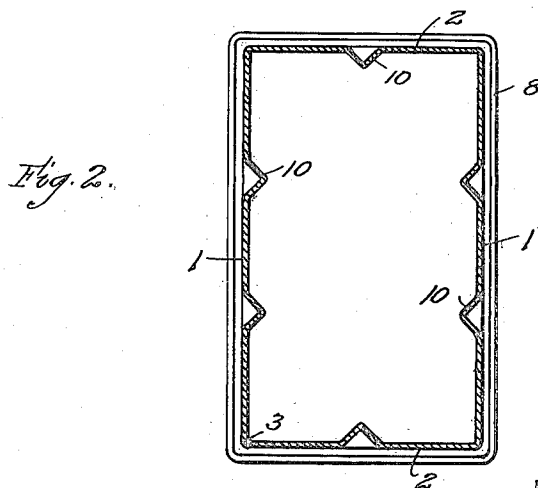
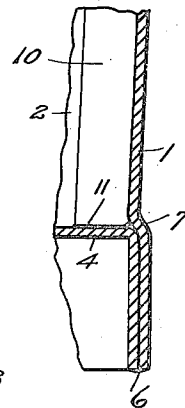
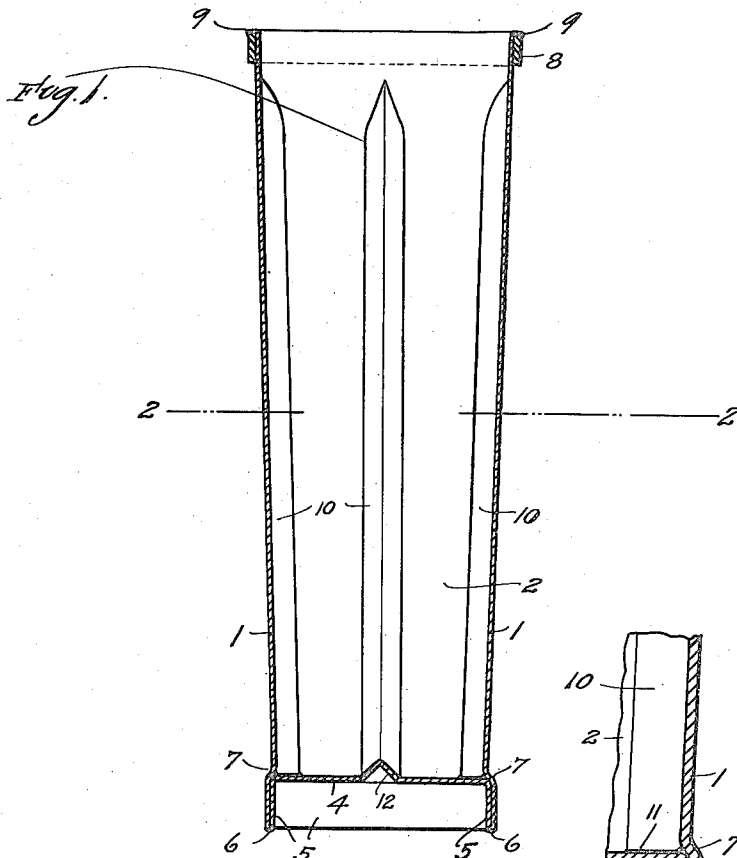


C. C. FOUTS.
ICE CAN.
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ICE-CAN.

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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, in the county of Butler and State of Ohio, have invented certain new and useful Improvements in Ice-Cans, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to ice cans, such as are used in the manufacture of ice, and similar structures.

The object of the invention is to produce a can of this character which will be strong, rigid and durable; and which will have no parts exposed and subject to corrosion. To this end it is a further object of the invention to produce a can of this kind which may be galvanized after its construction has been completed, without distortion. It is also an object of the invention to provide such a can in which no rivets or similar fastening devices will be used.

25 In the accompanying drawing, Figure 1 is a sectional view taken vertically of a can embodying my invention; Fig. 2 is a transverse section taken on the line 2—2 of Fig. 1; and Fig. 3 is a sectional detail view of one of the lower corners of the can.

30 In these drawings I have illustrated one embodiment of my invention, and have shown the same as applied to an ice can, which in its general shape and dimensions conforms to the standard construction. It will be understood, however, that while the invention is particularly adapted to ice cans, for reasons which will hereafter appear, it may be embodied, either as a whole or in part, in cans or metal receptacles of various kinds and for various purposes. The standard ice can is about 45 inches in height, consequently the drawings are on a greatly reduced scale. Therefore, for the sake of clearness, I have shown certain features of the invention in an exaggerated form and somewhat out of proportion to the structure as a whole.

