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RIP SEAM

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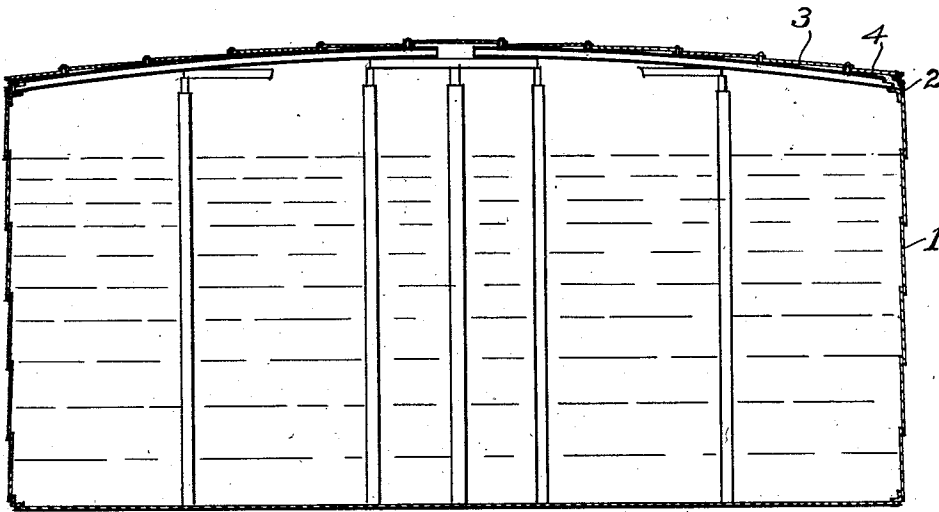


FIG. -1

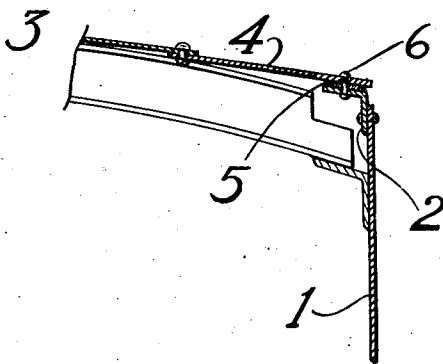


FIG. -2

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RIP SEAM

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This invention relates to metal tanks for the storage of combustible materials. Such tanks occasionally develop explosions in the space occupied by vapor and in order to prevent serious injury to the tank as a whole, certain seam or seams may be constructed to yield preferentially, thereby relieving the force of the explosion without damage to the tank or contents. Seams adapted to yield in this manner will be hereinafter referred to as rip seams. My invention comprehends a form of rip seam in which the overlapping metal portions which constitute the same are separated by a gasket of relatively soft metal and joined by riveting which is weaker than the remainder of the tank riveting and adapted to yield in preference thereto. My rip seam may be located at any point in the vapor space. It is desirable that a portion of the tank be surrounded by the seam so that such portion may be lifted or thrown off by the force of an explosion. In the preferred embodiment of my invention, the seam encircles the tank at the junction between the roof and side walls whereby the entire roof may be lifted or thrown off in the event of an explosion.

Figure 1 of the drawing is a vertical section through the tank comprising the preferred embodiment of my invention and

Figure 2 is a part of Figure 1 enlarged to show details of construction.

The tank shown in Figure 1 may be constructed of any suitable metal such as, for example, steel plates. The supporting columns and bracing are not pertinent. The side walls 1 carry an annular angle brace 2 at the upper edge. The roof 3 may be of any desired form and the outer strake of roof sheets 4 overlap marginally the angle brace 2 to provide a seam. Referring to Figure 2, a gasket 5 of soft metal, such as for example, lead, is interposed between the overlapping portions. The riveting 6 which joins the overlapping portions is constructed materially weaker than the remainder of the tank seams. I preferably employ rivets of aluminum of such diameter and form that the strength of the rip seam either in tension or in shear is less than one half of the corre-

sponding strength of the other seams of the tank. It will, of course, be understood that any metal may be employed as rivet material, provided the design is such that the riveting through the rip seam is weaker than the remainder of the tank riveting.

The gasket 5 of soft metal cooperates with the said riveting and overlapping metal portions to provide a liquid and gas tight seal, to permit caulking of the seam without distorting the relatively weak riveting and in the event of an explosion permits the overlapping portions which constitute the same to move easily with relation to each other, thereby opening the seam.

It will, of course, be understood that the preceding specific description is for purpose of illustration and not by way of limitation. It is my intention that the invention be limited only by the appended claims or their equivalents in which I have endeavored to cover broadly all inherent novelty.

I claim:

1. In a metal tank for the storage of combustible materials, a rip seam comprising overlapping metal portions, a gasket of soft metal intermediate the same, riveting joining said portions and so constructed that the rip seam is weaker than the remainder of the tank seams.

2. A rip seam according to claim 1, surrounding a portion of said tank.

3. In a metal tank for the storage of combustible materials provided with side walls and a roof composed of metal plates, a rip seam encircling the said tank at the junction between roof and side walls and comprising overlapping metal portions, a gasket of soft metal intermediate the same, riveting joining said overlapping portions and so constructed that the said rip seam is weaker than the remainder of the tank seams.

4. In a metal tank for the storage of combustible materials containing side wall and roof composed of metal plates and a top bracing angle secured to the upper edge of the plates composing the side wall, a rip seam comprising overlapping portions of said roof and top bracing angle, a gasket of soft metal intermediate to said overlapping

portions, riveting joining said overlapping portions and so constructed that the rip seam is weaker than the remainder of the tank seams, whereby the said seam is adapted to be
5 caulked tight without distorting said rivets and to yield preferentially in the event of an explosion.

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