

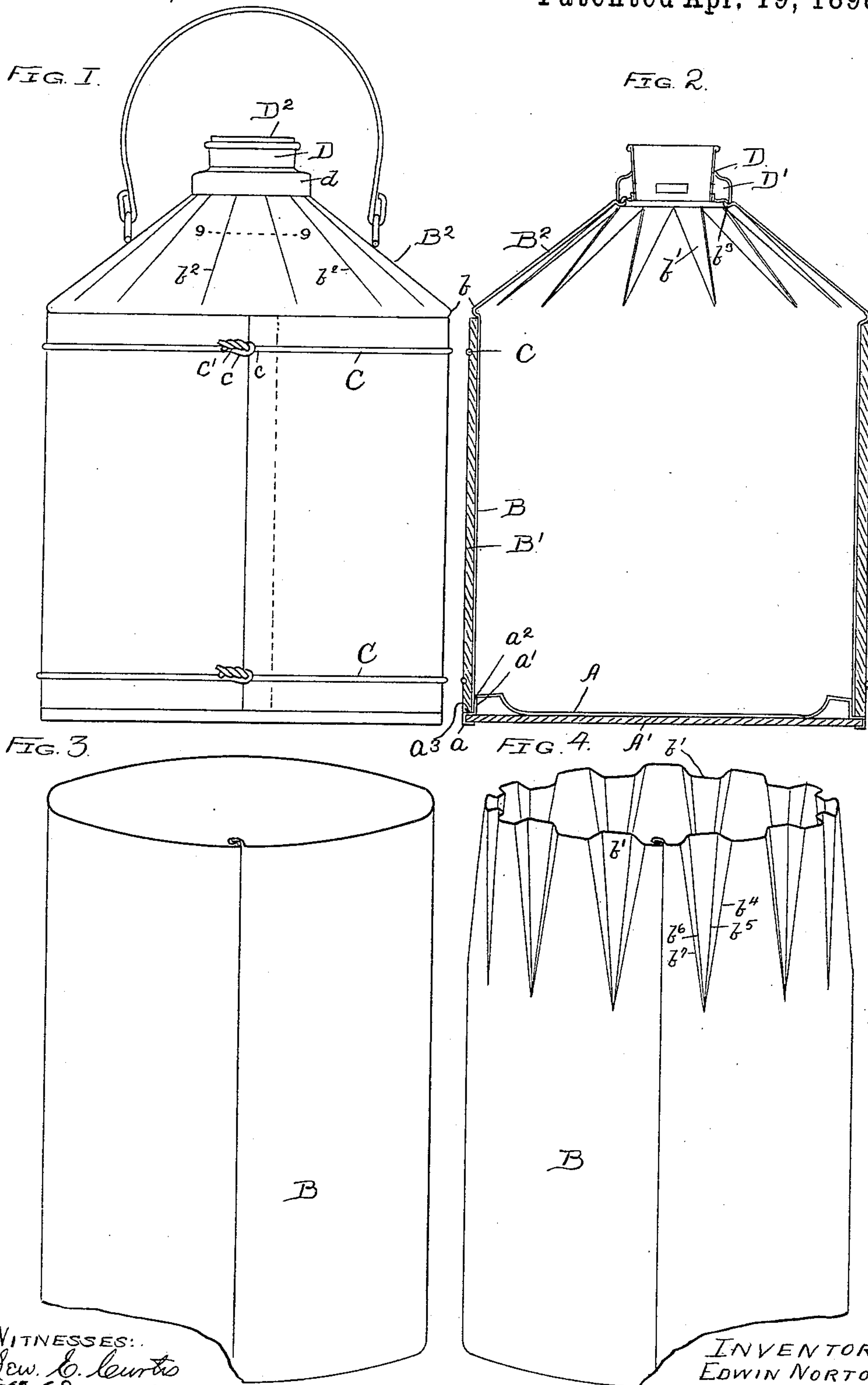
(No Model.)

2 Sheets—Sheet 1.

E. NORTON.  
SHIPPING CAN.

No. 602,468.

Patented Apr. 19, 1898.



WITNESSES:  
Sew. E. Lewis  
H. W. Munday

INVENTOR:  
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BY Munday, Darts & Adenck  
HIS ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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SHIPPING CAN.

No. 602,468.

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FIG. 5.

