

No. 674,489.

Patented May 21, 1901.

P. WALL.
ICE CAN.

(Application filed Dec. 29, 1899.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 3.

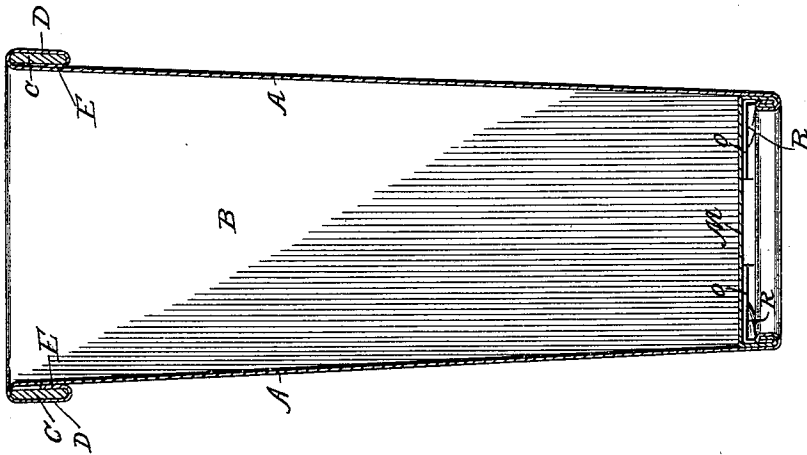
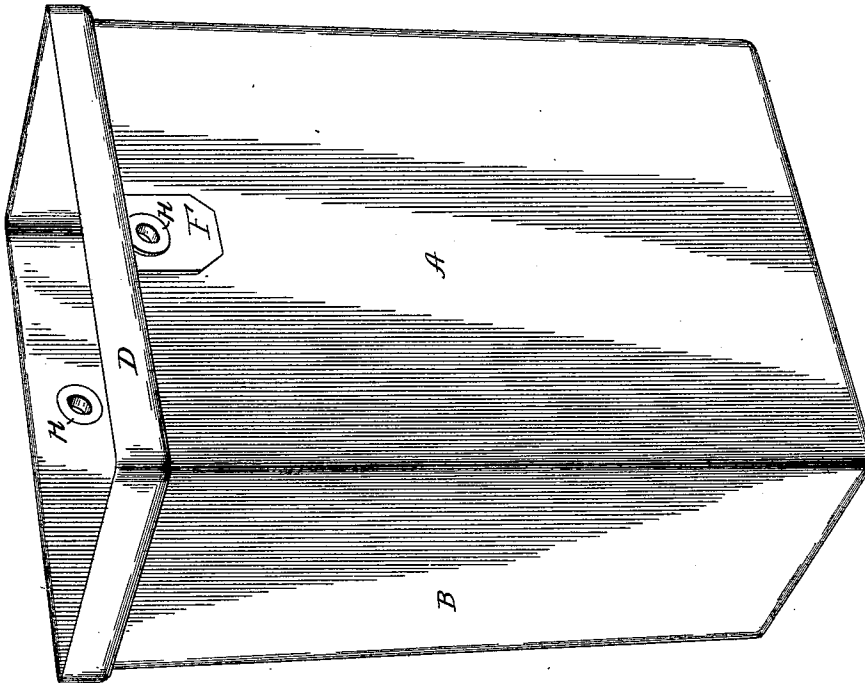


Fig. 1.



Witnesses

L. M. Walker
J. W. Garner

By *his* Attorneys,

Patrick Wall Inventor

C. A. Snow & Co.

No. 674,489.

