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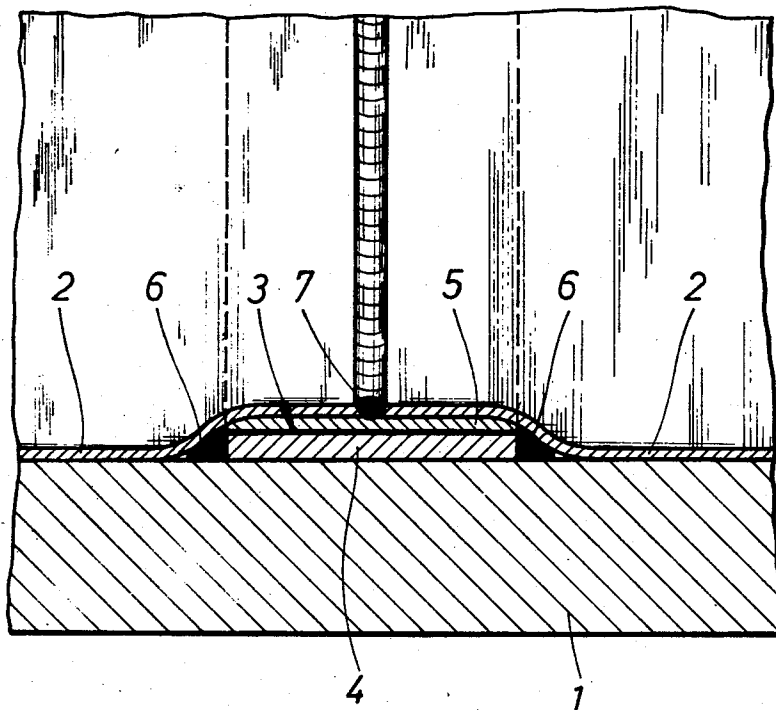
[54] **STEEL CONTAINER**
2 Claims, 1 Drawing Fig.

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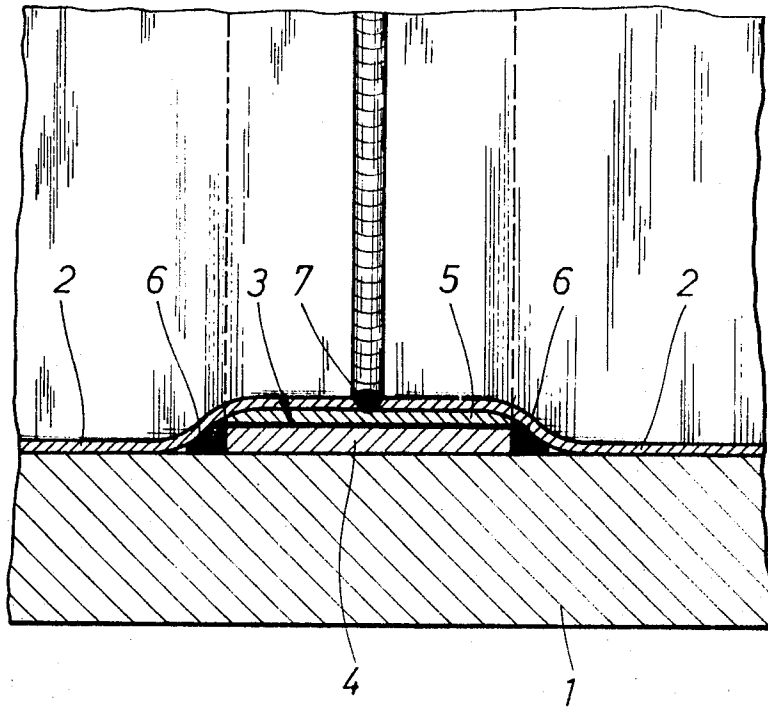
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ABSTRACT: A steel container having a lining of a metal that cannot be welded to steel and is in the form of butt-welded sheets or strips, while a composite strip is interposed between each of the butt welds and the container wall, and comprises a strip of steel plate with a plated-on face of a material of the same kind as that of the lining, the steel plate being welded along its entire length to the inner container wall surface.