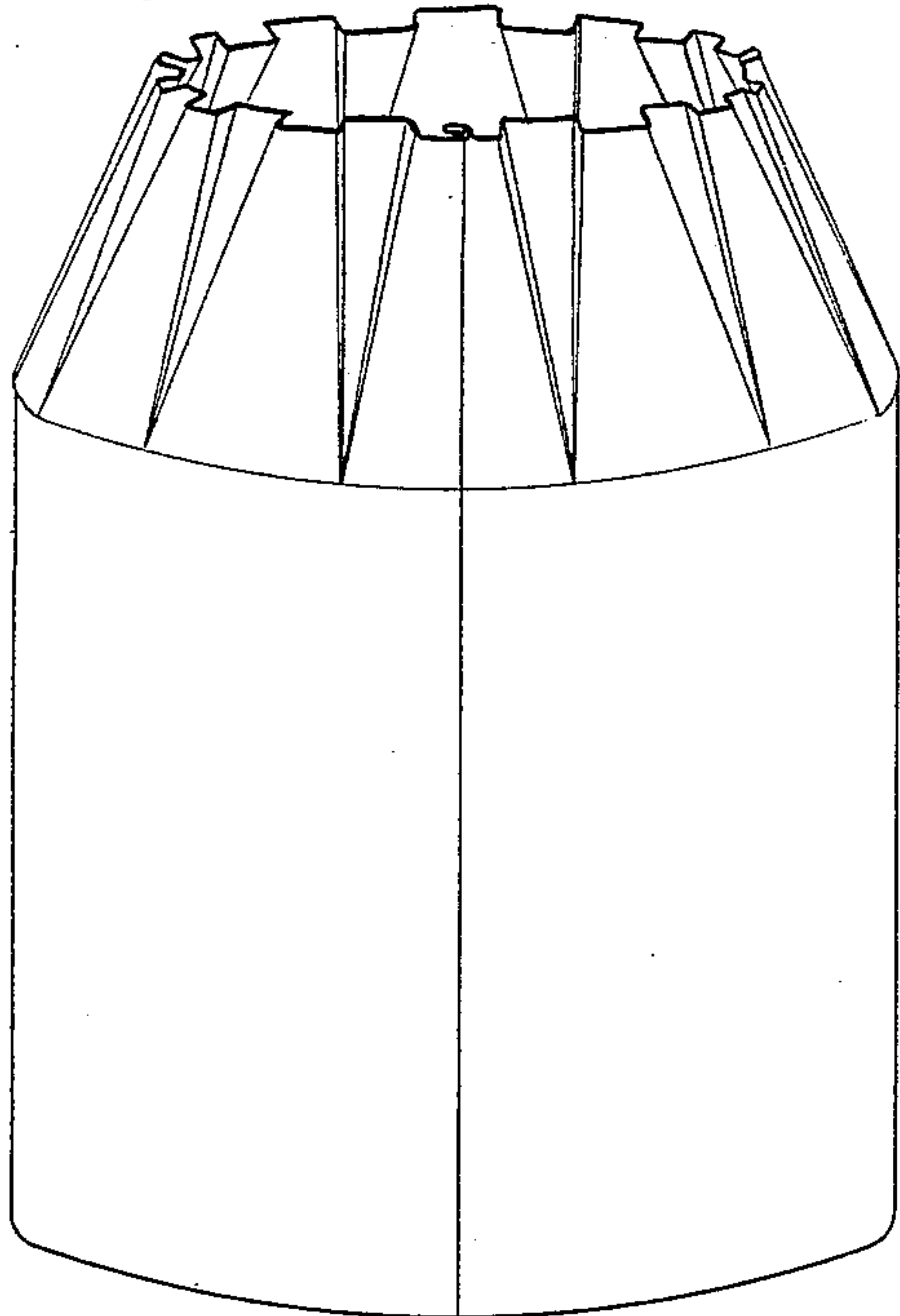


FIG. 6.

