Oct. 26, 1926. 1,604,531

T. E. MURRAY

FERRULE FOR SHEET METAL CONTAINERS

Filed April 2, 1921

Fig. 1,

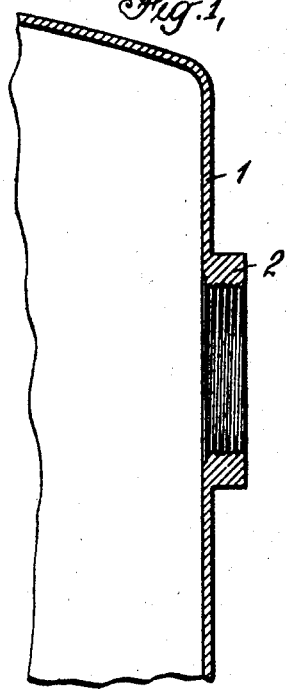


Fig. 2,

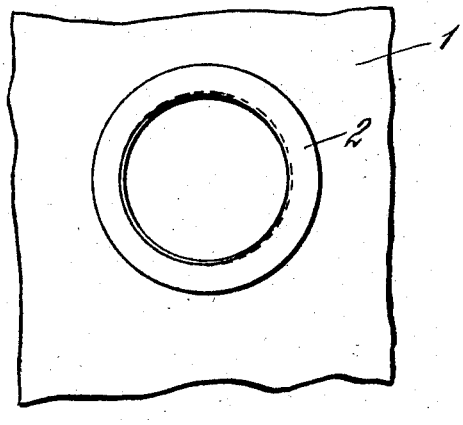


Fig. 3,

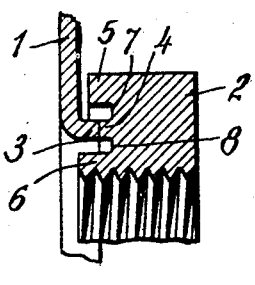
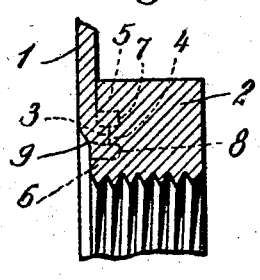


Fig. 4,



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UNITED STATES PATENT OFFICE.

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FERRULE FOR SHEET-METAL CONTAINERS.

Application filed April 2, 1921. Serial No. 458,115.

My invention provides a ferrule for barrels or other containers made of steel or other sheet metal, and a method of applying the ferrule, which is simple, strong and economical and has other advantages referred to in detail hereinafter.

The accompanying drawings illustrate an embodiment of the invention.

Fig. 1 is a section of a portion of the end of a barrel with my invention applied thereto;

Fig. 2 is an end view of the ferrule and adjacent parts of the barrel;

Figs. 3 and 4 are enlarged views illustrating the method of application.

Referring to the drawings, the head of a sheet metal barrel is illustrated at 1 and a ferrule is shown at 2 having internal screw threads for the application of a suitable stopper or cock. The ferrule is of heavier metal than the barrel so as to secure extra strength and a considerable length of the screw thread.

The barrel or other container is provided with a projecting edge at the opening where the ferrule is to be applied. In the case illustrated the head of the barrel is bent up for this purpose to provide a projecting flange 3 with an exposed edge, to which the ferrule is later welded. The ferrule is provided with a flange 4, the edge of which fits the edge of the flange 3. Additional flanges 5 and 6 are formed on the ferrule at opposite sides of the flange 4, thus forming outer and inner annular recesses 7 and 8.

The parts are united preferably by forcing the ferrule toward the head of the barrel and at the same time passing between the two an electric current of very high amperage for a very brief interval of time. The flanges 3 and 4 are softened along their contacting edges and firmly welded together. A certain amount of metal is extruded in this operation and forced out into the recesses 7 and 8. Fig. 4 shows the finished appearance after the ferrule has been pressed forward until the flange 5 is practically in contact with the head 1 of the barrel. The recess 7 is partially or entirely filled with extruded metal, which however is concealed by the surrounding flange 5 so as to present a neat appearance and to avoid rough projections. On the inner side the recess 8 is similarly filled with extruded metal and the latter may be afterwards ground off or otherwise removed to form a smooth groove 9 joining the inner face of the flange 6 to the corner of the sheet metal head 1 of the barrel.

Ferrules of various designs may be used according to the material for which the container is intended and the kind of stopper, cock or other attachment which is to be made to the ferrule. By known methods the flash or extruded metal may be forced out solely on the outside of the joint or solely on the inside so that either of the flanges 5 and 6 may be omitted. The outside flange 5 is important not only in concealing the outward flash of metal but also in giving the ferrule a board bearing on the head 1 of the barrel. The outward barrel head 3 provides at its edge a convenient face for making contact with the edge of the ferrule, or its flange 4, so that these may be pressed directly against each other and butt-welded in the manner described. Various other shapes may be given to the parts in order to secure such contact faces for welding.

Though I have described with great particularity of detail certain embodiments of my invention, yet it is not to be understood therefrom that the invention is restricted to the particular embodiments disclosed. Various modifications thereof in detail and in the arrangement of the parts may be made by those skilled in the art without departure from the invention as defined in the following claims.

What I claim is:

1. The combination with a metal container having an opening through one wall thereof with an edge around said opening projecting beyond the plane of the wall, of a ferrule having a flange extending in the same direction as said projecting edge and of substantially the same thickness and butt welded to said projecting edge, said ferrule having also a recess adjacent to its flange containing metal extruded from the welded joint.

2. The combination with a metal container having an opening through one wall thereof with an edge around said opening projecting beyond the plane of the wall, of a ferrule having a flange extending in the same direction as said projecting edge and of substantially the same thickness and butt welded to said projecting edge, said ferrule having also additional flanges parallel to the

first and on opposite sides thereof forming recesses containing metal extruded from the welded joint.

3. The combination with a metal container having an opening through one wall thereof with an edge around said opening projecting beyond the plane of the wall, of a ferrule having a flange extending in the same direction as said projecting edge and of substantially the same thickness and butt welded to said projecting edge and having an additional outer flange parallel to the first forming a recess around the welded flange containing metal extruded from the welded joint, said outer flange bearing against the face of the container and concealing the extruded metal.

4. The combination with a metal container having an opening through one wall thereof with an edge around said opening projecting beyond the plane of the wall, of a ferrule having a flange extending in the same direction as said projecting edge and of substantially the same thickness and butt welded to said projecting edge and having an additional inner flange forming a recess around the inside of the welded flange containing metal extruded from the welded joint, said inner flange extending toward the inside of the container beyond the joint.

In witness whereof, I have hereunto signed my name.

THOMAS E. MURRAY.