

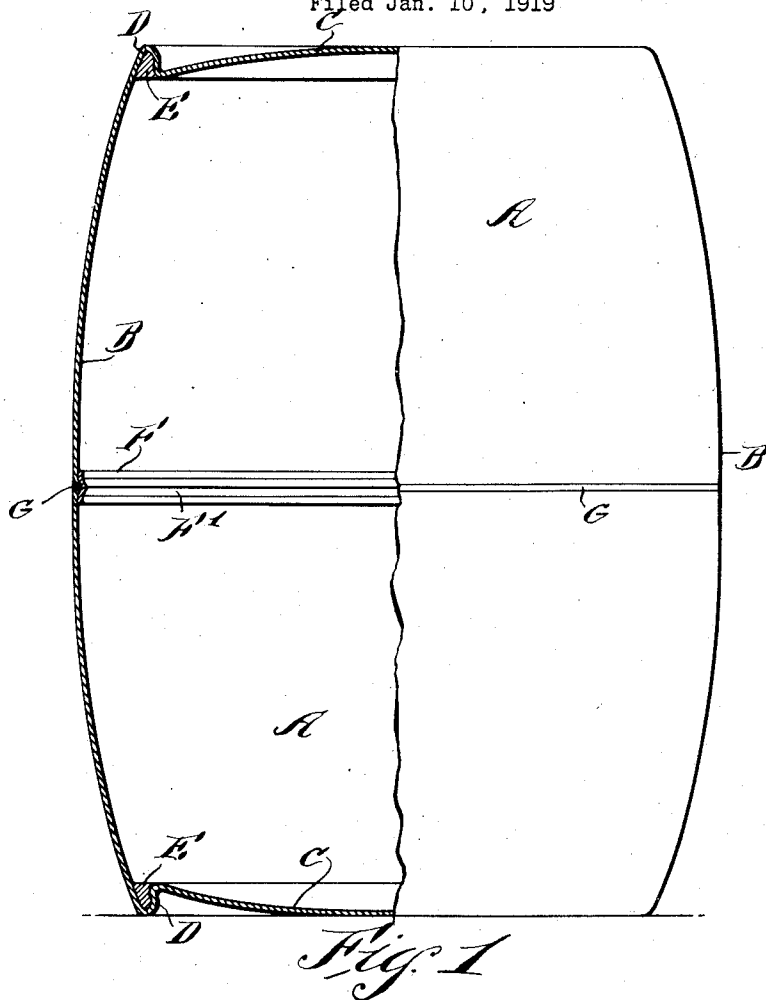
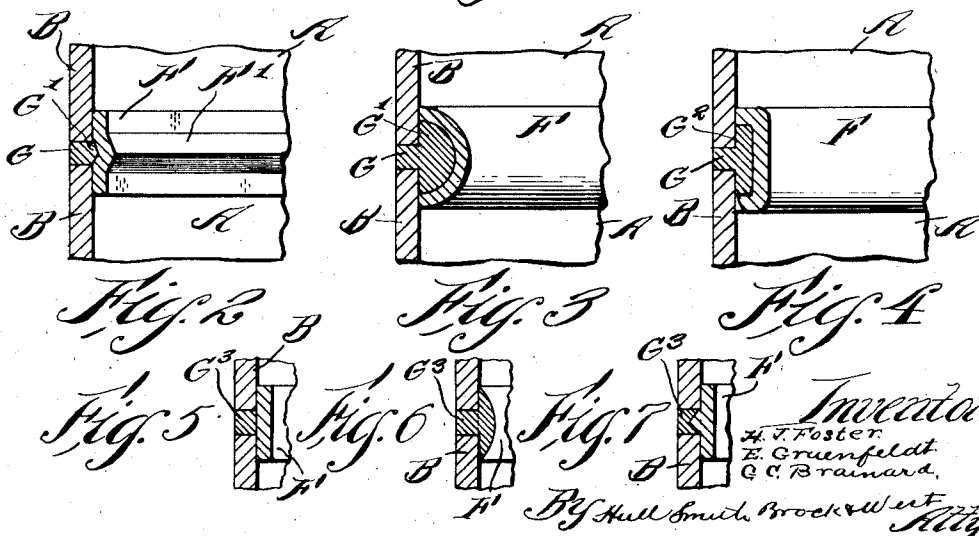
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H. J. FOSTER ET AL

SHEET METAL BARREL

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Inventor
H. J. Foster
E. Gruenfeldt
C. C. Brainerd,

By Hull Smith Brockwell & Co. Attys.

UNITED STATES PATENT OFFICE.

HENRY J. FOSTER AND EMIL GRUENFELDT, OF CLEVELAND, AND GEORGE C. BRAINARD, OF EAST CLEVELAND, OHIO, ASSIGNORS TO THE HYDRAULIC PRESSED STEEL COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

SHEET-METAL BARREL.

Application filed January 10, 1919. Serial No. 270,474.

To all whom it may concern:

Be it known that (1) HENRY J. FOSTER, (2) EMIL GRUENFELDT, and (3) GEORGE C. BRAINARD, citizens of the United States, residing at (1 and 2) Cleveland, (3) East Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Sheet-Metal Barrels, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates generally to metal barrels, and more particularly to a sheet metal barrel composed of two similar sections united along the transverse center of the barrel and this invention has special reference to the manner of connecting these sections together at this point whereby there is provided a strong and durable barrel having a uniform curve from end to end, and free from exterior appliances.