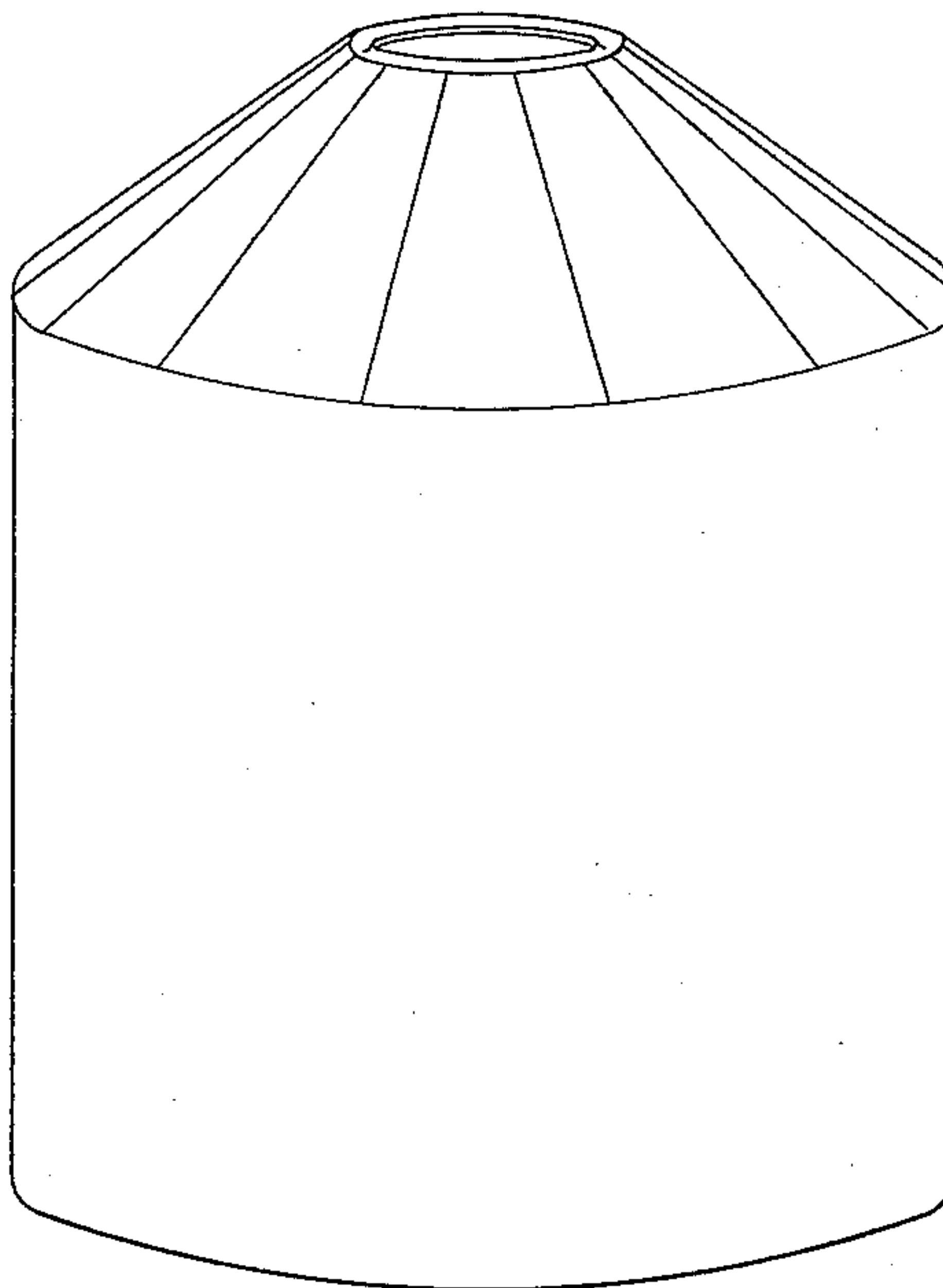


FIG. 7.

