to resist stresses applied to the bilge thereof. The ends of said ribs form the inner supports for said heads.

The ends of said staves are formed with the portion 19 which is curved to fit the cylindrical surface 20 of the flange 21 of the head 22 shown in Fig. 5.

The portions 19 extend as at 23—24 beyond the rib 13 and the rib formed by the portions 15 and 16. On the outer ends of the portion 19, the flange 25 is bent over as shown in Fig. 4. The flange 25 is of a length circumferentially about equal to three-quarters of the circumferential distance between the outer surface of the rib 13 and the outer surface of the portion 15. A tab such as 26 is provided on the portion 19 adjacent to the flange 25.

The flanges 25 on both ends of the stave are similar and similarly situated, but the tabs 26 are placed diagonally opposite on the ends of the stave as shown in Fig. 4.

The head 22 of my improved barrel is formed with the cruciform strengthening rib 27 having depressions 28 between the arms thereof, and a circular strengthening rib 29 connecting said arms. The flat an-

nular portion 30 extends radially outward from the strengthening rib 29 to the cylindrical flange 21.

The cylindrical surface of the flange 21 is cut in a plurality of places as at 31—32 and the portions such as 33 between the cuts such as 31—32 are bent inwardly to form an acute angle with the outer cylindrical surface 21 as is shown in Fig. 5.

The circumferential length of the portion 33 is slightly greater than the circumferential length of the flange 25 of the stave end as shown in Fig. 4.

There are as many bent portions 33 and as many straight portions 36 of the flange as there are staves in the barrel.

The chine ring for my improved barrel is substantially U shaped in cross section as shown at 34 in Fig. 6, and is provided with a plurality of holes 35 cut through the top portion thereof. There are as many holes similar to 35 as there are staves in the barrel.

The holes 35 are of sufficient width to permit the passage therethrough of tabs 26.

One end of the chine ring is enlarged as at 37 and provided with a hole 38 in the outside flange for the reception of the tab 39 formed on the outside flange of the other end of said ring. The inside flange of said last named end is also provided with the tab 40 and a hole not shown is provided in the first named end of said chine ring for the reception of the tab 40. The tabs 39 and 40 are placed through the holes in the other ends of the ring and then backwardly as shown at 41 in Fig. 1, thus securing the ends of the ring together. Hoops such as 42 are provided for securing the staves together.

The process of assembling my improved barrel is as follows:—

The rib 13 of one stave is introduced into the opening between the portions 15 and 16 of the flange rib of the next adjacent stave and the process is repeated with additional staves until the sufficient number of staves have been thus assembled to form the body portion of the barrel.

During the process of joining the ribs together, it is evident that the ribs 13 must be passed between the portions 24—24, and that the portions 23 will overlie the portions 24, hence, it is evident that the portions 24 bearing against the ends of the rib 13 will prevent longitudinal displacement of one stave with reference to another and the portion 23 bearing against the portion 24 will give additional strength at the chine of the barrel, after the ribs of the staves are joined together as just described.

The hoops 42 are driven over the body of the barrel until they fit tightly around the bilged portion thereof, then the edges of said hoops are swaged into the corrugations 11 as at 43, thus preventing the hoops from becoming loose.

The head 22 is introduced with the portions such as 36 between the portions such as 25 on the ends of the stave. The head is then driven inwardly until its inner surface rests against the ribs 13 and portions 15. The head is then to be turned slightly to bring portions 36 under the U shaped portion 25 in order to lock the head with the staves.

The chine ring is then driven over the flange of the head and the ends of the staves with the tabs 26 projecting through the holes 35. The tabs 26 are then bent over inwardly as shown in Fig. 1, thus locking the chine ring in place.

I claim:—

1. A stave for a metallic barrel having a bilged body portion, a flat radially disposed rib along one edge thereof and a flanged rib along the other edge thereof, the inner edge of said flat rib and the inner surface of said flanged rib being substantially straight longitudinally.

2. In a metallic barrel, staves having bilged body portions, ribs along the edges of said bilged body portions, and curved ends on said staves, each of said ends having side extensions to fit over the ends of one rib of an adjacent stave.

In testimony whereof, I affix my signature.

JOHN W. DARLEY, JR.