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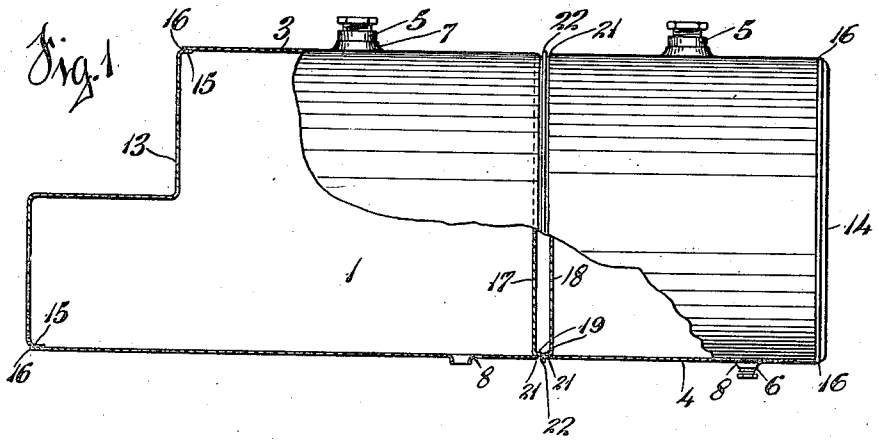
OIL WAGON TANK.

APPLICATION FILED JUNE 22, 1914.

1,311,155.

Patented July 29, 1919.

Fig. 1



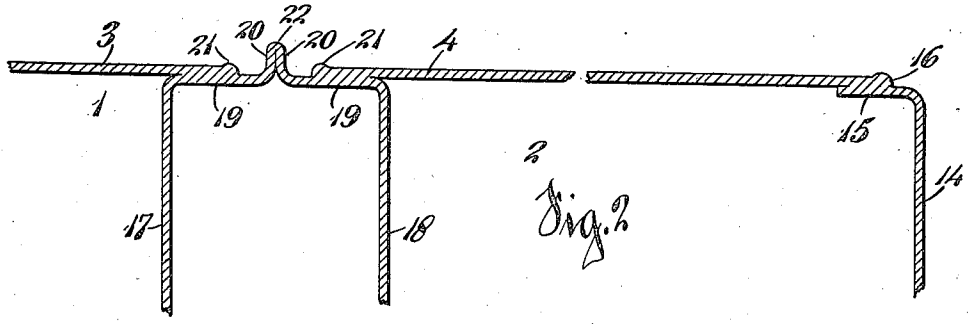


Fig. 2

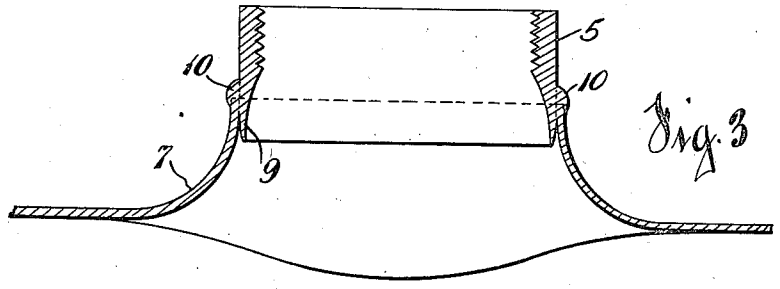


Fig. 3

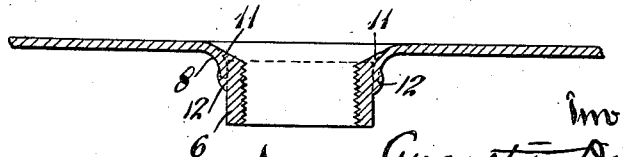


Fig. 4

Witnesses

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UNITED STATES PATENT OFFICE.

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OIL WAGON-TANK.

1,311,155. Specification of Letters Patent. Patented July 29, 1919.

Application filed June 22, 1914. Serial No. 846,444.

To all whom it may concern:

Be it known that I, AUGUSTINE DAVIS, JR., a citizen of the United States, and a resident of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Oil Wagon-Tanks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates particularly to oil tanks used on wagons, wherein the oil-tight uniting of parts together is a necessity, and where lightness of construction without sacrificing strength, is a great desideratum. The object of my invention is to provide tanks of this character in which the sheet metal may be of light gage, and in which oxy-acetylene or similar autogenous welds are used, with all welds exterior welds and all parts weldable together without causing buckling. One of the special objects is to provide a plurality of compartments in such tanks with the strain on the welds reduced to a minimum by the tank structure. In riveted tanks it is impossible to use sheet metal of lighter gage than twelve to fourteen, because rivets will not hold the sheets in tanks of light gage, and my parts are welded throughout to overcome this difficulty of the art. In riveted tanks, also, jars and blows are liable in time to start seams and rivets and allow leakage.

The objects above mentioned and other advantages as will be indicated, are accomplished by that certain construction and arrangement of parts to be hereinafter specifically pointed out and claimed.

