June 13, 1944. H. CAREW 2,351,318

CONTAINER AND CLOSURE CAP THEREFOR

Filed July 30, 1940

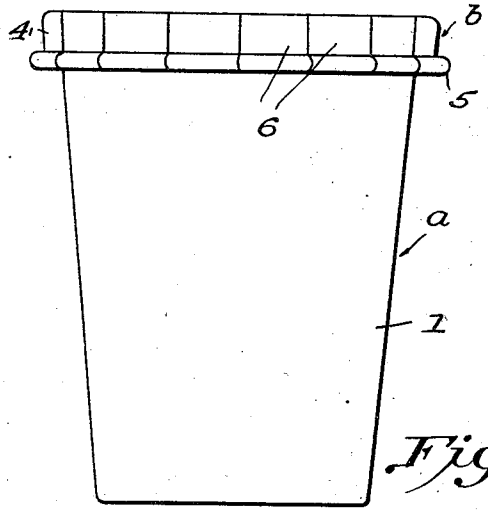


Fig. 1.

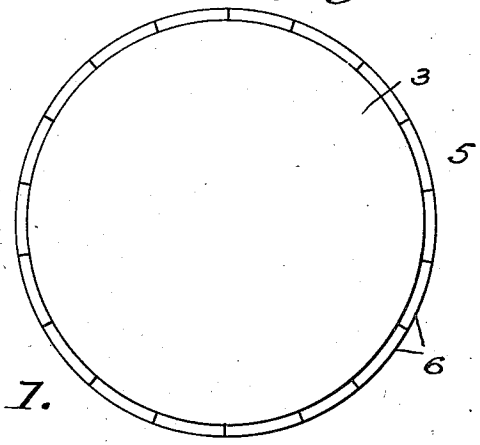


Fig. 2.

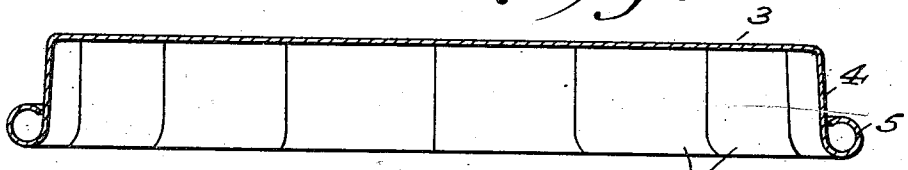


Fig. 3.

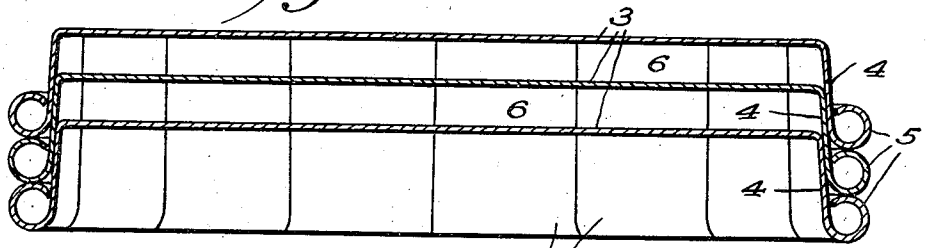


Fig. 4.

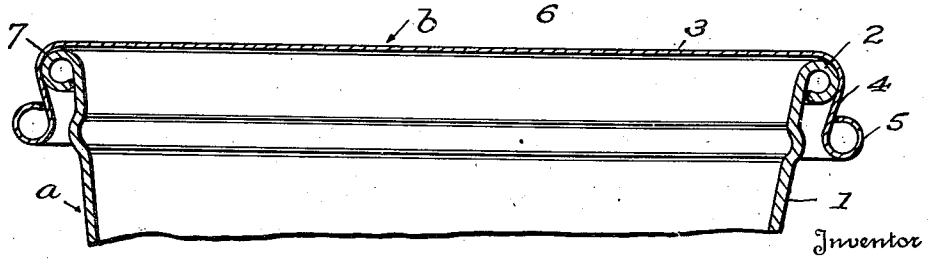


Fig. 5.

Inventor
HERMAN CAREW

By Milans & Milans
Attorneys

Patented June 13, 1944

2,351,318

UNITED STATES PATENT OFFICE

2,351,318

CONTAINER AND CLOSURE CAP THEREFOR

Herman Carew, Easton, Pa., assignor to Dixie Cup Company, a corporation of Delaware

Application July 30, 1940, Serial No. 348,538

4 Claims. (Cl. 229—5.5)

My invention relates to new and useful improvements in paper container and paper closure cap therefor and more particularly to a closure cap, made of paper, for a container having a rounded bead formed around its normally open end, the principal object of the invention residing in the formation of the closure cap of relatively thin paper and in such a manner that a plurality of the caps, when desired, may be nested in stack formation.

Another object of the invention consists in the provision of a closure cap made of relatively thin material and including a top portion and a beaded flange or rim, the rim or flange being formed at its bottom edge with an outwardly directed bead, the bead being so positioned relative to the top portion of the cap that when the cap is placed on a container the flange or rim of the cap will flex to provide a seat for the bead of the container, the bead of the container being positioned in overlapping relation with the bead of the flange or rim of the closure cap to provide resistance against removal of the closure cap from the container.

A still further object of the invention resides in the provision of a closure cap including a top portion and a flange, the flange being formed at its lower edge with an outwardly directed bead, the bead being positioned relative to the top portion of the cap so that it will form a seat for a super-posed cap in a stack of nested caps.

