

G. M. SCHOTT.
PROCESS OF MAKING CANS OR METAL RECEPTACLES.
APPLICATION FILED OCT. 29, 1914.

1,246,947.

Patented Nov. 20, 1917.

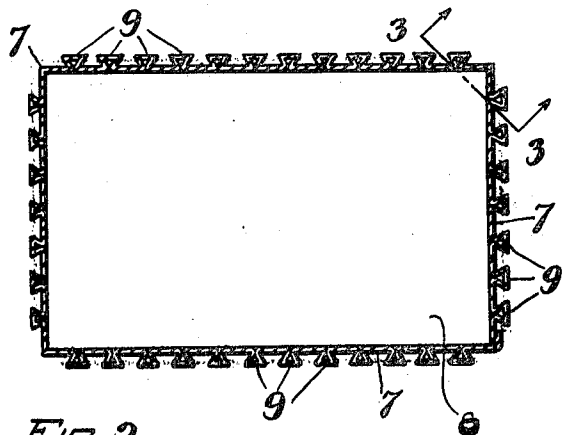


Fig. 2.

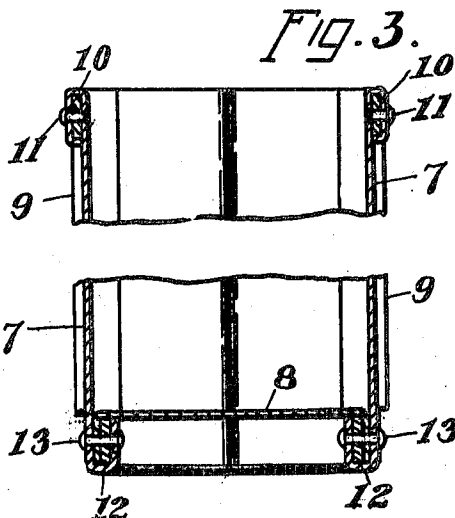


Fig. 3.

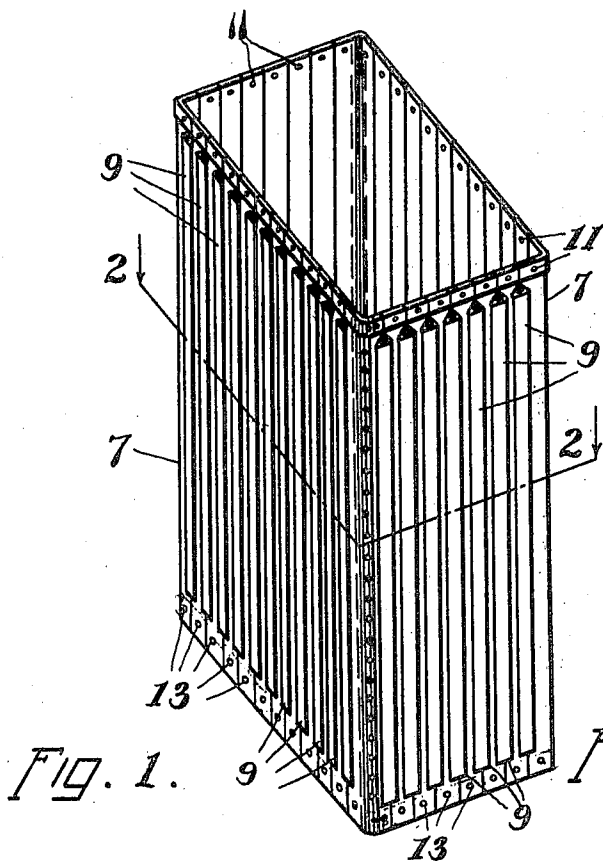


Fig. 1.

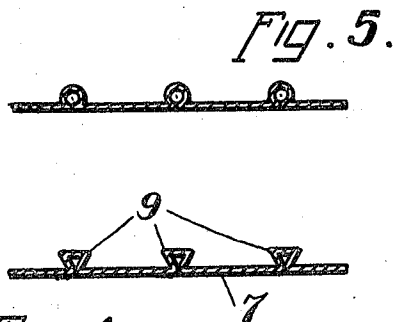


Fig. 4.