In the drawings,

Figure 1 is a side elevation of a double compartment wagon tank, partly in vertical section.

Fig. 2 is a vertical section showing the weld of shell to end and compartments heads, drawn in full size.

Fig. 3 is a central vertical section of a filler opening.

Fig. 4 is a similar view of an outlet.

The tank shown has compartments 1 and 2, formed of thin sheet metal shells 3 and 4. In each shell is a filler opening 5, and an outlet opening 6. These two openings may both be attached in the same manner, but are not so shown in the drawing. The shells are flanged outwardly at 7, 8, to give additional strength. The corners are rounded, also, to avoid sharp edges and hence strain on the metal. Inasmuch as standard openings are to be used both for saving in cost of manufacture and because it is desired to have the fittings of substantial stock, quite a problem is presented of welding a large heavy fitting to a thin shell, without buckling the sheet or distorting the fitting. Ordinarily it is not practical to weld a heavy fitting to a thin sheet with any great degree of success, because of excessive cost and a poor weld. It is solved here, by turning out to a thin edge 9 the lapping portion of the inlet opening fitting. The weld 10 can then be made without any difficulty, at the edge of the flanged shell. The fitting will then be oil-tight, and permanent.

This is not necessary in the smaller outlet fittings, and I have shown a modified way of securing them in the bottom of the shells. The lapping portion of the fitting is not turned, but a weld 11 is made at the edge of the fitting inside of the tank, and a weld 12 at the edge of the flange of the shell. By this means I can securely fasten the smaller fitting to the shell without the expense of turning it down to a finer edge. It will be understood, however, that the gage of this smaller fitting in standard sizes is considerably smaller than that of the filler inlet fitting. If this method of setting in the outlet is adopted, there is, of course, an exception to the statement that all welds in the tank are outside welds.

In setting in the various heads to form tanks and compartments, in the cylindrical shells it is desired to avoid the troublesome flanging of the shells. It is desired to avoid inside welds, and confine all flanging to the heads. It is desired to have straight pulls on all welds and to form compartment heads so that a bulging in one compartment will not affect the other compartment. It is also desired to separate the compartments so that leakage out of one will not get into the other and adulterate the contents thereof.

The shells 3 and 4 are maintained unflanged at their ends, and their adjacent ends are spaced apart. The forward head 13 having the seat cut out, is flanged at 15, the flange lapped under the end of the shell, and weld 16 made at the edges of the shell. The rear head 14 is mounted in a like manner, and for convenience the same reference numerals applied to flange and weld. The shells are not buckled at all in putting

in these heads and the welds are in a position where "breathing" of the heads will not tend to open up the joint. They are also outside of the tank and readily accessible.

The compartment heads 17 and 18, to provide a separate head for each department, are of similar shape, flanged at the edges to have a laterally extending portion 19, over which the ends of the shells are to lap, and an outwardly extending portion at 20 so as to lie together. When the heads are set in place in the shell, they will be separated by the length of the portion 19.

The welds are made as follows: a weld 21 at the edge of each shell where it laps the portion 19, and the weld 22 at the adjacent edges of the portions 20. These welds are thus separated for each compartment and there is no weld between the two, the opening of which would lead to adulteration. There is double strength over a single partition wall, and the welds 21 and 22 are protected by the spring in the flanges 20.

The heads are put together with their respective shells first welded, and then tested before joining the two compartments together. The weld 22 is then made and being away from the outside line of the tank, it can be put in, without tending to throw a buckling strain on the shell, and also without throwing unusual strain on the welds 21. The tank is designed primarily for mounting on a wagon, but no such showing is made as it forms no part of my invention. The construction of my tank entirely by oxy-acetylene welding and the method of putting in the fittings makes a practically seamless tank which may be decidedly lighter than tanks which are held at any point by rivets.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A safety compartment wagon tank comprising unflanged shells, heads welded therein including compartment-heads having flanges projecting annularly beyond the body of the tank, and a weld uniting said compartment-head flanges exteriorly of the tank and thereby permanently joining the compartments.

2. A safety compartment wagon tank, comprising a plurality of shells, flanged compartment-heads inserted into adjacent ends of said shells with their flanges extending toward each other and their double-partition-forming walls spaced apart, the ends of the shells lapping over the flanges of said heads being united thereto by external welds, and the edges of said flanges being turned outwardly and united by another weld.

3. A safety compartment wagon tank, comprising a plurality of shells, flanged heads inserted into adjacent ends of said shells with their flanges extending toward each other and their double-partition-forming walls spaced apart, external welds uniting the ends of the shells to the flanges over which they lap, contiguous outturned flanges on the edges of the main flanges, and a weld uniting said outturned flanges.

4. A safety compartment wagon tank, comprising a plurality of shells, and flanged heads welded into the adjacent ends of the shells with their flanges extending into contiguity and welded to each other and their double-partition-forming walls spaced apart.

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