

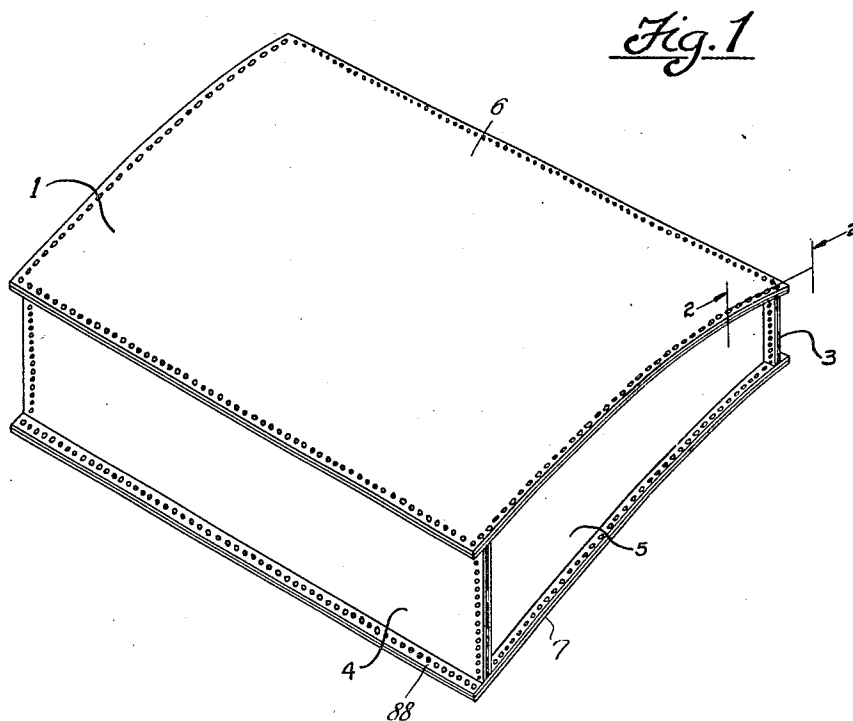
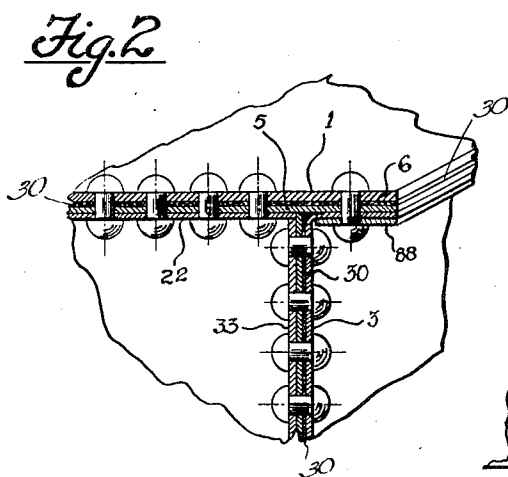
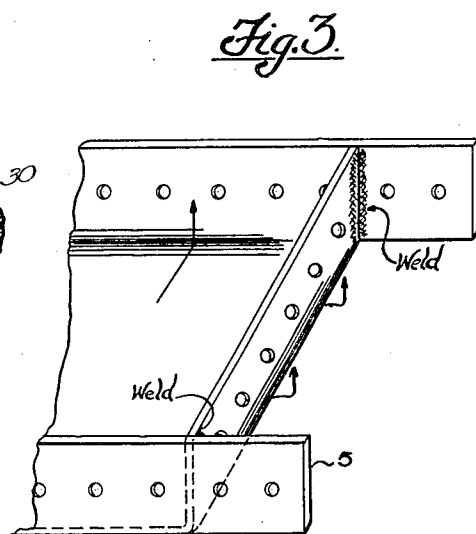
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T. HOLTHE

1,958,142

TANK

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UNITED STATES PATENT OFFICE

1,958,142

TANK

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Application June 21, 1930, Serial No. 462,868

5 Claims. (Cl. 220-75)

The invention relates to improvements in tank construction and especially to tanks having edges and corners. It is particularly valuable as embodied in aircraft fuel tanks which must be

light, strong, rigid and built to withstand excessive jolts, vibration and the constant movement of large masses of contained liquid. In one of its aspects my invention includes means for strengthening tanks and other means for making tanks liquid tight solely through the use of externally exposed rivets. This feature insures ready accessibility to rivets, or any other fastening devices holding the tank parts together, when the tank is being repaired or during the replacement of any of its parts and the accomplishment of this work in the shortest possible time and with the least expense.