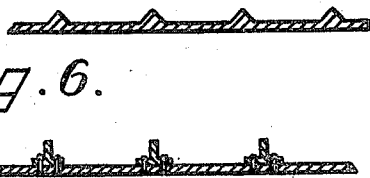


Fig. 6.

Fig. 7.

WITNESSES
George Garland Brown
W. Thornton Rogers

INVENTOR
George M. Schott
By Walter Murray

UNITED STATES PATENT OFFICE.

GEORGE M. SCHOTT, OF CINCINNATI, OHIO, ASSIGNOR TO THE CINCINNATI GALVANIZING COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF OHIO.

PROCESS OF MAKING CANS OR METAL RECEPTACLES.

1,246,947.

Specification of Letters Patent.

Patented Nov. 20, 1917.

Application filed October 29, 1914. Serial No. 869,194.

To all whom it may concern:

Be it known that I, GEORGE M. SCHOTT, a citizen of the United States of America, and resident of Cincinnati, county of Hamilton, State of Ohio, have invented certain new and useful Improvements in Processes of Making Cans or Metal Receptacles, of which the following is a specification.

This invention relates to improvements in processes of making sheet metal cans or receptacles and particularly cans of the class employed in refrigerating apparatus.

Cans of this description are ordinarily formed of sheet iron and are made up after the sheets are galvanized. It is highly desirable to subject the can to the galvanizing process after its parts have been assembled and secured together, since the joints and the connections as above stated are all galvanized and the seams are filled with zinc, thereby producing a more perfect can than is produced in a case where the metal forming the can is first galvanized and then manufactured into a can.

One of the difficulties ordinarily encountered in the manufacture of large metal cans or receptacles which are galvanized, is that the heat to which the cans are subjected during the galvanizing operation, sets up unequal temperature strains in the metal of the can and often causes it to distort or buckle to such an extent that it is rendered useless. This difficulty is likely to be encountered in the manufacture of large rectangular cans employed in refrigerating apparatus as the receptacle for the water to be frozen, since a slight distortion of the metal forming the body portion of the can, prevents the easy removal of the ice therefrom.

An object therefore, of this invention is a process of making a can particularly adapted to be used as a receptacle for water to be frozen in the manufacture of ice, which will prevent the objectionable distortion above referred to, and in which the interior thereof is kept free from corrugations or ribs, whereby smooth cakes of ice may be produced.

This and other objects are attained in the

process described in the following specification and illustrated in the accompanying drawings in which:

Figure 1 is a perspective view of a can constructed according to my improved process.

Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a somewhat enlarged fragmental sectional view of the metal sheet and the ribs formed thereon.

Fig. 5 is a somewhat enlarged fragmental sectional view illustrating a modified form of a rib.

Fig. 6 is another view illustrating a sheet having a modified form of rib.

Fig. 7 is another view illustrating a modified form of ribs.

The can illustrated as being constructed according to the process embodying my invention, consists of a body portion 7 formed of a ribbed sheet of metal, and a base portion 8 also formed of sheet metal. The body portion consists of a sheet of metal having triangulated ribs 9 formed therein. These ribs are preferably formed as illustrated in Fig. 4 and extend longitudinally of the four faces of the can, being located on the outer surfaces of the can so that the inner surfaces will be left smooth and free from any obstructions which would cause or tend to cause the cake of ice formed in the can, to stick therein when an attempt is made to remove it. In addition to this the interior of the can is thus rendered smooth so that objectionable corrugations and similar formations are prevented from being formed on the cake of ice. Although I have illustrated the ribs of the body portion as extending parallel to the vertical axis of the can, that is, from the closed bottom to the open top of the can, the ribs may extend in any desired direction so as to stiffen the can laterally or longitudinally as desired. In addition to this the top and bottom of the can must be formed so that there will be no reëntrant or inwardly projecting shoulders