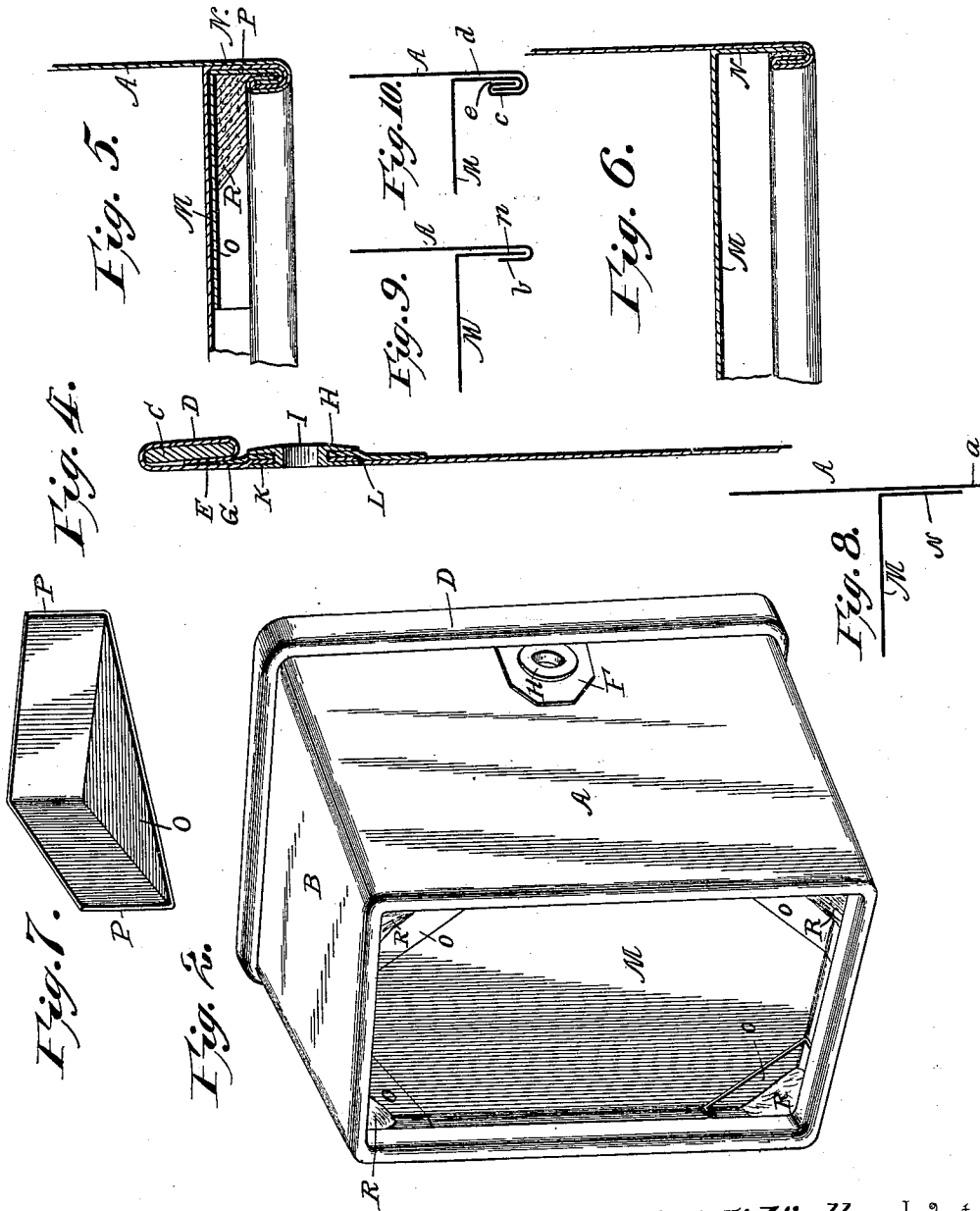
Patented May 21, 1901.

P. WALL.
ICE CAN.

(Application filed Dec. 29, 1899.)

3 Sheets—Sheet 2.

(No Model.)



Witnesses
E. H. Walker
J. W. Garner

Patrick Wall Inventor
By *W. H. Atterneys*
C. A. Snow & Co.

No. 674,489.

Patented May 21, 1901.

