

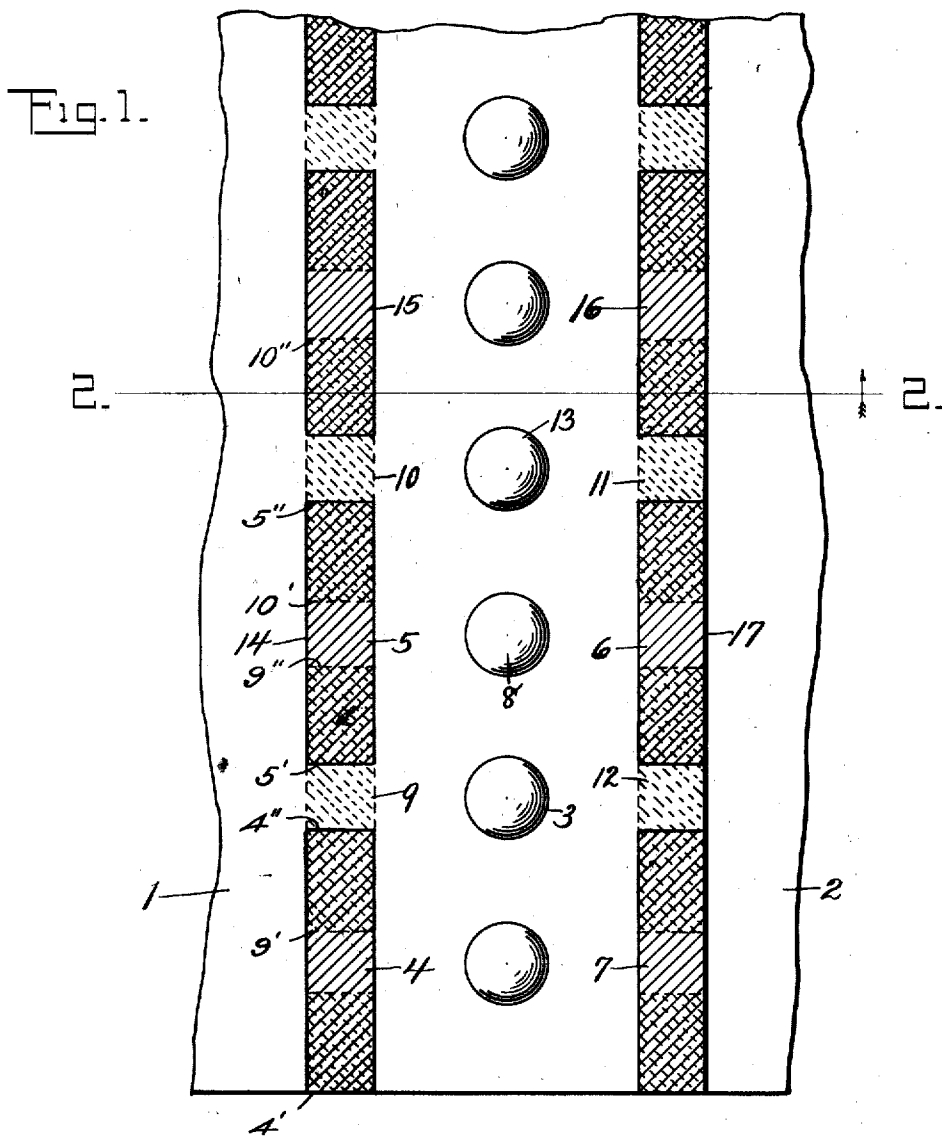
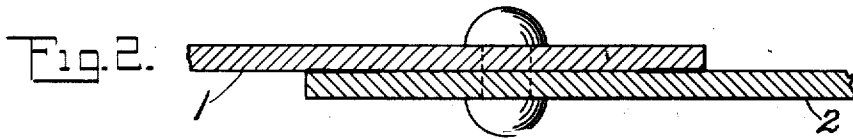
Apr. 24, 1923.

1,452,523

A. E. OSTRANDER

METHOD OF MAKING WELDED AND RIVETED JOINTS

Filed Feb. 5, 1921



INVENTOR.
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METHOD OF MAKING WELDED AND RIVETED JOINTS.

Application filed February 5, 1921. Serial No. 442,781.