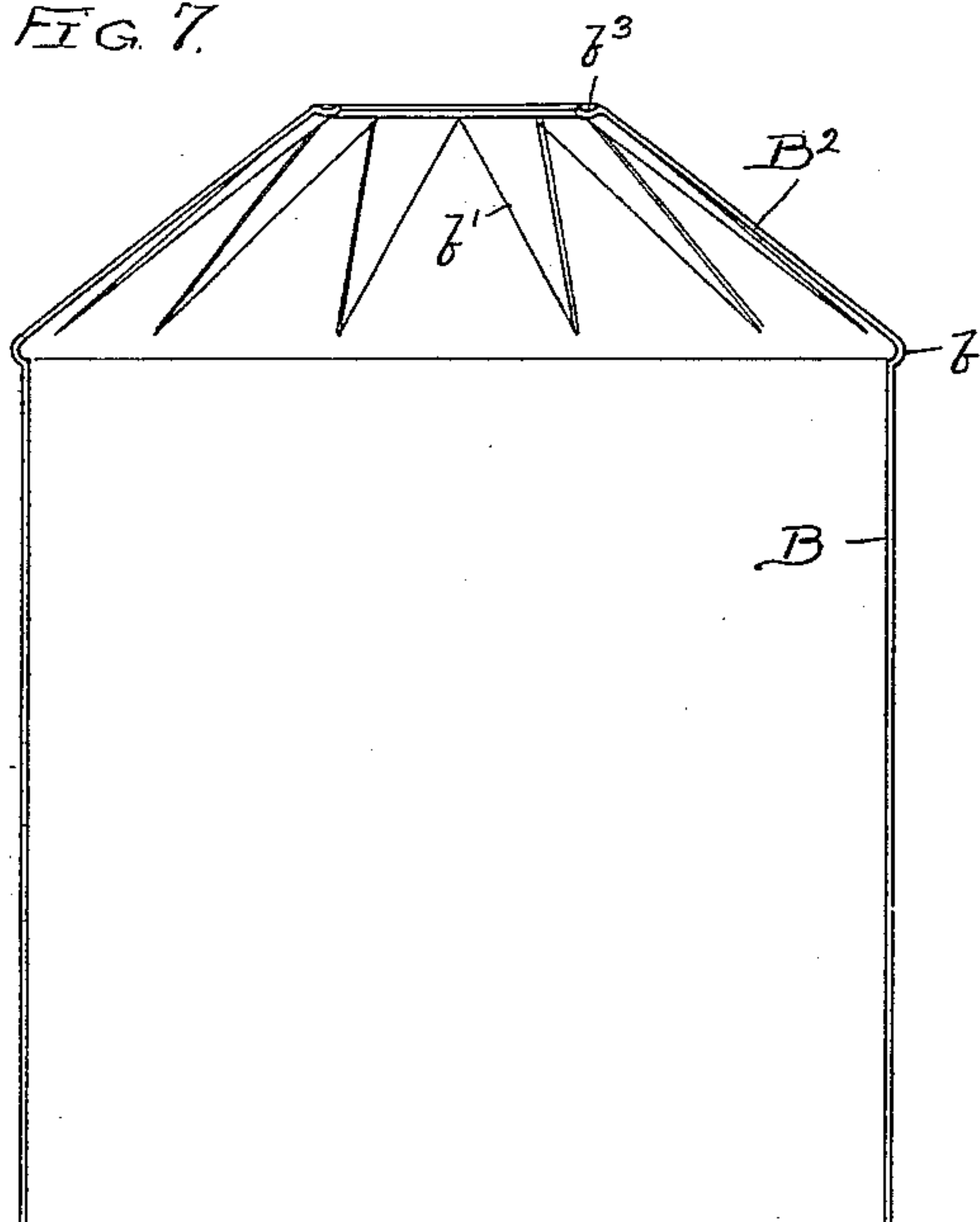


FIG. 8.

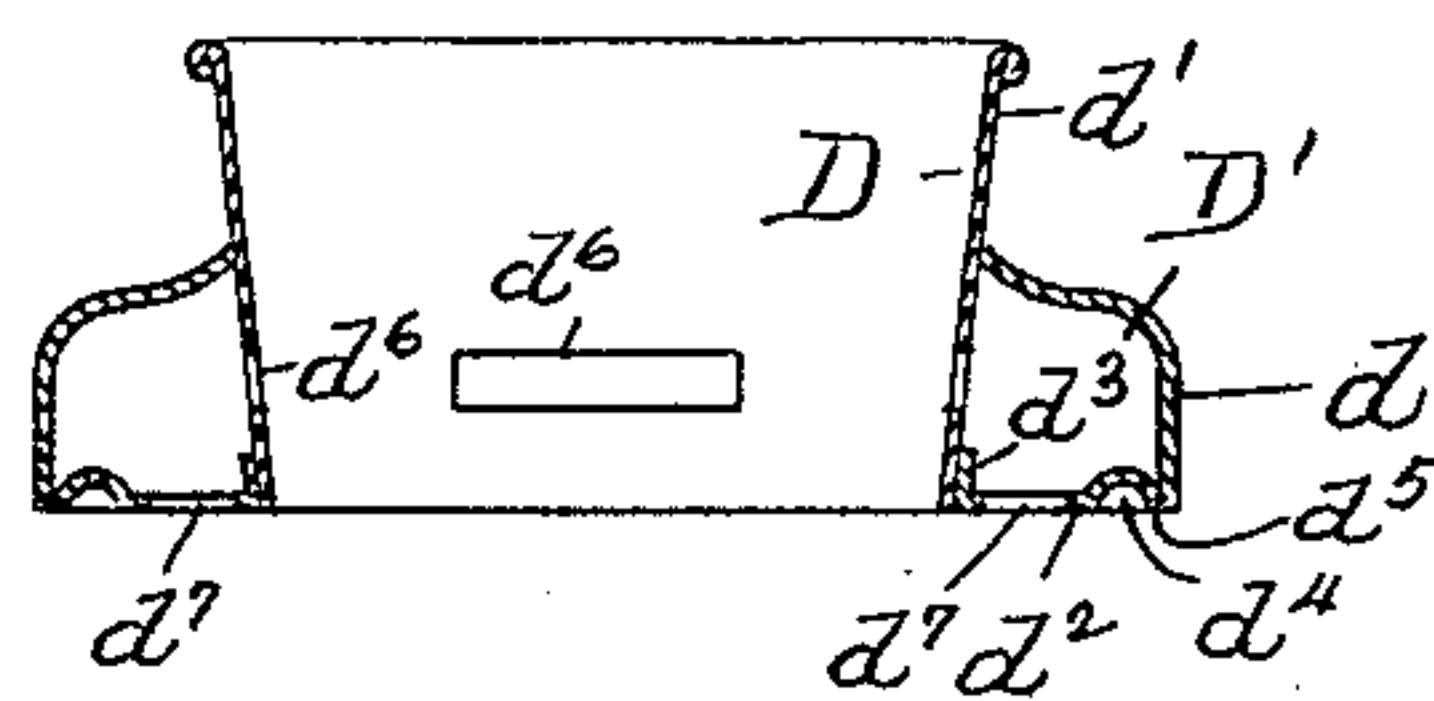
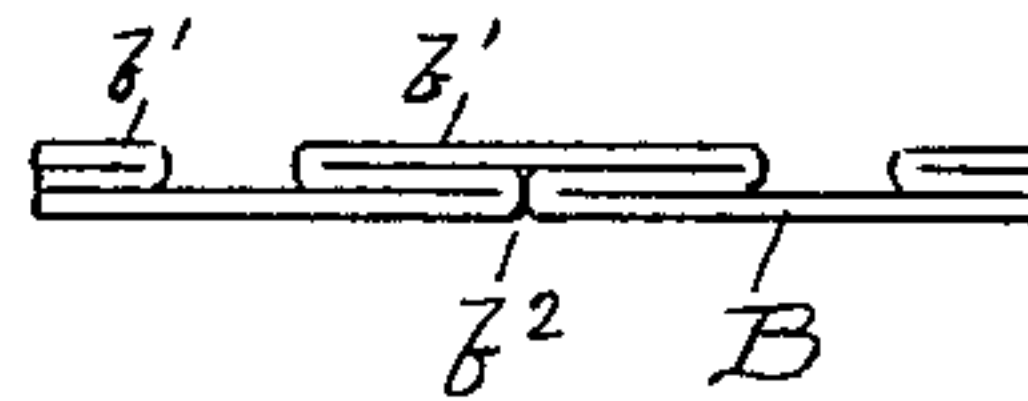


