

L. O. BROWN.  
METALLIC VESSEL.  
APPLICATION FILED DEC. 22, 1908.

1,005,933.

Patented Oct. 17, 1911.

2 SHEETS-SHEET 1.

Fig. 1.

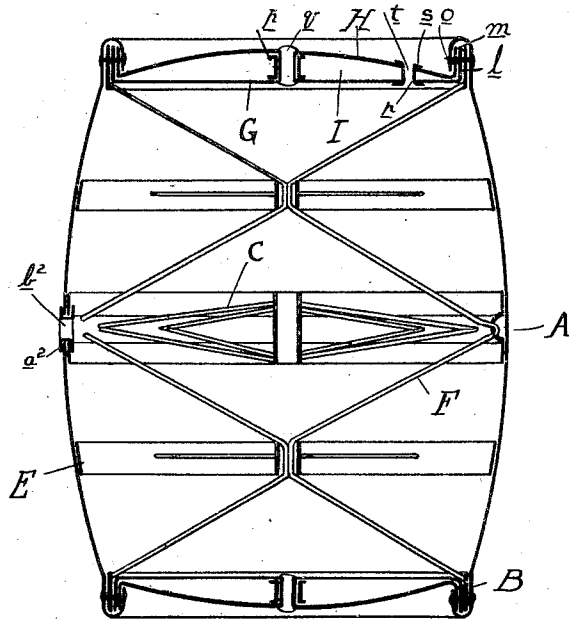


Fig. 4.

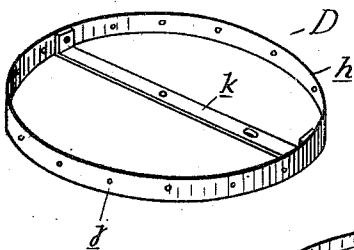


Fig. 3.

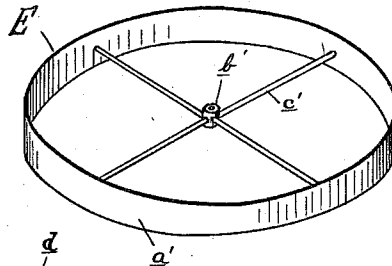
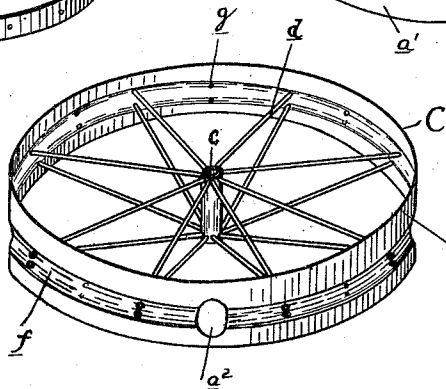


Fig. 2.