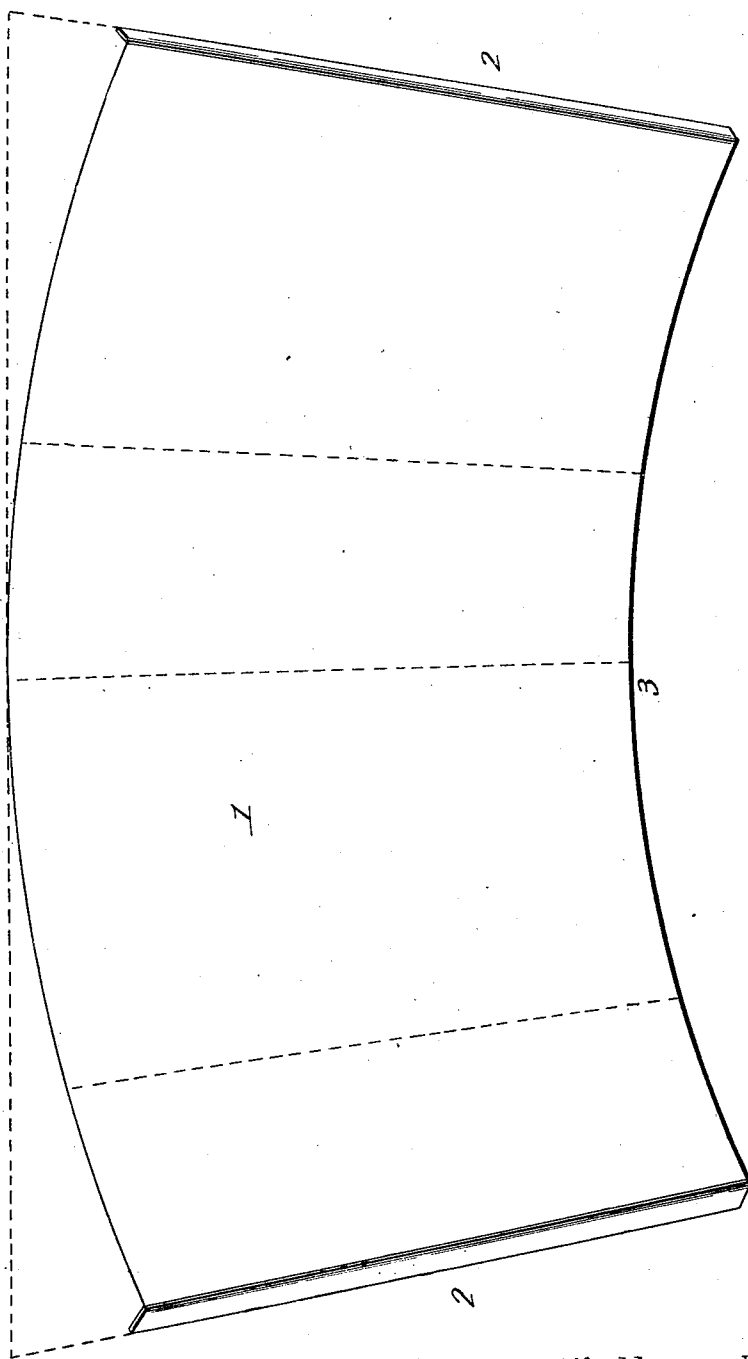
P. WALL.
ICE CAN.

(Application filed Dec. 29, 1899.)

(No Model.)

3 Sheets—Sheet 3.

Fig. 11.



Witnesses
L. H. Walker.
J. W. Garner

Patrik Wall
By *his* Attorneys,

Inventor

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

PATRICK WALL, OF ALLEGHENY, PENNSYLVANIA.

ICE-CAN.

SPECIFICATION forming part of Letters Patent No. 674,489, dated May 21, 1901.

Application filed December 29, 1899. Serial No. 742,008. (No model.)

To all whom it may concern:

Be it known that I, PATRICK WALL, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Ice-Can, of which the following is a specification.

My invention relates to improvements in ice-cans used for molding and freezing blocks of ice in ice-making machines; and one object of my invention is to provide an ice-can that is capable of contraction and expansion under varying temperatures without danger of opening and rupturing the seams.

A further object of my invention is to provide an ice-can composed of a minimum number of parts and in which there are but two seams and in which the bottom seam is formed without rivets and without solder in the interior of the can, which bottom seam is capable of opening and closing between the sides and bottom of the can when the can contracts and expands without rupturing or injuring said bottom seam.

A further object of my invention is to provide an ice-can with an exteriorly-formed seam between the bottom and the body of the can, which exteriorly-formed seam may be soldered by simply dipping the lower end of the can into a quantity of melted solder.

A further object of my invention is to provide an ice-can having smooth unobstructed internal surfaces to facilitate the withdrawal of the block of ice frozen in the can; and a further object of my invention is to provide an ice-can with reinforced bottom corners for strengthening the can at these points, and thereby adding to its durability.

To these ends my invention consists in a can having the bottom provided with a depending flange fitting in the body of the can, the lower edges of the can-body and said depending flange being folded and rolled to form an exterior open seam under and remote from the bottom of the can adapted to be filled with solder and which also reinforces the lower edges of the can.

My invention further consists in an ice-can comprising the sides and bottom, the latter being provided with a depending extending flange fitting within the sides, an open seam being formed between said flange and the

sides of the ice-can, a closed exterior seam formed between the lower edges of the sides of the can and the flange at the bottom thereof at a point remote from the can-bottom, the portion of said flange intermediate of said exterior closed seam and the can-bottom being free of the sides of the can, and thereby adapted to yield, and thus compensate for the contraction and expansion of the can bottom and sides without affecting the outer seam.

My invention further consists in a can having the bottom provided with a depending flange fitting in the body of the can and reinforcing angular corner-pieces adapted to fit under the bottom of the can at the corners thereof, and having the depending side flanges which bear against the depending flange of the bottom of the can, said corner-pieces serving thereby to reinforce both the bottom of the can and the sides thereof at the corners.

