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METHOD OF FABRICATING LINED VESSELS

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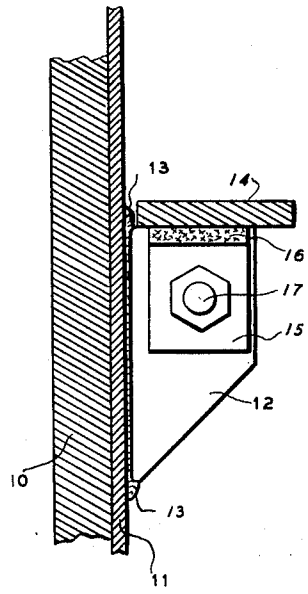


FIG. 2

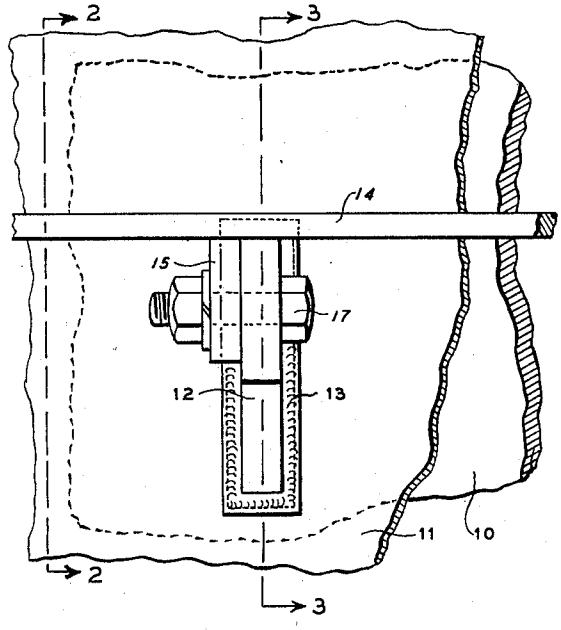


FIG. 1

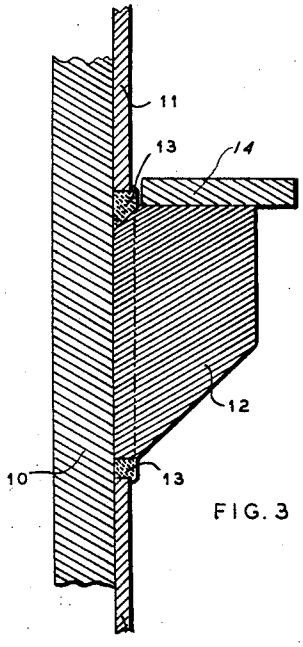


FIG. 3

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METHOD OF FABRICATING LINED VESSELS

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1 Claim. (Cl. 29—162)

This invention relates to the art of lining steel and other metallic vessels with thin sheets of corrosion or erosion resisting metals.

The object of the invention is to provide an improved method of attaching supporting members, such as internally projected brackets, to the wall of the vessel.

Heretofore it has been the practice to attach the bracket or other load supporting member to the lining, or else to place the bracket on top of the lining sheet and bolt through both the lining and the shell. Both of these methods have disadvantages which have been recognized in the art but have not heretofore been overcome.

Our improvement over present methods consists in forming in the lining an opening of the shape of that face of the bracket which abuts the wall of the vessel, but slightly greater in area; so that when the bracket is positioned, a relatively narrow annular area of the inner wall of the outer shell is exposed. The annular channel between the bracket and the edge of the liner is then filled with fused metal, preferably by electric welding, in such manner that the bracket and the liner are simultaneously welded to the shell. The amount of metal by which the bracket is attached to the shell can be varied by controlling the width of the annulus in which the weld is placed.

In the attached drawing: Fig. 1 represents in face elevation a bracket so attached to the shell; Fig. 2 is a side elevation of the bracket with fragments of the shell and liner in section, as on the line 2—2 of Fig. 1, and Fig. 3 is a section on the line 3—3 of Fig. 1.

Referring to these figures, 10 is a fragment of the relatively thick outer wall of the vessel, 11 is a fragment of the relatively thin liner, 12 is the web of the bracket and 13 is the weld, which ordinarily would be made with the metal of the liner or other suitable noncorrosive metal.

By proceeding in the manner described a very firm and strong attachment of the bracket to the outer wall of the vessel is produced, leakage back of the liner is prevented, and no weight is thrown on the relatively frail lining sheet.

While the bracket shown may be used to support any required internal load, we show, as an example, a ring adapted to support trays in a dephelegmating tower. In the figures, 14 is a fragment of the ring, 15 is a lug attached to the ring by the weld 16, and 17 is a bolt by which the lug is attached to bracket 12.

We claim as our invention:

The method of permanently placing an internally projected supporting member within a metallic vessel having a liner of a metal different from that of said vessel, which comprises: Abutting said supporting member directly against the internal face of the wall of said vessel; cutting away said liner to expose an annular area of said internal face around the periphery of said abutment; bringing the liner into contact with said internal face, and filling the annulus so formed with fused metal, whereby said supporting member and said liner are welded to said internal face of said vessel and to each other.

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