With these and other objects and advantages in mind, attention is called to the drawing in which:

Figure 1 is a perspective view of a tank constructed in accordance with my invention.

Figure 2 is a cut section taken in the plane 2-2 indicated on Figure 1.

Figure 3 is a perspective view of an unassembled tank end member showing its welded corners carrying an integral ear extending outwardly beyond each corner.

Referring specifically to the drawing in which like numerals indicate like parts, 1 is a tank, comprising a flanged end member, a similar flanged end member being placed on the other end of the tank but not shown in the drawing, two side members 3 and 4 each having flanges on their upper and lower edges, a tank top member 6, and a bottom tank member 7, these last two members, however, in accordance with my present invention being preferably although not necessarily minus flanges.

In constructing my improved tank the ends of the tank are first produced preferably from metal sheets by slitting the end members at their corners with slits approximately the depth and width of the flanges to be turned up on said end members. After turning up flanges on all sides of said end members the corners of the flanges are welded completely closed as shown in Figure 3, an integral ear carried by each corner extending outwardly beyond said corners.

The side members of the tank 3 and 4 are then flanged along their upper and lower edges and assembled across their narrow ends and temporarily fastened to the two tank end members constructed as previously described.

In the present embodiment of the invention, top

and bottom tank members 6 and 7 respectively are for cheapness and simplicity composed of flat plates fastened around their outer edges to the side and end members of the tank assembled. Up to this point in the assembly of the tank all fastenings are preferably of a temporary nature. At the time these temporary fastenings are substituted for permanent fastening and prior to riveting or bolting all members of the tank together an impregnated fabric or any suitable type of packing 30 is laid along all flanges on the tank and fastened in place between the parts being joined, stiffening members, whose width is roughly the depth of the flange, and designated on the drawing by numerals 22, 33 and 38 being riveted or bolted in position as shown on the drawing.

When all tank members are clamped together in their respective relation as described and illustrated, it is a simple matter to drill or punch the holes around all of the flanged portions of the tank, insert rivets and set and hammer them tight.

The ears, 5, Fig. 3, are disposed between the flanges on the side plates 4 and the top and bottom plates 6 and 7, and serve as means for giving additional strength to the corners of the completed tank. These ears are set into depressions in the top and bottom flanges of the side flanged plates adjacent to their ends sufficient to receive the ears 5. The outer surfaces of the ears 5 and the outer surfaces of the side flanges would then be in substantially the same plane and no additional filler strips would be needed. As an alternative these ears 5 would separate the top or bottom plates from the side flanged plates in order to fill the space thus created, filler strips may be inserted therein.

A tank made in this manner is cheap and simple to construct and light, strong and rugged in use.

The tank can, of course, be triangular or polygonal in section, a rectangular tank merely being used for purposes of illustration it being understood that the embodiment of the invention as shown herein is only one form which might be used and that the invention is subject to variations and modifications without departing from the spirit of the appended claims.

I claim:—

1. A tank comprising two end members and a plurality of side plates, each end member having a continuous flange, said flange having a plurality of corners, each corner carrying an integral ear extending outwardly beyond said corner, flanged side plates fastened along their ends to

said end members between said ears and other side plates fastened to said ends, to said flanged side plates and to said ears.

2. A tank comprising two end members and a plurality of side plates, each end member having a continuous flange, said flange in each end member having a plurality of corners, each corner carrying an integral ear extending outwardly beyond said corner, stiffening members adjacent said continuous flange, flanged side plates having unflanged ends fastened along their unflanged ends to said end members and to stiffening members adjacent said continuous flange and between said ears and other side plates fastened to said ends and to said flanged side plates and to other stiffening members adjacent side plate flanges.

3. A tank comprising two end members each having a continuous flange having angles therein with projecting ears at the apex of said angles, side members contacting with portions of said continuous flange, top and bottom members adjacent other portions of said continuous flange

and flanges on said side members, filler strips between said top and bottom members and said flanges, reinforcing elements contacting with portions of said continuous flange and with the flanges on said side members and rivets exposed at both ends connecting the reinforcing members and the flanges of the end and side members said projecting ears being disposed between the side members and the top and bottom members.

4. A tank comprising a flanged end member, a flanged side member and a top or bottom member, integral ears projecting from said end members and disposed between the side members and the top or bottom members to reinforce said junction.

5. A tank end member having the edges bent up to form a flange having a plurality of corners, said bent up edges being welded to each other at the corners formed by their juncture to form a continuous flange and certain of said edges projecting beyond said juncture to form integral ears projecting outwardly beyond said corners.

THORLIEF HOLTHE.

25	100
30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145
75	150