Witnesses

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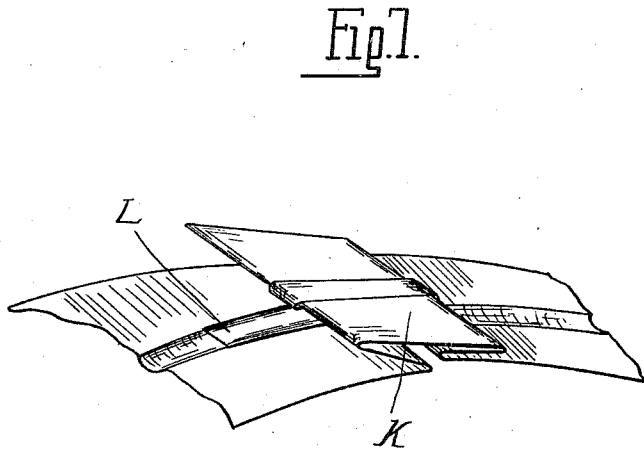
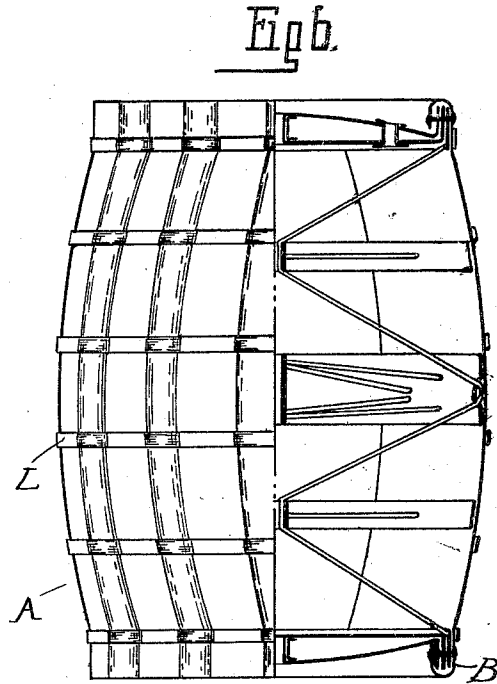
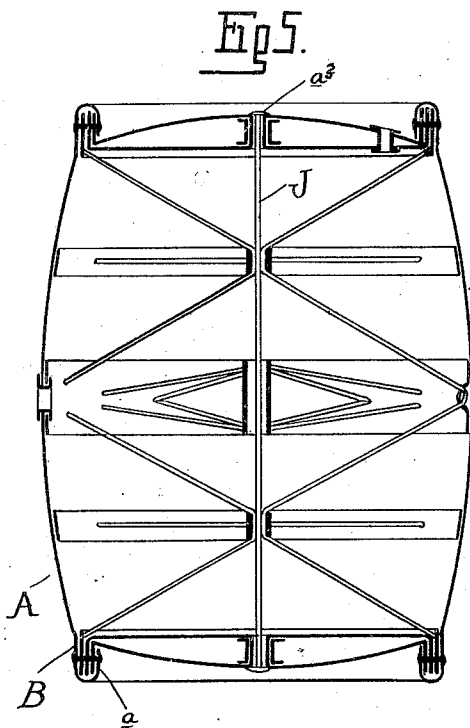
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2 SHEETS—SHEET 2.



Witnesses

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# UNITED STATES PATENT OFFICE.

LOUIS O. BROWN, OF TOLEDO, OHIO, ASSIGNOR TO THE METALLIC BARREL COMPANY,  
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## METALLIC VESSEL.

1,005,933.

Specification of Letters Patent.

Patented Oct. 17, 1911.

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### To all whom it may concern:

Be it known that I, LOUIS O. BROWN, a citizen of the United States of America, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Metallic Vessels, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates particularly to metallic barrels especially designed for containing liquids, and consists in the construction of the barrel body, in an internal reinforcement for the barrel; and, still further, in the peculiar arrangement and combination of the various parts, as will be more fully hereinafter set forth.

In the drawings,—Figure 1 is a vertical central section through a barrel embodying my invention. Figs. 2, 3 and 4 are detached perspective views of parts of the internal reinforcement; Fig. 5 is a view similar to Fig. 1, illustrating a central reinforcement between the heads; Fig. 6 is a view in section and in elevation of a barrel, showing a modified form of body; and Fig. 7 is a sectional perspective view, showing the construction of the body illustrated in Fig. 6.

In the drawings thus briefly described, reference being had to Figs. 1 to 4 inclusive, A represents the barrel body, which may be either of the bilge type or cylindrical in form, the former being here illustrated. B represents the chine portions of the body, which are preferably return-bent, forming hook-shaped portions *a* adapted to engage the flanges of the heads hereinafter described and to be riveted thereto.

To strengthen the barrel structure an internal reinforcement is provided, consisting preferably of a plurality of annular reinforcing members connected in such manner as to equally distribute the strain to which the barrel is subjected. The central reinforcement C is preferably of the construction shown in Fig. 2, consisting of a peripheral portion *b*, a hub *c* and spokes *d* connecting the parts. The annular section *b* is provided with a circumferential bead *f*, and within the beaded portion is formed a plurality of pairs of apertures *g* through which the tie rods hereinafter referred to are adapted to extend.

Within each end of the barrel adjoining

the chine is arranged a reinforcing member D of the construction shown in Fig. 4, consisting of an annulus *h* having circumferential series of apertures *j* and a cross-bar *k*. The reinforce is inserted within the hook-shaped chine in the manner indicated in Fig. 1, and is preferably riveted in position with its series of apertures extending below the chine so as to permit of the insertion of the tie wires or rods.