Ice cans of the type here illustrated are tall, rectangular cans which must be of great strength and rigidity. In forming the can, a sheet of metal of a width corresponding approximately to the height of the can is bent to a rectangular shape, to provide the can with side walls 1 and end walls 2, and the adjacent edges of the sheet

are united one to the other by gas or electrical welding, as shown at 3, so as to form a practically integral construction without joints. Preferably the end and side walls of the can are formed from a single sheet of metal, but this is not essential as the adjacent edges are all welded and a jointless can is produced regardless of the number of pieces employed in its production. The can is provided with a bottom wall 4, which in the present construction consists of a plate of metal having its edges bent downwardly to form flanges 5 which, when the bottom plate is inserted in the lower part of the body portion of the can, as shown in Figs. 1 and 3, will extend substantially parallel with and will be arranged in close relation to the lower portions of the respective side and end walls. The flanges and the lower portions of the side and end walls form the supporting structure for the can and are preferably welded one to the other, as shown at 6, so as to produce a very strong and rigid support. The lower portions of the side and end walls are preferably offset, as shown at 7, to receive the bottom structure, and this offset provides shoulders which extend inwardly about the adjacent edges of the bottom wall and bring the respective side and end walls into substantial alignment with the respective flanges of the bottom structure. The shoulders of the side and end walls fit snugly about the adjacent corners of the flanged bottom wall so as to leave a very small space between said walls and the bottom structure and to provide a very strong, rigid construction. The side and end walls may be welded to the bottom structure along the shoulders, or offset portions 7, if desired, but this is not necessary as the structure shown here has ample strength and the spaces along the edges of the bottom wall are so small that they will be completely filled during the galvanizing process. The upper end of the can is preferably stiffened by a reinforcing bar or strip 8, which may be secured thereto in any suitable manner. I prefer, however, to bend the upper edges of the side and end walls outwardly and weld them to the strip 8, as shown at 9, thus providing a very strong, rigid, connection and avoiding the use of rivets or other fastening devices.

It is very desirable that a can of this character, and particularly an ice can,

should be galvanized after its construction has been completed, thus causing all parts thereof to be protected and avoiding any raw edges or exposed parts which would be subject to corrosion. It has been found very difficult, if not impossible, to galvanize a can of this character after it has been completed, due to the tendency of the walls to buckle, or be distorted, during the galvanizing process. This buckling or distorting is objectionable in any type of can or receptacle, but it renders an ice can worthless because the ice formed therein conforms to the irregularities in the walls thereof and either cannot be removed at all or is very difficult to remove from the can. To enable the completed can to be galvanized, as a whole, I have so constructed the same as to prevent the side and end walls from being distorted or buckling during the galvanizing process. This I accomplish by providing the walls of the can with ribs, or grooves, which permit, and compensate for, the expansion of the metal when it is subjected to the heat of the galvanizing bath. The ribs may project either inwardly or outwardly and may be of any suitable number. For the purpose of illustration, I have here shown the walls as provided with inwardly projecting vertical ribs 10 which extend for the greater part of the length of the walls, there being two ribs in each side walls and one rib in each end wall. The ribs may be of any suitable character, but I prefer that they should be V-shaped in cross section, as I find that they accomplish their function very effectually when produced in that form and give greater strength and rigidity to the walls than would ribs of other shapes. In the construction here shown, the ribs have their lower ends arranged close to and preferably resting upon the bottom plate or wall 4, and have their upper ends tapered toward the top of the can. Where the top of the can is reinforced, as shown in the present instance, it is not necessary that the ribs should extend to the top thereof and I have here shown them as terminating short distances from the upper edges of the respective walls. The lower ends of the ribs resting upon the bottom wall serve to greatly strengthen and stiffen the structure as a whole, and this function may be further increased by welding the ribs to the bottom plate 4, as shown at 11 in the can illustrated. While the ribs may be formed in any suitable manner, I have in the present instance formed them by a combined bending and drawing operation. The lower portions of the ribs are formed almost wholly by bending, while the upper portions of the ribs are formed very largely by drawing the metal from the walls. This construction results in a contraction of the lower portion of the walls which gives the

can its tapered shape and enables the tapered can to be formed from a rectangular sheet of metal. Of course the surplus metal below the ribs is removed and the adjacent edges of the walls united by welding. If desired, the bottom wall 4 may also be provided with a rib 12, which will strengthen it and prevent it from buckling. The ribs in the side and end walls are preferably spaced apart substantially equal distances with the result that the block of ice formed in the can is marked for division into equal parts, thus facilitating the cutting up and distribution of the cake.

It will be apparent from the foregoing description that I have provided a can which is very strong and rigid in its construction and which is very durable. All connections having been made by welding, the can is to all intents and purposes jointless and has no rivets or other fastening devices. The construction being such as to permit the can to be galvanized after it is completed, all seams and edges are coated and thus protected against corrosion. Further it will be apparent that I have accomplished these results in a can which can be very easily manufactured and which can be produced at a cost but little in excess of the cost of the ordinary can, which does not have the advantages set forth.