My invention further consists in a can having grappling-eyelets in its sides, the inner ends of the said grappling-eyelets being upset on the inner side of the can and the side walls of the can being offset perpendicularly around the upset ends of said eyelets to prevent the said upset ends of the said eyelets from forming obstructions on the interior surfaces of the can.

My invention further consists in the peculiar construction and arrangement of parts hereinafter more fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of an ice-can embodying my improvements. Fig. 2 is a similar view of the same, showing the bottom of the can. Fig. 3 is a vertical transverse sectional view of the same. Fig. 4 is a detail sectional view through the center of one of the sides of the can, showing a grappling-eyelet and reinforcing-piece therein. Fig. 5 is a detail sectional view of one of the bottom corners of my improved ice-can. Fig. 6 is a detail sectional view. Fig. 7 is a detail perspective view of one of my reinforcing corner-pieces. Figs. 8, 9, and 10 are diagrammatic sections illustrating various steps in the construction of my improved can with reference to forming the exterior seam under the bottom of the can. Fig. 11 is a plan view of the blank or single sheet of galvanized steel from which

the side and end walls constituting the body of the can are formed.

The body of my improved ice-can, comprising the sides A and ends B, is formed of a single piece, preferably of galvanized steel, bent into the form herein illustrated and converging toward the bottom of the can, only a single seam being formed in the body of the can, which is preferably located at one of the corners thereof.

In the manufacture of my improved ice-can I employ a reinforcing-band C, of iron or other suitable material, at the top of the can on the exterior thereof, and the upper edges of the body of the can are bent over the said reinforcing-band, as at D, and folded under the same between it and the proximate portions of the sides of the can, as at E. On the central upper portions of the sides of the can are placed reinforcing-pieces F, which are substantially rectangular in shape, of suitable length and width, and with their lower corners cut off obliquely, as shown in Figs. 1 and 2, and the upper ends of the said reinforcing-pieces F are secured under the reinforcing band or rim C, as shown at G, Fig. 4. Openings I are made through the centers of the sides A near their upper edges and through the reinforcing-pieces F, and in the said openings are inserted grappling-eyelets H, which are made of suitable malleable metal, the inner protruding end of the said grappling-eyelets being upset, as at K, and the contiguous portion of the sides around the opening I being correspondingly offset outwardly, as at L, so as to cause the upset inner ends K of the eyelets to lie in the same planes with the sides A of the can, and thereby avoid obstructing the interior surfaces thereof, and hence my improved cans may be readily withdrawn from the blocks of ice molded and frozen therein. The said grappling-eyelets are adapted for the insertion of the grapples or hooks of the crane used for moving the can when filled with water or ice. The bottom M of the can is likewise formed of a single piece, preferably of galvanized steel, and the outer edges thereof are bent or struck downwardly to form a depending flange N of suitable depth, which extends entirely around the bottom and is adapted to fit within the body of the can at the lower side thereof. In the construction of this portion of my improved ice-can the bottom is placed within the body of the can, with the lower edges of the body of the can extending a slight distance below the lower edge of the bottom flange, as at a, Fig. 8. Said depending portion a of the body of the can is then bent and folded inwardly and upwardly, as at b, Fig. 9, to embrace the lower edge of the bottom flange n, and said lower edges of said bottom flange and the body of the can are then bent and folded inwardly and upwardly upon each other, as at c, Fig. 10, thereby forming an interior seam d between the outer sides of the flanged bottom and the inner sides of the body of the can

and an external seam e between the sides of the can and the depending flange of the bottom within the latter, which exterior seam e opens upwardly and is adapted to be filled with solder in order to make the same tight. In manufacturing my improved ice-can I solder the exterior seam around the bottom thereof by lowering the ice-can into a bath of melted solder; but this soldering may be done by hand appliances, if preferred. The interior seam d is left unsoldered, and hence the same may open and close when the can contracts and expands at various temperatures without affecting the exterior seam e in any manner and without danger of bursting or rupturing the can. It will be observed by reference to the drawings that the bottom flange N extends above the external seam for a suitable distance before it reaches the bottom of the can, thus providing a considerable area of surface in the interior seam d, which compensates for the contraction and expansion of the can. In other words, there is a considerable area of the depending flange of the can-bottom between the exterior seam e and the bottom of the can, which intermediate area is entirely free of although normally in contact with the sides of the can and is adapted to buckle, yield, or spring as the can contracts and expands without affecting the exterior seam and without danger of rupturing the same.