To all whom it may concern:

Be it known that I, ALLEN E. OSTRANDER, residing at Ridgewood, in the county of Bergen, State of New Jersey, and being a citizen of the United States, have invented certain new and useful Improvements in a Method of Making Welded and Riveted Joints, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and to use the same, reference being had to the accompanying drawings, which illustrate the preferred form of the invention, though it is to be understood that the invention is not limited to the exact details of construction shown and described, as it is obvious that various modifications thereof within the scope of the claims will occur to persons skilled in the art.

In said drawings:

Figure 1 is a plan view of my improved welded and riveted joint, the welded portions being indicated; and

Figure 2 is a section taken on the line 2—2 of Fig. 1.

It is an object of my invention to provide an improved method of securing metal plates by simultaneous riveting and welding and it is also an object of my invention to form an improved joint by simultaneous riveting and welding that can be used in the manufacture of metallic vessels of various kinds and that will not require caulking or other treatment to prevent leakage.

In the drawings, 1 and 2 designate metal plates such are used in the manufacture of a railway ear tank or other liquid container. To unite the plates, the ends are placed so that the rows of rivet openings in the plates are in alinement, giving, as shown in Fig. 2, an overlapping of the plates that extends for a short distance on each side of the center line of the rivet openings.

It is preferable that the welds be made at the plate edges, as shown in Fig. 2, and this welding is to be accomplished simultaneously with the riveting. For this purpose the riveting machine is provided with a plu-

rality of pairs of contacts, two pairs being adapted to engage the plates along the line of each plate edge, that engage with the plates simultaneously with the exerting of pressure upon the rivet and while the plates are held firmly together by the force exerted by the riveting machine. The contacts are spaced from each other along the line of the plate edge and are, as shown in Fig. 1, designed to be a means for welding, each time a rivet is headed, a pair of separated rectangular areas on each side of the rivet, the greater dimension of each rectangular extending parallel to the line of the plate edge, that is, when the rivet 3 is headed, areas 4, 5, 6 and 7, indicated by the solid cross section lines, will be welded. When rivet 8 is headed, the areas 9, 10, 11 and 12, indicated by the dotted cross section lines, will be welded. For example, as shown in Fig. 1 the areas 4 and 5 extend between the points 4', 4'' and 5', 5'', respectively, while the areas 9 and 10 extend between the points 9', 9'' and 10', 10'', respectively. When the rivet 13 is headed, the areas 14, 15, 16 and 17, indicated by solid cross section lines, will be welded. It will be noted that areas, such as 14 and 17, coincide with the areas 5 and 6 and that areas such as 9 and 12, include parts of the areas 4, 5, 6 and 7 and the areas lying between the areas 4 and 5 and areas 6 and 7. Similarly, the areas 5 and 6 include parts of the areas 9, 10, 11 and 12 and the areas lying between areas 9 and 10 and areas 11 and 12, that is, the areas are so proportioned, with respect to the rivet spacing, that there is an overlapping of the areas successively subjected to the action of the welding electrodes so that when the last rivet is headed the row of overlapping welds successively made on each side of the line of rivets have overlapped to such a degree that a continuous weld is formed extending completely across the plate.

What I claim is:

1. The process of uniting plates which consists in welding them at a plurality of spaced aligned areas simultaneously and

forming a succession of such welds with the areas welded at successive welds overlapping to form a continuous weld. 10

2. The process of uniting plates which consists in riveting said plates together and welding them at a pair of spaced aligned areas simultaneously with the heading of each rivet, the areas welded at successive

In witness whereof I have hereunto set my hand in the presence of two witnesses.

ALLEN E. OSTRANDER.

Witnesses:

LEO V. JOYCE,

HERBERT J. WAHL.

Certificate of Correction.

It is hereby certified that the State of incorporation of the assignee in Letters Patent No. 1,452,523, granted April 24, 1923, upon the application of Allen E. Ostrander, of Ridgewood, New Jersey, for an improvement in "Methods of Making Welded and Riveted Joints," was erroneously given as "Missouri," whereas said State should have been given as *New Jersey*, as shown by the records of assignments in this office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 29th day of May, A. D., 1923.

[SEAL.]

KARL FENNING,
Acting Commissioner of Patents.