FIG. 9.



WITNESSES:

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HIS ATTORNEYS.



# UNITED STATES PATENT OFFICE.

EDWIN NORTON, OF MAYWOOD, ILLINOIS, ASSIGNOR TO HIMSELF, AND  
OLIVER W. NORTON, OF CHICAGO, ILLINOIS.

## SHIPPING-CAN.

SPECIFICATION forming part of Letters Patent No. 602,468, dated April 19, 1898.

Application filed May 22, 1897. Serial No. 637,675. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN NORTON, a citizen of the United States, residing in Maywood, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Shipping-Cans, of which the following is a specification.

My invention relates to improvements in taper-breast or conical-top shipping-cans.

My improved can has a combined sheet-metal and wood-veneer bottom, a combined sheet-metal and wood-veneer body, and a tapering or conical sheet-metal breast or top formed integral with the body by providing the upper portion of the cylinder with tapering folds or plaits, the tapering folds or plaits in the stock thus contracting the upper end of the cylinder to the necessary small size to receive the pouring-nozzle, the nozzle forming a finish for the contracted and plaited or folded end and serving also to strengthen the taper-breast of the can.

My invention consists in the novel construction of parts and devices and in the novel combinations of parts and devices herein shown and described, and specified in the claims.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of a shipping-can embodying my invention. Fig. 2 is a central vertical section. Figs. 3, 4, 5, and 6 are perspective views, and Fig. 7 a vertical sectional view, representing successive steps or stages in making or forming the combined body and integral taper-breast of the can. Fig. 8 is an enlarged detail sectional view of the nozzle, and Fig. 9 is an enlarged detail sectional view on line 9 9 of Fig. 1.

In the drawings, A represents the sheet-metal bottom of the can, and A' the wood-veneer bottom, secured to the sheet-metal bottom by the folded rim *a* of the sheet-metal bottom, which embraces the rim or edge of the wood-veneer bottom. The sheet-metal bottom A is provided with an upright flange *a'*, fitting within the lower end of the sheet-metal body B and united thereto by a soldered seam *a<sup>2</sup>*, so as to form a liquid-tight joint between the sheet-metal bottom and body.

The wood-veneer body B' surrounds the

sheet-metal body B and abuts at its lower end against the projecting rim *a<sup>3</sup>* of the combined sheet-metal and wood-veneer bottom, which extends out flush with the outer surface or periphery of the wood-veneer body, and it abuts at its upper end against an external shoulder or bead *b*, with which the sheet-metal body B is provided at its upper end or at or near its junction with the integral tapering breast or top B<sup>2</sup> of the can. The meeting edges of the wood-veneer body should preferably be tapered and lapped one over the other, as indicated by the dotted line in Fig. 1.

C C are wire hoops encircling the wood-veneer body and firmly uniting the same with the sheet-metal body. The wood-veneer body by the shoulders *a<sup>3</sup>* and *b* at its upper and lower ends and by the hoops C is thus firmly united to the other parts of the can, so as to properly coöperate therewith and strengthen the same.