While I have shown and described one embodiment of my invention, I wish it to be understood that I do not desire to be limited to the details of construction, as various modifications may occur to a person skilled in the art.

Having now fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A galvanized metal can rectangular in cross section and comprising flat side walls each having formed therein a plurality of inwardly extending parallel ribs, said ribs being spaced one from the other and from the edges of the respective walls.

2. A galvanized metal can rectangular in cross section and comprising side walls each having formed therein a plurality of inwardly extending parallel V-shaped ribs, said ribs being spaced one from the other and from the edges of the respective walls.

3. A galvanized metal can, rectangular in cross section and comprising flat side and end walls having inwardly extending ribs spaced one from the other and arranged substantially equal distances apart.

4. A galvanized metal can rectangular in cross section and comprising flat side and end walls diverging toward one end thereof and having formed therein inwardly extending parallel ribs, said ribs being spaced from the edges of the respective walls.

5. A metal can of the character described comprising side and end walls and a bottom

wall, said side and end walls having inwardly extending vertical ribs, the lower ends of which rest upon said bottom walls.

6. A metal can of the character described comprising side and end walls and a bottom wall, said side and end walls having inwardly extending vertical ribs, the lower ends of which are welded to said bottom wall.

7. A metal can of the character described comprising side and end walls and a bottom wall, said side and end walls having inwardly extending vertical ribs, the lower ends of which rest upon said bottom walls, and the upper ends of which are tapered and terminated near the upper edges of the respective walls.

8. A metal can of the character described comprising side and end walls having inwardly extending vertical ribs formed by combined bending and drawing operations to cause said walls to converge downwardly.

9. A metal can of the character described comprising side and end walls having inwardly extending V-shaped ribs, the lower portions of said ribs being formed by bending and the upper portions thereof being formed by both bending and drawing, thereby said walls are caused to converge downwardly.

10. A metal can comprising downwardly converging side walls and a bottom wall having at its lateral edges down-turned flanges to form supports, said bottom wall being inserted between said side walls and said side walls having their lower portions offset to receive said bottom wall and to bring the upper portions of said side walls into substantial alinement with the respective flanges of said bottom wall, said side walls also having vertically arranged ribs extending inwardly therefrom and having their lower ends in close proximity to said bottom wall.

11. A metal can comprising side and end walls, a bottom wall arranged between the lower portions of said side and end walls and rigidly secured thereto, said side and end walls having ribs extending upwardly from said bottom wall, said ribs having their lower edges severed from the respective side and end walls and arranged above and close to said bottom wall.

12. A metal can comprising side and end walls, a bottom wall having downturned flanges to form supports and arranged between the lower portions of said side and end walls, said flanges being welded to the lower edges of the respective walls, and said side and end walls having shoulders extending inwardly above the respective edges of

said bottom wall, and also having ribs extending upwardly from said shoulder, said ribs having their lower edges severed from the respective side and end walls and arranged above and close to said bottom wall.

13. A metal can comprising side and end walls having their lower portions offset, a bottom wall mounted between the offset portions of said side and end walls and having flanges welded at their lower edges to the lower edges of the respective walls, said side and end walls having inwardly projecting vertical ribs extending from said bottom wall to points near the upper edges thereof, said ribs having their lower ends welded to said bottom wall.

14. A metal can comprising a sheet of metal bent to form side and end walls and having its edges united by welding, a bottom wall inserted between the lower portions of the side and end walls and having flanges welded to the lower ends of said side and end walls, a reinforcing bar extending about the upper end of said can and welded to the edges of the respective side and end walls, said side and end walls having ribs bent inwardly therefrom and extending from said bottom wall to points near the upper edges of the respective side and end walls, the lower ends of said ribs being welded to said bottom wall.

15. A metal can comprising a sheet of metal bent to form side and end walls and having its edges united by welding, a bottom wall inserted between the lower portions of the side and end walls and having flanges welded to the lower ends of said side and end walls, said side and end walls having ribs bent inwardly therefrom and extending from said bottom wall to points near the upper edges of the respective side and end walls, the lower ends of said ribs being welded to said bottom wall.

16. A metal can comprising side and end walls and a bottom wall arranged within the first mentioned walls and having downturned flanges rigidly secured to said first mentioned walls and forming therewith a support for said can, the lower portions of said first mentioned walls being offset to receive said bottom wall and to bring the upper portions of said first mentioned walls into substantial alinement with the respective flanges of said bottom wall, said first mentioned walls also having vertically arranged ribs extending inwardly therefrom and having their lower edges in close proximity to said bottom wall.

In testimony whereof I affix my signature hereto.

CALVIN C. FOUTS.