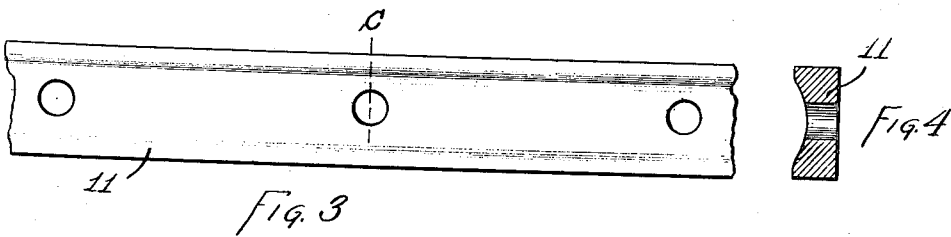
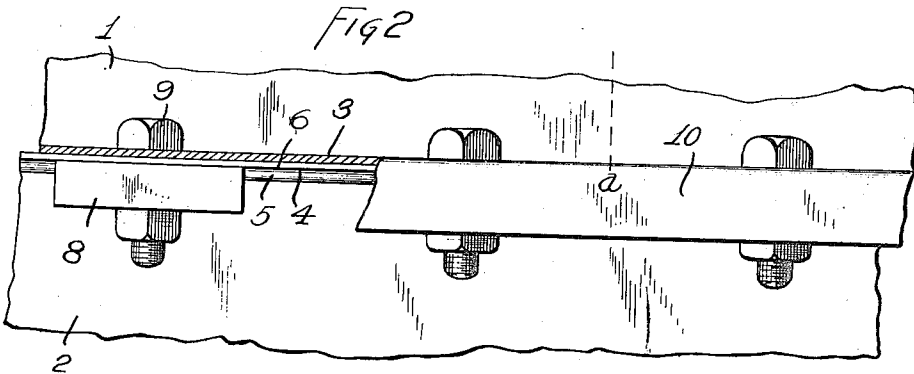
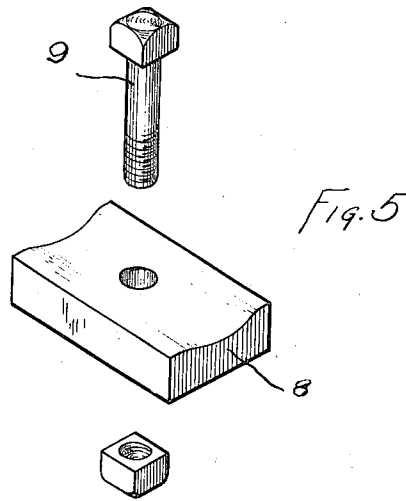
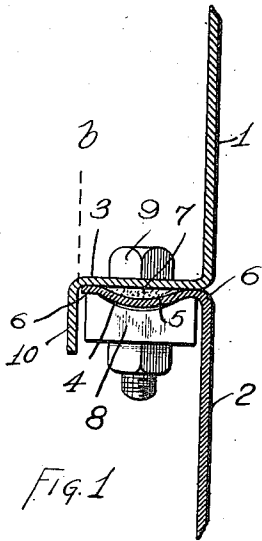


C. C. FOUTS.
JOINT FOR METALLIC SHEETS.
APPLICATION FILED DEC. 24, 1914.

1,155,717.

Patented Oct. 5, 1915.



Witnesses:
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JOINT FOR METALLIC SHEETS.

1,155,717.

Specification of Letters Patent.

Patented Oct. 5, 1915.

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To all whom it may concern:

Be it known that I, CALVIN C. FOUTS, a citizen of the United States, residing at Middletown, Butler county, Ohio, have invented certain new and useful Improvements in Joints for Metallic Sheets, of which the following is a specification.

This invention relates to the construction of joints for the uniting of metal sheets as, for instance, where a number of sheets are to be united to form a tank. Sheet metal tanks or the like are often constructed of rings formed of sheets united by vertically disposed joints, a tier of such rings being united by horizontal joints, the joints being of such character as to produce water-tightness.