The integral tapering or conical breast or top B<sup>2</sup> is formed integral with the sheet-metal body B of the can by simply employing a sheet of greater length or height than the length or height of the body of the can, as indicated in Fig. 3, and forming at the upper portion thereof tapering or gore-shaped plaits *b'* in the stock, as indicated in Figs. 1, 2, 6, 7, and 9 and as indicated also in successive stages in Figs. 4 and 5. I prefer to make these tapering folds or plaits *b'* on straight, angular, or diverging lines, as indicated in the drawings, as this produces a plain conical taper to the breast; but, if preferred, the lines of the folds may be curved to give any other desired shape to the tapering breast or top of the can. As will be observed from the drawings, the folds or plaits *b'* are formed upon the inside of the breast B<sup>2</sup>, thus giving a substantially smooth finish to the tapering breast on the outside and a neat appearance to the can, the appearance on the outside being simply that the tapering breast is divided by radial lines *b<sup>2</sup>* into segments or divisions, as will be readily understood from Figs. 1 and 6. The tapering folds or plaits *b'* of the breast B<sup>2</sup> serve to materially strengthen and stiffen the breast. At the contracted upper



end or mouth of the integral tapering breast  $B^2$ , I provide the same with an annular  $V$  groove, channel, or seat  $b^3$  to receive the lower end or rim of the pouring-nozzle  $D$  and enable it to be properly and firmly soldered in place and united to the breast  $B^2$ . The nozzle  $D$  is provided with an annular vent-chamber  $D'$  and is composed of three disks, shells, or pieces—viz., an outer shell  $d$ , the lower edge of which fits in the groove or seat  $b^3$  of the breast  $B^2$ , a tapering spout or nozzle-piece  $d'$ , to which the upper edge of the outer shell  $d$  is soldered and which is adapted to be closed by a cork or stopper  $D^2$ , and a base-plate or annular disk  $d^2$ , having an up-turned flange  $d^3$  at its inner edge adapted to fit and be soldered to the tapering nozzle-piece  $d'$  at the lower end thereof—and an annular groove  $d^4$ , forming a downturned flange  $d^5$  at its outer edge, adapted to fit within the outer shell  $d$  at the lower end thereof and to be soldered with it in or to the seat  $b^3$  at the upper end of the tapering breast. The nozzle-piece  $d'$  is provided with vent-openings  $d^6$ , preferably four in number and located equidistant from each other, which open into the annular vent-chamber  $D'$  of the nozzle, and the base plate or disk  $d^2$  of the nozzle is provided with similar vent-openings  $d^7$ , connecting the annular vent-chamber  $D'$  with the interior of the can. As the vent-openings  $d^6$   $d^7$  are four in number and equidistantly located in pouring the can may be tilted in any direction and still one or more of the pairs of vent-openings will be on top or in position for venting the can as its contents are being poured out. The vent-openings  $d^6$  in the pouring or nozzle piece  $d'$  are closed by the cork or stopper  $D^2$ . The nozzle  $D$  thus secured to the contracted upper raw edge of the tapering and plaited or folded breast of the can thus gives a neat and smooth finish thereto and at the same time also greatly stiffens and strengthens the can or its breast and prevents any tendency for the breast to bend or break at the meeting or abutting edges or lines  $b^2$  of the plaits or folds  $b'$ . The projecting beads or shoulders  $b$ , with which the combined integral body and breast  $B^2$  of the can is provided at the upper end of the body for the end of the wood-veneer body  $B'$  to fit against, also serves to greatly strengthen and stiffen both the sheet-metal body and the sheet-metal breast of the can.

In manufacturing the combined sheet-metal can-body and its integral tapering breast I first take a sheet-metal cylinder, as indicated in Fig. 3, of suitable length to form the body and its integral breast and first partially form the tapering plaits or folds  $b'$  therein by partially folding or bending the stock on four angular or diverging lines  $b^4$   $b^5$   $b^6$   $b^7$  for each plait or fold  $b'$ , as indicated in Fig. 4. I next in a succeeding step or operation continue the bending or folding of the stock on these same lines, and thus further contracting the upper end of the partially-formed

