Dec. 28, 1948. J. G. BELL 2,457,198

CONTAINER AND BLANK THEREFOR

Filed Oct. 22, 1945

Fig. 1.

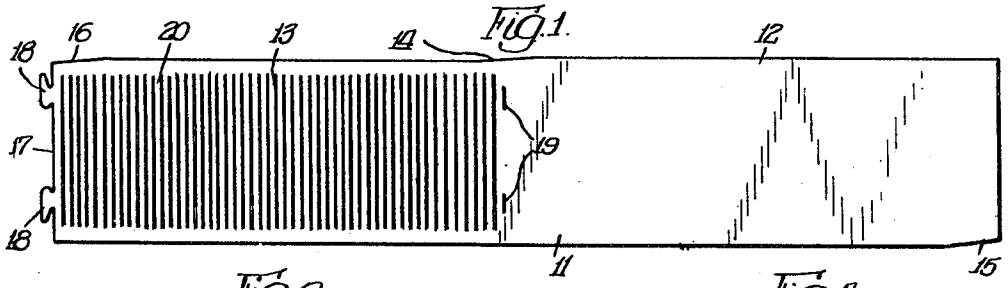


Fig. 2.

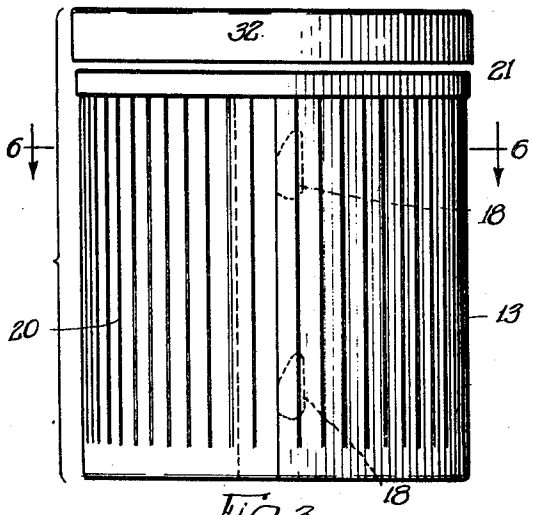


Fig. 3.

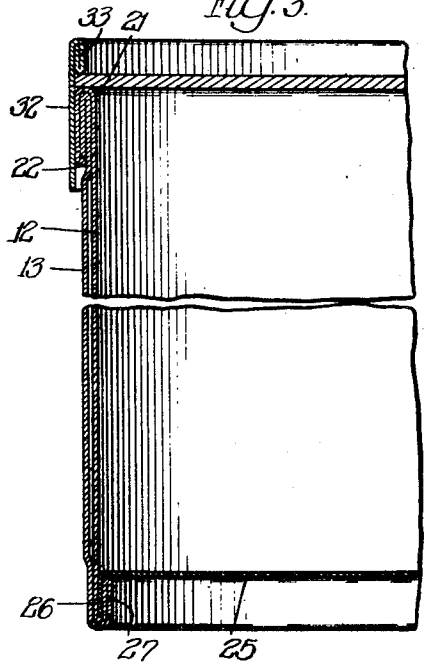


Fig. 4.

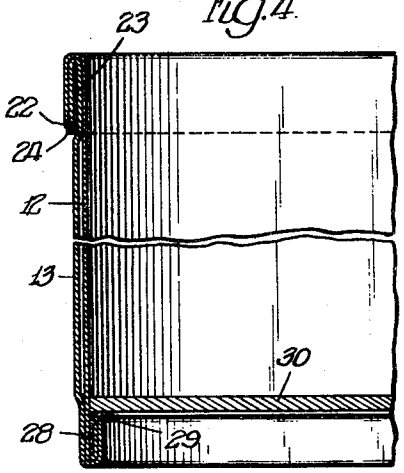


Fig. 5

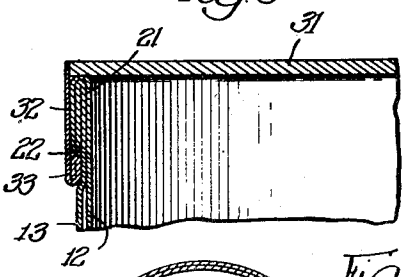
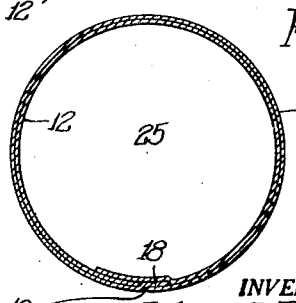


Fig. 6.