or lugs which will prevent the ice from slipping out of the can. For this reason I also construct the can so that the riveting located at the top and along the longitudinal seam of the can will lie flush with the inner edge thereof. Counter-sunk flat headed rivets are employed to engage the inner surfaces of the can, so as not to break the continuity of the smooth interior surface. In constructing the can, the metal of the top portion of the sheet, above the ribs, is turned over to embrace a metal band 10 surrounding the outside of the body of the can and riveted thereto, the two thicknesses of sheet metal being held securely by means of the rivets 11, the heads of which, on the inner faces of the can are counter-sunk to be flush with the inner surface as shown in Fig. 3. This rim or band 10 is provided for the purpose of preventing the folded portions forming the ribs, from being expanded by the pressure of the water and also by the operation of handling the can. The bottom 8 is secured to the body portion as illustrated in Fig. 3, the sheet metal forming the body portion, being made sufficiently long to extend across the bottom edge of the flange formed on the bottom 8 and around a reinforcing band 12. This band 12 which reinforces the bottom 8, together with the flange of the bottom, and the two thicknesses of the metal formed of the sheet constituting the body portion of the can, are held in place by means of the rivets 13. Because of this construction it is practically impossible for the bottom to be broken out and for the can to leak. By forming the bottom of the can in this manner I have eliminated the necessity of perforating the metal of the bottom or the sheet forming the body portion of the can, within the chamber adapted to receive the water to be frozen. Because of this fact the can is rendered much more durable, since the metal of both the bottom and the body portion is left imperforate, thereby eliminating this additional feature of weakness where the galvanizing would be liable to become dislodged because of the loosening of the rivets. The two edges of the sheet forming the body portion of the can are preferably secured together by means of rivets as shown in Fig. 1, the rivets in this case as in the construction disclosed in Fig. 3, at the top of the can, also being countersunk so as to present a smooth interior surface which will permit the cakes of ice to be readily removed from the can.

Although I have illustrated the ribs 9 as being triangular in shape and formed from the sheet as shown in Fig. 4, I may also construct the ribs to take on the formation illustrated in Fig. 5, or any similar formation may be employed for the purpose of

strengthening the can to prevent buckling in the galvanizing process. In Fig. 6, I have illustrated a form of rib which is formed solidly with the sheet, the ribs being rolled into the sheet, as shown, or I may rivet or otherwise secure separately formed ribs to the body of the can as shown in Fig. 7.

In the process of galvanizing the can, the joints and connections, as well as all crevices and places where two surfaces of metal abut, as for example where the two edges of the triangulated ribs abut, are filled with the molten zinc or other galvanizing metal employed, thereby filling all joints and crevices. In addition to this the galvanizing process to which a can embodying my construction, is subjected renders the interior of the can perfectly smooth so that any inequality in the abutting edges, the joints where the rivets pass through the sheet, or at the bottom of the can, are eliminated. This produces a can from which ice may be most easily removed and it produces a can in which cakes of ice having no corrugations or other uneven surfaces are formed.

Having thus described my invention, what I claim is:

1. A process of producing a refrigerating can consisting in constructing a sheet metal can body having exterior ribs extending longitudinally thereof, with a smooth interior, and then galvanizing the interior and exterior of the body and ribs.
2. A process for producing a refrigerating can consisting in constructing a sheet metal body portion having hollow ribs upon its exterior, with a smooth interior, and a bottom secured to the body portion, and then galvanizing the interior and exterior of the bottom, the ribs, and the body.
3. A process for producing a refrigerating can consisting in constructing a sheet metal body-portion having exterior longitudinally extending hollow ribs, with a bottom secured to the body portion, and then galvanizing the interior and exterior of the body, ribs, and bottom.
4. A process for producing a refrigerating can consisting in constructing a sheet metal body-portion having hollow ribs upon its exterior, a bottom secured to the body-portion having hollow ribs upon its exterior, and reinforcing bands secured to the top and bottom of the body portion, and then galvanizing the interior and exterior of the body, ribs, bottom, and bands.
5. A process of producing a refrigerating can consisting in forming upon a sheet of metal a series of transversely extending hollow ribs, the ribs being located on one side of the sheet with the sheet portions between them forming a continuous substantially smooth surface on the opposite side, bending the ribbed sheet to form the body

of the can with the ribs located to the exterior and extending longitudinally thereof, attaching a bottom, securing a reinforcing band to the top and bottom of the body, and then immersing the can in galvanizing material to close the crevices and joints.

In testimony whereof, I have hereunto

subscribed my name this 26th day of October, 1914.

GEORGE M. SCHOTT.

Witnesses:

WALTER F. MURRAY,

W. THORNTON BOGERT.