In order to enhance the strength and durability of my improved ice-can, I employ angular corner-pieces O, one of which is located under the bottom of the can at each corner thereof. Each of the said corner-pieces is formed, preferably, of a single piece of galvanized steel and is provided on two of its sides with depending flanges P, which are struck or downturned therefrom and are adapted to fit in the angles of the flange N of the can-bottom. In the construction of my improved ice-can these depending flanges P of the corner-pieces are bent and folded within the lower portions of the flange N of the can-bottom when forming the seams between the can-bottom and the body of the can in the manner hereinbefore described, and thereby the said corner-pieces are firmly secured in place. Said corner-pieces serve to effectually strengthen and support the bottom corners of the can at the points most subject to wear, and in order to enhance the strength of these corners I apply masses of solder thereto, as at R.

An ice-can thus constructed may be very cheaply manufactured, is extremely light, and therefore easily handled, is exceedingly strong and durable, and is not subject to bursting and rupturing of its seams when contracting and expanding, thereby obviating a very serious objection to the ice-cans heretofore manufactured and used in this art.

In the manufacture of the body of my improved ice-can a blank 1, Fig. 11, is cut from a rectangular sheet of galvanized steel to form the converging sides 2 necessary to taper

the body of the can downwardly, and the bottom edge thereof is trimmed to form the curve 3; but in order to conform the shape of the upper edge of the blank to that of the lower edge thereof and avoid waste of material and the expense of trimming said upper edge said upper edge is formed by curling or folding the same over the stiffening or reinforcing band C, the width of the latter being sufficient to permit the angular portions of the upper edge of the sheet to be folded or curled under said band, thus not only saving the expense of trimming the upper edge of the sheet to the required form, but also effecting an economy of the material which would be wasted in such trimming and adding to the strength of the top band edge of the can by disposing of such angular portions of the sheet under the band.

In the manufacture of ice-cans of unusually large size it is sometimes necessary to unite two sheets of metal by a seam to form the blank for the can-body; but this can be done consistently with the formation of the upper edge of the blank by curling or folding the same over the stiffening or reinforcing band C, and I do not desire to limit myself in this particular.

It will be understood from the description herein of the exterior joint formed by folding the lower edges of the flange of the can-bottom and of the can-body together that not only is the formation of an exterior seam remote from the interior joints thereby gained, but this exterior folded seam constitutes a highly-efficient reinforce-band for the foot of the can, an advantage of great value in cans of this class, which are subject to exceedingly-severe usage when being handled with their contents on an uneven floor. The ice-cans heretofore constructed frequently succumb to such usage, their bottom edges becoming speedily bent and broken, and hence causing leaks; but my improved can, having the exterior seam formed as hereinbefore described, is provided with a reinforced foot or bottom edge, calculated to secure greatly-enhanced durability under such conditions.

Having thus described my invention, what I claim is—

1. A can having the bottom provided with a depending flange fitting in the body of the can, the corner-pieces under the bottom of the can, and having the depending flanged

sides fitting against the angles of the flange of the bottom, said flanges of the bottom and of said corner-pieces and the lower edges of the can-body being folded to form an exterior seam and also secure the said corner-pieces in position, substantially as described. 55

2. An ice-can having the bottom provided with a depending flange fitting in the body of the can, the lower edges of the can-body and said depending flange being folded together and the reinforcing corner-pieces provided with right-angled flanges on two sides thereof fitted in the corners of the can under the bottom thereof, said flanges being folded at their lower edges between the folded lower edges of the can-body and bottom flange, substantially as described. 60 65 70

3. A can having flat reinforce-pieces bearing on its sides, and malleable eyelets in openings in said sides and reinforce-pieces, the inner ends of said eyelets being upset in the planes of the said sides, and the said reinforce-pieces having the correspondingly offset portions around the said openings, and proximate to the said upset ends of said eyelets and in which said upset ends of said eyelets are embedded, substantially as described. 75 80

4. As a new article of manufacture, an ice-can having the bottom forming a single piece and provided with the depending flange, fitting within the sides of the ice-can, and forming an open, unsoldered, inner joint between said flange and the sides of said can, the lower edges of the sides of said can and of the said depending flange of the can-bottom being rolled together to form a closed, exterior seam at a point remote from the bottom, said seam being soldered, and the portion of said flange between said exterior closed seam and the can-bottom being free of the sides of the can and thereby adapted to yield and thus compensate for the contraction and expansion of the can bottom and sides, without affecting the outer, closed soldered seam, substantially as described. 85 90 95

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses. 100

PATRICK WALL.

Witnesses:

JNO. H. KEANE,
J. C. LANGFITT.