INVENTOR.
John G. Bell.

BY

Wilkinson, Huxley, Byron & Knight
attys.

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CONTAINER AND BLANK THEREFOR

John G. Bell, Chicago, Ill., assignor to Morbell Products Corporation, a corporation of Delaware

Application October 22, 1945, Serial No. 623,738

8 Claims. (Cl. 229—4.5)

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This invention relates to a new and improved container and blank therefore, and more particularly to a container formed of flexible sheet material such as cardboard or the like.

The invention relates particularly to a double walled container having a cylindrical wall, but it will be understood that the container may be made in other shapes. Containers of this character are used for handling various types of food products, and the material forming the walls of the container may be pregnated or coated with material such as waxes or resins which render the walls impervious to moisture. The containers are adapted for use in the packing of bulk ice cream, especially in the larger forms, in sizes such as 2½ or 5 gallons. Such containers are required to be sanitary and sufficiently rigid to prevent distortion when being handled. They also must be relatively inexpensive since they are discarded after a single use. Certain types of containers have heretofore been used for such purposes, but in general they have required metallic reinforcements which adds to the expense. The construction of the present invention is adequately strong and rigid without metallic reinforcements, although it may be so reinforced where extra strength is required.

It is an object of the present invention to provide a new and improved container and blank for making the same.

It is a further object to provide a container of this character which is relatively inexpensive and may be formed of lightweight material while having adequate strength and rigidity.

It is also an object to provide a container with double walls and air spaces therebetween so as to provide insulation for the contents.

An additional object is to provide a container which can be set up with a minimum of labor and apparatus. It is a further object to provide a container which is relatively inexpensive and which is adapted for commercial production and use.

Other and further objects will appear as the description proceeds.

I have shown certain preferred embodiments in my invention in the accompanying drawing in which

Figure 1 is a plan view on a reduced scale of a blank for forming the sidewalls of the container.

Figure 2 is a vertical elevation of the container and of its top closure separate therefrom.

Figure 3 is a fragmentary sectional view showing one form of the container and closure.

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Figure 4 is a view similar to Figure 3, showing a modified form of construction.

Figure 5 is a fragmentary view showing a modified form of top closure, and

Figure 6 is a transverse section on a reduced scale taken on line 6—6 of Figure 2.

The container sidewall is formed of a continuous blank shown in plan view in Figure 1. This blank 11 has a length twice the circumference of the desired finished container and a width sufficiently greater than the desired height of the container to provide material to be turned over for forming the top and bottom beaded or rolled edges of the container. The right half 12 of the blank, which serves to form the inner surface of the container, is somewhat wider than the left half 13 of the blank, which serves to form the outer wall of the container, the difference in widths being merged gradually by a sloping edge portion 14.

The right lower corner 15 of the portion 12 and the left upper corner 16 of the portion 13 are cut away slightly on an angle as shown so as to facilitate the wrapping and the setting up of the blank. These cutaway portions prevent the corners from being bent and distorted during the setting up operation in such a manner as to render the turned over edge beads non-uniform.

The outer end 17 of the outer portion 13 of the blank is provided with a pair of holding tabs 18 adapted to be inserted through slots 19 located in a vertical line intermediate the two blank sections. The portion 13 of the blank is provided with a plurality of vertically extending crimped portions 20, the crimps extending inwardly from the finished outer surface of the container to engage the outer face of the inner wall of the container and thus space the major portion of the outer wall from the inner wall to provide an insulating air space. These crimps or corrugations also serve to stiffen the structure.