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STEEL CONTAINER

The present invention relates to a steel container with a lining made from corrosion-resistant and/or heat-resistant materials such as titanium, zirconium and tantalum that cannot be welded to steel.

It is known to line steel containers with corrosion-resistant and/or heat-resistant materials by placing such materials in the form of plates or strips against the inner wall of said containers and butt-welding said plates or strips to each other. Inasmuch as said plates or strips can be welded to each other but not to the inner wall of the steel container, it has been suggested to underlay the butt areas of the lining with metal strips of the same type or material of which the steel container is made to thereby permit a welding of said last mentioned metal strips without partially melting said steel wall.

It has been proposed for the strip underlay to lie in suitable channels or to be fixed to the wall of the steel container by means of screws. When the latter method is used, especially with circular welds, there is no guarantee of accurate, uniform fitting of the strip underlay around the entire periphery of the steel container. As soon as the container is brought under pressure, therefore, deformation arising from the resultant pressure stress produces localized peak stresses at the points of attachment, which may lead to splitting of or tears in the welds.

It is, therefore, an object of this invention to provide a steel container with a lining of corrosion-resistant and/or heat-resistant materials which are not weldable to steels, which will overcome the above mentioned drawbacks and have a lining of improved durability.

This object and other objects and advantages of the invention will appear more clearly from the following specification in connection with the accompanying drawing which illustrates a longitudinal section through the lower part of a drum-shaped steel container according to the invention.

A steel container according to the present invention which has a lining of a metal that cannot be welded to steel, and that is in the form of butt-welded sheets or strips, is characterized primarily in that a composite strip interposed between each of the butt welds and the container wall and comprises a strip of steel plate with a plated-on face of a material of the same kind as that of the lining, the steel plate being welded along its entire length to the container wall.

Referring now to the drawings in detail, the steel container

1 shown therein is lined with sheets or strips 2, e.g. of titanium. The edges of the titanium sheets 2 are butted and rest on an underlying composite strip 3, the butted edges and the strip being welded together by a weld 7.

The composite strip 3 comprises a strip of steel plate 4 having a pressed-on facing 5, of titanium or of a material of the same general type as titanium, so that a sound, strong connection between the two titanium sheets 2 is produced at weld 7.

The strip 3 is secured to the container 1 by welds 6 between the steel strip 4 and the container. The welds 6 extend along the entire length of the composite strip 3 and, together with the weld 7 serve to seal the inner space between the steel container 1 and the titanium sheets 2 composed of several shots (Scheussen).

Although as described, the lining is formed from titanium, metals such as zirconium or tantalum are equally applicable.

As particularly described, there is thus provided a lining which is easier than hitherto to install in a steel container and in which localized peak stresses in the welds in the lining material are avoided, since the composite strip 3 to which the lining is welded lies snugly against the inner wall of the steel container and is welded rigidly to the container along its entire length, the strength of the welds joining the steel being the same as those of the material in the steel container.

When the lining consists of a plurality of strips or sheets, the common faces between the respective sheets and the container are mutually sealed by the welds 6. This sealing is advantageous not only as regards process technology, but also on grounds of test techniques.

It is, of course, to be understood that the present invention is, by no means, limited to the particular showing in the drawing, but also comprises any modifications within the scope of the appended claims.

What we claim is:

1. A container which includes: an outer steel wall, an inner lining arranged along the inside of said outer steel wall and formed by sheet material butt-welded by at least one butt-welded seam, but not weldable to steel, and composite strip means interposed between the inner container wall surface and each butt-welded seam, and comprising a strip of steel plate with a plated-on face of the same kind of material as said lining, said strip of steel plate being welded along its entire length to said inner container wall surface.

2. A container according to claim 1, in which said lining consists of one of the materials selected from the group consisting of tantalum, zirconium, and titanium.

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