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H. J. FOSTER ET AL.

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SHEET METAL BARREL AND METHOD OF MAKING SAME.
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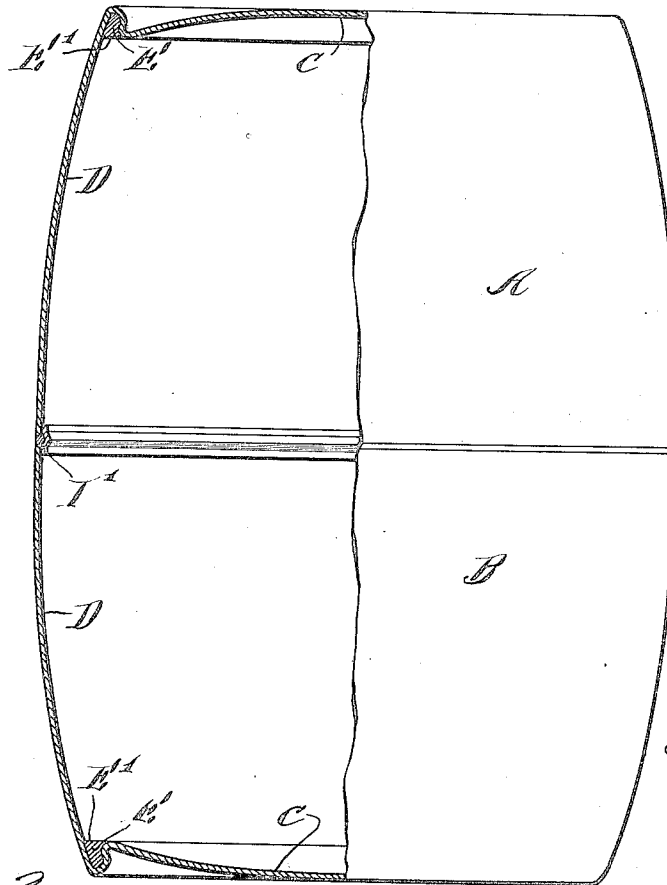


Fig. 1

Fig. 2

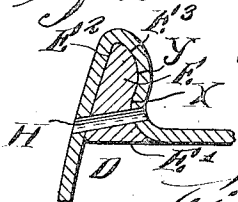


Fig. 4

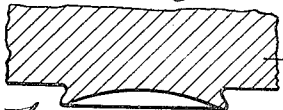


Fig. 5

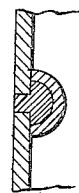


Fig. 6

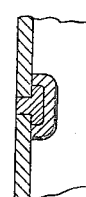
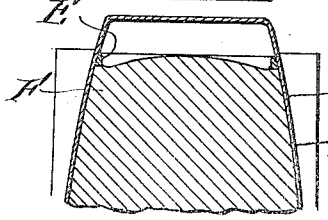
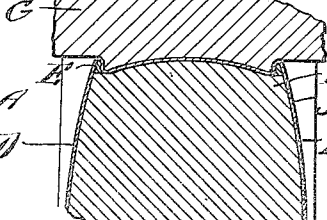


Fig. 7



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UNITED STATES PATENT OFFICE.

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SHEET-METAL BARREL AND METHOD OF MAKING SAME.

Application filed January 10, 1919. Serial No. 270,473.

To all whom it may concern:

Be it known that (1) HENRY J. FOSTER, (2) EMIL GRUENFELDT, (3) GEORGE C. BRAINARD, citizens of the United States, 5 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 and Methods of Making Same, of 10 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 also the making of the same 15 having special reference to the chime features thereof.

One object of the invention is to provide a bilge barrel composed of two similar sheet metal sections united at the center in such 20 a manner as to provide a strong and durable barrel and another and more particular object of the present invention is to provide a sheet metal barrel embodying the above characteristics and in which there is 25 provided a chime of such sharpness as will facilitate the heading up of the barrel. A still further object is to provide a reinforced chime capable of withstanding all ordinary blows to which devices of this character 30 are subjected, and it is also an object of the present invention to provide means for draining from the exterior of the barrel head, water which would accumulate thereon when the barrel is in an upright position. A still further object is to provide 35 the chime of the barrel with an interior reinforcement so constructed and connected as to render displacement of the reinforcement impossible.

With these, and certain other objects in view, which will become apparent as the description proceeds, the invention consists in the novel features of construction and arrangement, and also in the novel steps 40 and combination of steps whereby a barrel having the hereinbefore mentioned characteristics is provided.

In the drawings forming part of this specification, Fig. 1 is a view, half in elevation and half in section, of a barrel constructed in accordance with this invention; 50 Fig. 2 is an enlarged sectional view of the chime and interior reinforcing ring; Fig. 3 is a slight modification of the same; Figs.

4 and 5 are sectional views illustrating the 55 manner of shaping the end of the tub like section around the reinforcing ring to provide the chime and shape the head of the barrel.