Intermediate each end and the central reinforcement is preferably arranged a reinforcing member E of the construction illustrated in Fig. 3, consisting of an annulus *a'*, a hub *b'* and spokes *c'*.

The reinforcing members described, being positioned within the barrel as indicated in Fig. 1, are in turn reinforced by oblique stress members preferably in the form of wires or rods F. In the particular form of reinforcement shown, the rods extend through the apertures in the end reinforcing members and are connected to the latter through the hub portions of the intermediate reinforcements, and through the pairs of apertures *g* in the central reinforcing member. In this manner, the desired equalization of the strain that the barrel body is subjected to is produced.

The discharge opening in the side of the barrel is formed by aperturing the barrel body and the central reinforcement, forming a lateral opening *a*<sup>2</sup> and inserting within the registering apertures forming said opening a tubular rivet, as *b*<sup>2</sup>.

The heads preferably used in my improved barrel are of the double type, consisting of an inner head section G having an out-turned annular flange *l*, and an outer section H also provided with an outwardly-projecting flange *m* and spaced from the inner section to form an insulating space I. The heads are secured to the body by arranging the head flanges within the return-bent chines in the manner indicated in Fig. 1, and connecting the adjoining portions, as by rivets *o*.

For the purpose of strengthening the heads, I preferably centrally aperture each head section, insert between the sections of each head a bushing, as *p*, in alinement with the apertures, and clamp the head sections by a rivet, as *q*, extending through the bushing as shown. A discharge opening may

also be formed in either or both heads if desired by aperturing the head sections, as at *r* and *s*, and inserting within the registering apertures a tubular rivet, as *t*.

5 In Fig. 5 of the drawings I have shown further means for reinforcing the barrel body, the additional reinforcement consisting of a longitudinally extending rod or tie-wire *J* passing through the hubs of the  
10 annular reinforcing members, through the apertures in the head sections and the bushings therebetween, and the extremities of the rod being shaped into heads *a*<sup>2</sup> adapted to bear tightly against the outer head sections *H*.

In some instances I may and preferably do further strengthen the body of the barrel by forming longitudinal reinforcing folds therein, as indicated in Figs. 6 and 7. These  
20 folds may be flattened so as to form what may be termed "box-plaits,"—indicated by the reference-letter *K*,—extending from chine to chine of the barrel, and where a body of the bilge type is to be formed the  
25 folds increase in width from the center to the barrel ends, giving the desired contour to the body.

With the form of barrel body shown in Figs. 6 and 7 I may if desired employ  
30 hoops, as *L*, as further reinforcing means, the preferred construction of hoop being indicated in Fig. 7, consisting of a band or strap of metal that is folded about the box  
35 plaits in a manner to be clamped between the plait and the barrel body and thus held in their proper position upon the latter. It will be noticed in this construction that the reinforcing bands in passing about the  
40 plaits do not enter the same or pass through any portion of the barrel body, so that the latter is imperforate throughout, and thus well adapted to hold any liquid that it may

be desired to be placed within the receptacle without danger of leakage.

What I claim as my invention is,—

1. In a metallic barrel, the combination with a body section, of an internal reinforcement therefor comprising a plurality of connected annular reinforcing members.

2. In a metallic barrel, the combination of  
50 a body section and an internal reinforcement therefor comprising a series of annular reinforcements and diagonally extending tie members connecting the reinforcing  
55 members.

3. In a metallic barrel the combination with a body section, of an annular reinforcement within the body, and stress members extending obliquely from the reinforcement  
60 to the body sides.

4. In a metallic barrel, the combination with a body section provided with a central annular reinforcing member, similar reinforcements intermediate the end and central  
65 members, and tie-rods for the reinforcements extending obliquely therebetween.

5. In a metallic barrel, the combination with the body, of an annular reinforcement therefor, and stress members for and extending obliquely from the reinforcement.

6. In a metallic barrel, the combination with the body section, of spaced reinforcing  
70 members each comprising a hollow hub, an annular member, and spokes connecting the hub and the annular member and forming  
75 internal braces for the latter, and oblique stress members for the body passing through the hub of one of said reinforcing members.

In testimony whereof I affix my signature in presence of two witnesses.

LOUIS O. BROWN.

Witnesses:

JOHN Q. PALMER,  
C. W. OWEN.