tapering breast, as indicated in Fig. 5, the individual parts or laps of each fold or plait being in this operation brought substantially at right angles to each other, as indicated in the drawings. At the next succeeding step the folding of the plaits is further continued, and the individual parts or laps of each fold or plait are folded flat together, as indicated in Figs. 6 and 9 or in Figs. 1, 2, and 7, and at the same operation the annular groove or seat  $b^3$  to receive the nozzle is formed in the upper contracted end of the tapering breast. At the next succeeding step the externally-projecting shoulder or bead  $b$  is formed at the junction of the upper end of the body and lower end of the tapering breast, as indicated in Fig. 7. After the combined integral sheet-metal body and tapering breast is thus formed the sheet-metal bottom is securely soldered in place, and the nozzle  $D$  is soldered to the upper end of the tapering breast. The sheet-metal can may then be tested, if desired, by submerging it in water, and after this has been done the wood-veneer bottom  $A'$  is applied, and the projecting rim  $a$  of the sheet-metal bottom  $A$  is folded or hemmed over and around the rim or edge of the wood-veneer bottom, thus firmly securing it in place, and then the wood-veneer body  $B'$  is lapped around the sheet-metal body  $B$  and the wire hoops  $C$  applied and firmly compressed around the can by twisting together the meeting ends  $c$   $c'$  of the hoops into a short twist or coil  $c'$ .

The upright flange or shoulder  $a'$  on the sheet-metal bottom, which fits within the lower end of the sheet-metal body, forms a shoulder or abutment to strengthen the combined wood-veneer and sheet-metal body against the tension or compression of the hoops  $C$ , and thus enables the hoops to produce a proper supporting and coöperative action between the wood-veneer and sheet-metal bodies and the other parts of the can, and the integral tapering sheet-metal breast  $B^2$  of the can, in connection with the bead or shoulder  $b$  at the upper end of the sheet-metal body, performs a similar coöperative function at the upper end of the can to that performed by the bottom  $A$   $A'$  in connection with the shoulder  $a'$  at the lower end of the can.

The sheet-metal body  $B$  may, if preferred, be made slightly smaller at its upper end than at its lower end instead of a true cylinder for the purpose of enabling the sheet-metal bodies with their integral breasts to be properly nested for shipment before the bottoms are applied to the cans.

I do not herein claim the particular construction and means of combining together the sheet-metal body, wood-veneer body, sheet-metal bottom, and wood-veneer bottom, independent of the tapering breast of the can-body, as the same forms the subject of claim in my companion application, Serial No. 637,676, of even date herewith. I, however, herein claim the same in connection with



the tapering breast having the external shoulder for the upper end of the wood-veneer body to abut against.

I claim—

5 1. A taper-breasted shipping-can comprising in combination the following parts: a sheet-metal body B having an integral tapering breast B<sup>2</sup> furnished with a series of tapering plaits or folds b' therein, and an externally-projecting shoulder or bead b at or near  
10 the junction of the body and its tapering breast; a sheet-metal bottom A having an upright flange or shoulder a' fitting within and soldered to the lower end of said sheet-metal body; a wood-veneer bottom A' having the rim or outer edge of said sheet-metal bottom folded over or around its rim or edge; a wood-veneer body B' surrounding said sheet-metal body and fitting at its lower end against  
20 the projecting rim of the combined wood-veneer and sheet-metal bottom, and at its upper end against said external shoulder b of the sheet-metal body; wire hoops C C surrounding said wood-veneer body; the upper  
25 contracted end of said tapering integral breast B<sup>2</sup> having a channel or seat b<sup>3</sup>; and a pouring-nozzle comprising an outer shell d, an annular base plate or disk d<sup>2</sup> and a pouring or nozzle piece d', the lower edges of said  
30 outer shell d and of said annular disk d<sup>2</sup> fitting within and soldered to said seat b<sup>3</sup> at the upper end of said tapering breast, substantially as specified.

2. The combination with a sheet-metal can-body having an integral tapering breast  
35 formed by a series of tapering plaits or folds therein, and provided with an external bead or shoulder b, of a wood-veneer body surrounding the sheet-metal body and fitting at  
40 its upper end against said external bead or shoulder b, and at its lower end fitting against the projecting rim of the sheet-metal and wood-veneer bottom, and a sheet-metal and wood-veneer bottom having its rim project-  
45 ing laterally under the end of said wood-veneer bottom, substantially as specified.

3. The combination with a sheet-metal can-body having an integral tapering breast  
50 formed by a series of tapering plaits or folds therein, and provided with an external bead or shoulder b, of a wood-veneer body surrounding the sheet-metal body and fitting at its upper end against said external bead or shoulder b, the upper contracted end of said  
55 tapering breast having an annular groove or seat formed therein, and a pouring-nozzle having its lower edge or rim soldered in said seat and serving to form a finish for and to strengthen the upper end of said tapering  
60 breast, substantially as specified.

4. A sheet-metal can-body B having an integral tapering breast B<sup>2</sup> formed by a series of straight tapering folds or plaits b' therein abutting together on radial lines on the out-  
65 side to brace each other and give a smooth exterior conical surface and finish to the breast, substantially as specified.