With the above and other objects in view, which will appear as the description proceeds, my invention consists in the novel details of construction, and arrangement of parts, described in the following specification and illustrated in the accompanying drawing, and while I have illustrated and described the preferred embodiments of the invention as they now appear to me, it will be understood that such changes may be made as will fall within the scope of the appended claims.

In the drawing—

Fig. 1 is a side elevation illustrating the closure cap in position on a container.

Fig. 2 is a top plan of the closure cap.

Fig. 3 is a transverse vertical section through the closure cap.

Fig. 4 is a transverse vertical section through a stack of nested caps; and

Fig. 5 is a transverse vertical section through a closure cap and a portion of a container, the cap being shown in its closing position on the container.

In the drawing *a* denotes generally a container made of paper and *b* a closure cap therefor, the cap also being formed of paper. The container is shown as of tapered formation, adapting the same to be readily nested, and 1 indicates the side wall thereof having the outwardly directed bead 2 formed around its normally open end.

The closure cap *b* includes the top portion 3, depending flange or rim 4 and outwardly directed bead 5, formed around the bottom edge of the rim or flange. The rim or flange is formed by bending or folding as distinguished from drawing and is of pleated formation, as shown, the pleats being indicated generally at 6. The flange or rim 4 is of a height slightly greater than twice the diameter of the bead 5 for a purpose which will be later brought out and the interior diameter of the cap or closure between the depending flange thereof, is less than the diameter of the beaded end of the container. The bead 2, of the container, is of substantially the same diameter as the bead 5 of the closure cap.

From the above detailed description the construction of the container and closure cap therefor will be readily understood and by folding or bending the flange 4, from the blank of material used in forming the closure or cap, as distinguished from drawing the flange, relatively thin material may be used at a saving in cost. The closure caps are of upwardly tapered formation so that they may be nested in a stack as quite clearly shown in Fig. 4 of the drawing and when in this nested formation the beads on the bottom edges of the flanges of the caps will act as seats for super-posed caps. As previously stated, the bead 5 of the cap, is so positioned relative to the top portion 3 thereof that the caps may be readily arranged in the nested stack formation. The diameter of the beaded end of the container being greater than the interior diameter of the flange of the closure cap will cause the flange to be flexed as the cap is placed on the container and this flexing of the flange will allow the bead 2 of the container to snap past the bead 5 of the cap to be positioned as shown more particularly in Fig. 5 of the drawing. When in this position the flange will be flexed to provide the seat 7 for the bead 2. When the flange is thus flexed the beads 2 and 5 will be positioned, as shown more particularly in Fig. 5 of the drawing, the head 2 being overlapped with respect to the bead 5 and thus resistance will be presented to the removal of the

closure cap from the container. As shown, also more particularly in Fig. 5 of the drawing, the flange or rim 4 is of a depth or height slightly greater than the combined diameter of the beads 2 and 5 and due to the flexing of the rim or flange into the position shown in Fig. 5, the cap is held in tight engagement with the bead 2 of the container and there can be no vertical play of the closure cap relative to the end of the container.

From the above it will be noted that the position of the bead 5, with respect to the top portion 3 of the closure cap, forms an important part of my invention. The bead 2 of the container and the bead 5 of the closure cap cooperate to present resistance against removal of the closure cap from the container and at the same time the bead 5 will form a seat for the bead of a super-posed closure cap arranged in nested stack formation.

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

1. In combination with a container having an outwardly directed bead around its normally open end, a paper closure cap, said cap including a top portion and a depending flexible expansible flange having an outwardly directed bead formed around its bottom edge, the flange being normally free of substantial indentations or protrusions between the top portion and bead, and the diameter of the beaded end of the container being greater than the interior diameter of the closure cap flange, the beaded end of the container snapping past the bead of the cap flange when the cap is applied to the container and outwardly flexing the wall of the cap flange above the beaded edge thereof to form a seat for the beaded end of the container above the outwardly directed bead of the cap and provide resistance against removal of the cap.

2. In combination with a container having an outwardly directed bead around its normally open end, a paper closure cap, said cap including a top portion and a depending flexible expansible flange having an outwardly directed bead formed around its bottom edge, the flange being normally free of substantial indentations or protrusions between the top portion and bead, said bead projecting outwardly beyond the plane of the top portion of the cap and the other part of the flange, and the diameter of the beaded end of the container being greater than the interior diameter of the closure cap flange, the beaded end of the container snapping past the bead of the cap flange when the cap is applied to the container and outwardly flexing the wall of the cap flange above the beaded edge thereof to form a seat for the beaded end of the container and provide resistance against removal of the cap.

3. In combination with a container having an outwardly directed bead around its normally open end, a paper closure cap, said cap including a top portion and a depending outwardly inclined flexible expansible flange having an outwardly directed bead formed around its bottom edge, the flange being normally free of substantial indentations or protrusions between the top portion and bead, and the diameter of the beaded end of the container being greater than the interior diameter of the closure cap flange, the beaded end of the container snapping past the bead of the cap flange when the cap is applied to the container and outwardly flexing the wall of the cap flange above the beaded edge thereof to form a seat for the beaded end of the container and provide resistance against removal of the cap.

4. In combination with a container having an outwardly directed bead around its normally open end, a paper closure cap, said cap including a top portion and a depending outwardly inclined flexible pleated flange having an outwardly directed bead formed around its bottom edge, the flange being normally free of substantial indentations or protrusions between the top portion and bead, and the diameter of the beaded end of the container being greater than the interior diameter of the closure cap flange, the beaded end of the container snapping past the bead of the cap flange when the cap is applied to the container and outwardly flexing the wall of the cap flange above the beaded edge thereof to provide resistance against removal of the cap.

HERMAN CAREW.