While the tabs 18 and the slits 19 form a convenient means for securing the outer end of the side wall in place, they may be omitted if desired, and the outer edge cemented or glued in place. It is apparent that, due to the complete inner layer of the container, the glue or cement will not come in contact with its contents.

After the cylindrical side walls are assembled by rolling the blank to double thickness and securing it by inserting the tabs 18 into slots 19, the top and bottom edges of the formed cylinder are rolled to provide the strengthening edge beads as shown in Figure 3. The top bead 21 is formed by rolling outwardly and downwardly both the inner and outer layers. Then the inner layer 12 has

its extreme edge rolled inwardly as shown at 22 to cover the lower edge of the outer member 13 as clearly shown in Figure 3. This overlap and covering 22 is permitted by the additional width of the inner layer portion 12 of the blank. This overlap has several functions in that it provides a smoother working bead and also prevents any tendency of the inner and outer layers to separate or slide upon each other in handling the containers.

In order to stiffen the structure, a metal hoop 23 may be slid between the outturned portion of the bead and the border of the container as shown in Figure 4. This hoop may be provided with an outer flange 24 of approximately the thickness of the outer portion of the bead as shown in the drawing. The inturned lower portion 22 of the bead also has the advantage of permitting this metal hoop to be slipped into the proper position without damage to the outer bead or tendency to slip between the two bead layers.

The bottom of the container may be formed as shown in Figure 3 with a cup-shaped bottom member 25 having a downturned flange 26 held between the inner wall 12 and the upturned bead portion 27. Another form of bottom construction is shown in Figure 4. The metal hoop 28 having the inturned flange 29, is shown as slipped into the bead and serves as a seat to hold the bottom closure disc 30. Where a less rigid container is required, this metal ring or hoop 28 may be omitted. Since this disc 30 is held in place merely by friction and the weight of the material in the container, it is necessary that it be made of stiff material and of a thickness such as to be substantially rigid. On the other hand, the bottom 25 of the form of construction shown in Figure 3 may be formed of relatively light material since its downturned edge 26 acts as a support and is held firm in the rolled back bead.

The top closure may take several forms and two methods of applying it have been shown in Figures 3 and 5. In Figure 3, a top closure disc 31 rests on the top bead of the container. It is held in place by hoop 32 formed of the same material as the container and having a reversely bent beaded edge 33. It will be understood that the closure disc 31 is normally inserted in the hoop 32 into which it frictionally fits and the disc and hoop are applied together as an integral cover.

In some types of use of the container, i. e. in handling hard, frozen ice cream, it is desirable to provide a cover more easily removed than that of Figure 3. To facilitate such removal, the hoop 32 with the bead 33, identical to that as shown in Figure 3, may be applied in the upside-down position so that bead 33 engages the lower flange 22 of the upper bead 21 of the container. The hoop 32 is of such width that its edge projects substantially above the upper edge of the bead 21 as shown in Figure 5. The closure disc 31 is applied after the container has been filled with ice cream and engages the top of the filling and adheres thereto. Since the container is normally handled while completely filled and with the contents in a frozen condition, the cover 31 will not fall off. After the container is placed in the receptacle from which its contents is dispensed, the cover 31 may be readily removed simply by knocking down the hoop 32 a distance sufficiently to clear the edge of closure 31 so that it can be lifted or pried off.

It will be apparent that the containers disclosed herein are of considerable strength and are quite rigid while being made of relatively light material.

They also provide a substantial amount of insulation in the double, cylindrical walls. They are adapted for assembly from the blank with a minimum amount of labor and assembling apparatus. They are therefore especially adapted for uses such as have been described for handling ice cream in bulk, after which they may be discarded. It will be apparent, however, that while this use has been specifically described, they are also suitable for containing many other types of dairy products or products of other character. The crimps of the outer layer of the wall of the container strengthen the container, and are desirable in a container which may be used for many purposes where refrigeration or insulation is not necessary.