5. A sheet-metal can-body B having an integral tapering breast B<sup>2</sup> formed by a series of tapering folds or plaits b' therein, the up-  
70 per contracted end of said tapering and folded or plaited breast being provided with an annular seat to receive a nozzle, and a nozzle secured thereto and comprising an outer shell d, an annular flanged base-disk b<sup>3</sup>, and a  
75 pouring or nozzle piece d' to which the outer shell is secured at its upper edge and to which the inner flange of said annular disk is secured at the lower end thereof, the lower edge of said outer shell and the outer flange of said  
80 annular disk being secured in or to the seat formed in said tapering breast, substantially as specified.

6. A sheet-metal can-body B having an integral tapering breast B<sup>2</sup> formed by a series  
85 of tapering folds or plaits b' therein, the upper contracted end of said tapering and folded or plaited breast being provided with an annular seat to receive a nozzle, and a nozzle secured thereto and comprising an outer shell  
90 d, an annular flanged base-disk b<sup>3</sup>, and a pouring or nozzle piece d' to which the outer shell is secured at its upper edge and to which the inner flange of said annular disk is secured at the lower end thereof, the lower edge  
95 of said outer shell and the outer flange of said annular disk being secured in or to the seat formed in said tapering breast, said annular disk and said nozzle-piece having vent-openings through the same, substantially as speci-  
100 fied.

7. The combination with a can of a nozzle D furnished with an annular vent-chamber D', and comprising an outer shell d, a nozzle-piece d', and an annular base plate or disk d<sup>2</sup>,  
105 said annular disk and said nozzle-piece having vent-openings communicating with said annular vent-chamber, substantially as specified.

8. The combination with a can of a nozzle  
110 D furnished with an annular vent-chamber D', and comprising an outer shell d, a nozzle-piece d', and an annular base plate or disk d<sup>2</sup>, said annular disk and said nozzle-piece having vent-openings communicating with said  
115 annular vent-chamber, the upper edge of said outer shell being secured to the nozzle-piece, and the annular disk having at its inner edge a flange fitting and soldered to said nozzle-piece, and at its outer edge a flange fitting  
120 within said outer shell, substantially as specified.

9. A shipping-package comprising in combination a sheet-metal bottom and a wood-  
125 veneer bottom, the rim of the former being folded over the latter, a sheet-metal body having an integral tapering breast formed by tapering plaits or folds therein, and provided with an external shoulder or bead at or near the junction of the upper end of the body with  
130 said tapering breast, and a wood-veneer body surrounding said sheet-metal body and fitting at its upper end against said external shoulder or bead and at its lower end against



the projecting rim of the sheet-metal and wood-veneer bottom, the sheet-metal and wood-veneer bottom having its rim projecting laterally under the end of the wood-veneer body substantially as specified.

10. A taper-breasted jacketed shipping-can comprising in combination the following parts: a sheet-metal body and tapering breast having an external shoulder or bead at or near the upper end of the body; a combined sheet-metal and wood-veneer bottom having its rim projecting laterally beyond the sheet-metal body; and a wood-veneer body surrounding the sheet-metal body and fitting between said projecting rim of the bottom and said externally-projecting shoulder at the upper end of the sheet-metal body, substantially as specified.

11. A taper-breasted jacketed shipping-can comprising in combination the following parts: a sheet-metal body and tapering breast, having an external shoulder or bead at or near the upper end of the body; a combined sheet-metal and wood-veneer bottom having its rim projecting laterally beyond the sheet-metal body; and a wood-veneer body surrounding the sheet-metal body and fitting between said projecting rim of the bottom and said externally-projecting shoulder at the upper end of the sheet-metal body, and wire hoops C C, substantially as specified.

12. A taper-breasted shipping-can, having its breast and body made from a single piece of metal, provided with a pouring-nozzle and having a hollow projecting bead formed at the upper end of the body portion to stiffen

and strengthen the can in place of the usual folds or seam uniting the can-body and its taper-breast, and a metal bottom secured to the body, a wood-veneer body and a wood-veneer bottom having its rim projecting laterally out under the end of the wood-veneer body for it to abut against substantially as specified.

13. A taper-breasted jacketed shipping-can, having its breast and body made from a single piece of metal, and provided with a pouring-nozzle soldered to the upper end of said taper-breast, a hollow projecting bead around the upper end of the body portion, a wood-veneer jacket secured by hoops or bands around the body portion, and a metal and wood bottom secured to the lower end of the can-body, the rim of the metal and wood veneer bottom projecting out laterally under the end of the wood-veneer body for it to abut against substantially as specified.

14. A taper-breasted shipping-can, provided at its upper portion with a pouring-nozzle surrounded by an annular chamber having openings  $d^6$   $d^6$  between the side walls of said pouring-nozzle and the annular chamber, and having openings  $d^7$  between the lower portion of said annular chamber and the can, whereby the said pouring-nozzle and can are strengthened and ventilated, substantially as specified.

EDWIN NORTON.

Witnesses:

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S. E. CURTIS.