My invention will be readily understood from the following description taken in connection with the accompanying drawing in which:—

Figure 1, is a transverse section through the joint in the plane of line *a* of Fig. 2. Fig. 2, a side elevation at the joint, part appearing in horizontal section in the plane of line *b* of Fig. 1; Fig. 3, a plan of the washer-bar when a single bar forms a number of the washers; Fig. 4, a transverse section of the same in the plane of line *c* of Fig. 3, and Fig. 5 a perspective view of one of the clamping devices shown in dissected condition.

In the drawing:—1, indicates one of the sheets which is to have its edge joined to the edge of a second sheet; 2, the second sheet; 3, a flat flange projecting at right angles from one of the sheets; 4, a flange projecting at right angles from the companion sheet, this flange having a width substantially the same as that of flange 3; 5, a gutter or groove extending longitudinally in that surface of flange 4 which comes in contact with flange 3; 6, the shores of the gutter, these shores making contact with flange 3; 7, packing material, which may be cement or fibrous material disposed in the gutter between the flanges; 8, washers disposed at intervals against the exposed side of flange 4, this washer having in its face a concavity to bridge freely over the convex portion of the gutter, and having at each side of the concavity bearing ribs to engage the guttered sheet, at each side of the exposed surface of the gutter, leaving a clearance between the washer and the center of

the gutter as illustrated in Fig. 1; and 9, bolts passing through the two flanges and the washers.

The clamping devices comprising the washers and bolts will be disposed in series at such intervals as judgment dictates. In making the joint the guttered flange is liberally supplied with the packing cement, if cement be employed as the packing material, this material filling the gutter and spreading also upon the shores of the gutter where those shores come in contact with the opposite flange. The bolts and washers are now applied and the members of the joint drawn firmly together. This action compresses the packing material and squashes it out sidewise forming a water-tight joint. At the same time the shores of the gutter make, substantially, a metal to metal contact with the opposite flange, thus producing a very desirable stiffness at the joint. The concavity of one of the flanges very materially stiffens that flange, a feature of high importance in a sheet metal joint where firmness of clamping is dependent upon clamp-bolts spaced some distance apart. Flange 3 might, if desired, be also guttered to increase its stiffness, though this flange will be satisfactorily stiffened if provided with a skirt-flange 10. If flange 3 is guttered the concavity of the gutter should present itself toward the concavity of gutter 5 so that there is room for the sealing material and at the same time a capacity for the two flanges to make a substantially metal to metal contact at the sides of the sealing. In the building up of cylindrical metallic structures, such as tanks formed of horizontal courses with flanged joints between them, the vertical straightness of the general structure is dependent upon the accuracy with which the metal has been formed at the joints. If sealing material could be applied of uniform thickness between the horizontal joint flanges all the way around the tank the accuracy provided by the metal worker would be maintained, but if the sealing material is thicker at one place than another so as to interfere with the metal parts fairly meeting each other, the vertical true-ness of the general structure may be lost as the evils at the successive horizontal joints may accumulate. In my construction a tank of the class referred to may be erected by

means of comparatively unskilled labor and without any material sacrifice of the general truth of form of the structure.

I claim:—

- 5 In a joint for metallic sheets, a sheet having a flat flange turned out at right angles at its edge, a companion sheet having a flange turned out at right angles at its edge and provided with a longitudinal central
0 gutter in said flange, the face of said guttered flange at each side of the gutter engaging said flat flange, sealing material disposed

within said gutter, washers disposed against the outer surface of the guttered flange and having their faces concaved to permit them to freely straddle the back of the gutter and bear on the back of the guttered flange at each side of the gutter, and clamping bolts passing through the flanges and packing and washers, combined substantially as set forth. 15 20

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Witnesses:

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