Another object of the invention is to provide a barrel having an interior reinforcement at the central point thereby providing greatest strength at the point where the greatest strain occurs.

With these various objects in view the invention consists in the novel features of construction and arrangement hereinafter fully set forth and pointed out in the appended claims. In the drawings forming a part of this specification, Fig. 1 is a view partly in elevation and partly in section of a barrel constructed in accordance with our invention; Fig. 2 is an enlarged sectional view of the central joint; and Figs. 3 and 4 are similar views showing slight modifications. Figs. 5, 6, and 7, show further modifications. In carrying out our invention we employ two similar sheet metal tub like sections A comprising the sides B, ends or head portions C, there being formed chimes D with reinforcing rings E arranged therein, but the present invention has nothing to do with the formation or construction of the chime.

These tub like sections have their sides of such contour that when said sections are arranged with their open ends together a bilge barrel of uniform curve or contour will be provided, and this invention has principally to do with the connection of these tub like sections at the central point by means of a strong, homogeneous welded joint.

As a first step towards uniting two of

these similar tub like sections A, we employ an interior reinforcing ring F which is spot welded to the edge of one section upon the interior thereof, this ring being formed with a central, inwardly extending groove or recess F' and it will be noted that this groove or recess portion is slightly beyond the edge of the section to which it is attached. In Figs. 1 and 2 the reinforcing ring is shown as formed with an angular groove or recess whereas in Fig. 3 the reinforcing ring is substantially semi-circular in cross section, and in Fig. 4 it is essentially U-shaped or rectangular in cross section. In Fig. 5 a perfectly flat band is employed. In Fig. 6 the exterior of the band is flat and the interior face thereof is convexed as shown, and in Fig. 7 the band proper is flat and the exterior face thereof is formed with an annular rib or projection against which the edges of the tub like sections can be brought into engagement.

After the rim F has been applied to one of the sections, the other section is brought into close proximity with the first named section, the projecting portion of the ring extending into the edge of said second section and it will be noted that the opposed edges of the tub like sections are brought approximately close together and after being properly positioned by means of any suitable holding and adjusting devices they are maintained in this position during the welding operation. The weld is preferably made by the arc welding method in which a metallic electrode fuses and supplies the necessary amount of metal to complete the weld, and at the same time fuses the adjacent edges of the tub like sections so as to unite them with the fused metal supplied by the arc. In Figs. 1 and 2 the metal supplied to the joint and forming the weld between the two side edges B and the ring F is indicated at G, and in Fig. 3 at G' and in Fig. 4 at G² and it will be noted that in these two constructions a considerable amount of metal passes into the groove portion of the ring forming a lock for the weld, this being due to the channelled depth of the reinforcing ring. In Figs. 5, 6, and 7 the weld is indicated at G³ and it will be noted that a considerably smaller amount of metal will be required to effect this weld but at the same time all of the parts will be securely united. By unit-

ing the barrel sections at the central point, and reinforcing the same by means of the reinforcing ring which serves as a positioning means during the first steps of the process, we are able to provide a barrel having an exceedingly strong and reinforced joint at the point where the strains are the greatest, and the reinforcing ring or band will be so shaped upon its inner face and ends as to provide as smooth an interior surface as possible and thereby avoid the accumulation of sediment or foreign matter within the barrel at this point.

A barrel constructed as herein shown and described will be exceedingly light, strong, and durable, and being free of exterior appliances will have all of the advantages of a bilge barrel. The tub like end sections are of easy manufacture and by uniting the barrel sections at the center we are able to provide in connection with the joint an interior reinforcement so that the portion of the barrel subjected to the greatest strain will be properly reinforced and able to withstand all such strains.

Having thus described our invention, what we claim is:—

1. The herein described method of making sheet metal barrels which consists in providing two tub like sections having unturned edges, connecting a reinforcing ring to the interior edge of one section so that it projects beyond said edge, bringing said sections together with their unturned edges in close proximity and then filling the intervening space with welding material, uniting the sections and ring.

2. As a new article of manufacture, a barrel comprising two tub-like sections having straight edges, a reinforcing ring arranged upon the interior of said straight edges which are spaced apart and a filling of welded material for uniting said spaced edges and ring.

3. As a new article of manufacture, a sheet metal barrel comprising two tub-like sections having their straight edges arranged in alignment and spaced apart, and a reinforcing ring arranged in contact with said edges and welding material filling the space between the edges and uniting said edges and ring.

4. As a new article of manufacture, a sheet metal barrel comprising two tub-like sections and an interior reinforcing ring and a weld uniting said sections and ring, the sections being arranged upon said ring with their straight edges spaced apart within the confines of said ring, and welding material filling the space between the edges of the sections and uniting said sections and ring.

5. The herein described method of making a sheet metal barrel which consists in providing two similar tub-like sections having straight edges, arranging their straight edges spaced apart upon the exterior of a reinforcing ring and then filling in the intervening space by welding and homogeneously uniting the sections and ring.

In testimony whereof, we hereunto affix our signatures.

HENRY J. FOSTER.
EMIL GRUENFELDT.
GEORGE C. BRAINARD.