The container may be shipped and stored with all parts in the flat to save space or may be partially assembled. The side wall blank may be folded over on itself with the free edge secured by the tabs 18 or by gluing or cementing and the beads on the edges may or may not be preformed as desired. The stiff bottom and cover discs will hold it in cylindrical form when opened up. While the bottom and cover discs have been described as frictionally fitted in place, it will be understood that where an absolutely liquid tight container is desired, they may be glued or cemented in place with adhesives suitable for the purpose which will not be injured by the contents and will not contaminate it. Similarly the cover hoop 32 may be shipped as a flat strip or preformed depending on the facilities for assembling and beading the edges which may be available at the point of setting up the containers for use.

An important feature of my improved container is the fact that the containers after assembly may be stacked during storage or shipment. As clearly shown in Figure 3, since the bottom edge of the container is rolled inwardly of the wall, the bottom is of such size that it nests inside the cover bead when one container is placed upon another. This nesting feature is of great advantage in handling the container both when empty and when filled.

While I have shown certain preferred embodimnts of my invention, these are to be understood as illustrative only as it is capable of variation to meet differing conditions and requirements, and I contemplate such modifications as come within the spirit and scope of the appended claims.

I claim:

1. A container having a top and bottom and lateral walls, the lateral walls comprising a single continuous strip of material forming an inner and an outer layer, the outer layer having crimped portions intermediate its lateral edges engaging the inner layer and spacing the major portion of the outer layer therefrom, the lateral edges constituting continuous flat portions directly contacting the inner layer.

2. A container having a top and bottom and lateral walls, the lateral walls comprising a single continuous strip of material forming inner and outer layers, the part of the strip forming one of the layers having crimped portions intermediate its lateral edges engaging the other layer and spacing the major portion of the two layers apart, the lateral edges of the first layer constituting continuous flat portions directly contacting the other layer.

3. A container having a top and bottom and lateral walls, the lateral walls comprising a continuous strip of material wrapped upon itself and of such length as to provide a wall of double thickness, the upper edges of the two layers being

rolled outwardly and downwardly to form a stiffening ring about the top of the container, the inner layer being wider than the outer layer, with its upper edge offset outwardly and extending around and below the adjacent edge of the outer layer in said stiffening ring.

4. A blank for forming a double container wall, said blank comprising a continuous strip having a length substantially twice the circumference of the container, that portion of the blank serving as the inner wall being wider than that forming the outer container wall and having its upper edge offset outwardly by an amount such that when folded jointly outwardly and downwardly to form a stiffening flange, the inner wall portion encloses the downturned outer wall portion.

5. A blank for forming a double container wall, said blank comprising a single continuous strip having a length substantially twice the circumference of the container, that portion of the blank serving as the outer wall having spaced crimped portions intermediate its lateral edges adapted to engage the inner wall portion to space the walls apart, and having lateral edges constituting continuous flat portions adapted to directly contact the lateral edge portions of that portion of the blank serving as the inner wall.

6. A blank for forming a double container wall, said blank comprising a continuous strip having a length substantially twice the circumference of the container, that portion of the blank serving as the outer wall having spaced transverse crimped portions adapted to engage the inner wall portions to space the walls apart and that portion of the blank serving as the inner wall being wider than that forming the outer container wall and having its upper edge offset outwards by an amount such that when folded jointly outwardly and downwardly to form a stiffening flange, the inner wall portion encloses the downturned outer wall portion.

7. A container having a top and bottom and lateral walls, the lateral walls comprising a continuous strip of material wrapped upon itself and of such length as to provide a wall of double thickness, the upper edges of the two layers being rolled outwardly and downwardly to form a stiffening ring about the top of the container, the inner layer being wider than the outer layer, with its upper edge extending around and below the adjacent edge of the outer layer in said stiffening ring, and a metallic stiffening ring slipped between the outer wall of the container and the downturned portion of its upper edge.

8. A blank for forming a double lateral container wall having a double rolled beaded edge, said blank comprising a continuous strip having a length substantially twice the circumference of the container, the blank adjacent that portion thereof which forms the outer layer of the beaded edge being wider than that adjacent the portion forming the inner layer and having its upper edge offset laterally, and the margins of the portions of said blank forming the inner layer of said beaded edge being inclined adjacent the inner end thereof.

JOHN G. BELL.

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