Figs. 6 and 7 show two different joints 60 between the ends of the tub-like sections of the barrel.

In constructing a sheet metal barrel in accordance with this invention we provide two similar tub like sections A and B, each 65 comprising the end C and sides D.

These tub like end portions are each pressed or drawn from a single piece of sheet metal of the proper thickness. In sheet metal barrels having integral sides and 70 ends, the chimes are usually so rounded that considerable difficulty is encountered in heading the barrel from a horizontal to a vertical position owing to the fact that the rounded chime will skid, and it is there- 75 fore our object to provide a chime which will be sufficiently sharp or angular to prevent skidding and which will at the same time possess sufficient strength to withstand all the blows to which barrel chimes are 80 ordinarily subjected, and this is obtained by placing within the end of the tub like section a metallic reinforcing ring E of the proper shape and cross section, and then pressing or shaping the end of the tub about 85 the ring so as to provide the proper shape of chime and also the head of the barrel and simultaneously fasten the ring securely within the chime of the barrel, so that whatever movement of sides or heads may take 90 place from any cause whatsoever the ring will not become dislocated.

The securing of the ring and the shaping of the chime can be accomplished by the employment of a suitable rigid form 95 or anvil F of a size and shape to receive the tub like section thereon with the end of the tub spaced somewhat from the said rigid form or anvil, and upon the end of this form or anvil is placed the metallic ring E 100 with its base resting upon the anvil, and then by means of a proper die G, that portion of the end of the tub which projects beyond the metal ring is pressed or folded or shaped around said ring as most clearly 105 shown, and that portion of the end within the ring and which constitutes the head of the barrel is also given the proper shape and

if desired a seat for a bung or other appliance can be provided.

It will be noted that the reinforcing ring E is widest at its base E' and that its outer side E² corresponds with the contour of the barrel proper, while its inner side E³ is given a compound curve, or in other words this side of the ring may be said to have a reentrant portion. The ring is given as much of a taper towards the outer end as possible in order to shape the chime with as sharp an angle or bend as it is possible to do without breaking. The curved inner face of the ring is provided in order to make the ring slightly thinner at the point X than at the point Y so that when the end of the tub is pressed or folded tightly against the inner face of the ring said ring will be held securely within the chime and it will be impossible to dislocate said ring so long as the inner and outer sides of the chime remain in contact with the inner and outer sides of the ring.

In practice we prefer to have the ring, which is a roll metal section, of such size that when the end of the tub is pressed in to embrace the ring and provide the head of the barrel that the inner face or base of the ring will be substantially in alignment with the inner face of the head of the barrel thereby lending itself very readily to the galvanizing operation and also preventing the accumulation of sediment. By the formation of the chime and head of the barrel there is provided an annular space within which water would accumulate when the barrel is standing on end and in order to provide for draining off this water we drill drain openings H through the chime and ring as most clearly shown in Fig. 2, and in order to avoid any possibility of leakage at these points the edges of the opening can be subjected to either spot, flame or arc welding, and if desired a tube H' can be inserted in the drain opening and the ends of this tube turned back as most clearly shown in Fig. 3. If desired a well can be made where the end of the tube is turned back. The wells at the points where the drain holes are provided connects the ring and chime more securely, and when tubes are inserted and headed down it is obvious that it is impossible to dislocate the ring by any possible movement of the sides and head.

The ring can be continuous inextensible ring, or it can be rolled into circular form

with its ends meeting or approaching each other without being rigidly connected.

After the tub like end sections have had their ends shaped into the chime and head as previously described the edges of the sides of the tub are brought together and welded in any suitable manner, the joint being indicated at I in Fig. 1.

A barrel constructed as herein shown and described and in accordance with the method herein set forth will be light, strong, durable, and will be free from all exterior appliances and furthermore the chime is of such a character that the barrel can be quickly and easily headed without skidding, and the accumulation of water upon the head of the barrel will be avoided owing to the fact that proper drainage has been provided which does not in the least weaken or impair the chime or the barrel and does not detract from the appearance thereof.

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

1. In a barrel, the combination with the sides, chime, and head, of a reinforcing ring arranged in said chime, said ring and chime having drainage openings extending there-through.

2. In a barrel the combination with the sides, chime, and head integral, of a reinforcing ring arranged in said chime and drainage openings extending through the chime and ring.

3. In a barrel the combination with the integral sides, chime, and head, of a ring held within said chime, said chime and ring having drain openings extending there-through and tubes inserted in said drain openings.

4. A barrel comprising integral sides, head, and chime, of a substantially wedge shaped ring in said chime, said chime and ring having drain openings, or passages, the ends of said drain passages being welded for the purpose set forth.

5. A barrel having integral sides, head, and chime, a ring inserted and maintained within said chime, said chime and ring having openings therein and a tube inserted in said openings, the end of said tubes being secured as set forth.

In testimony whereof, we hereunto affix our signatures.

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