

March 1, 1938.

J. E. ANNEN

2,109,716

CONTAINER AND CLOSURE THEREFOR

Filed March 2, 1936

3 Sheets-Sheet 1

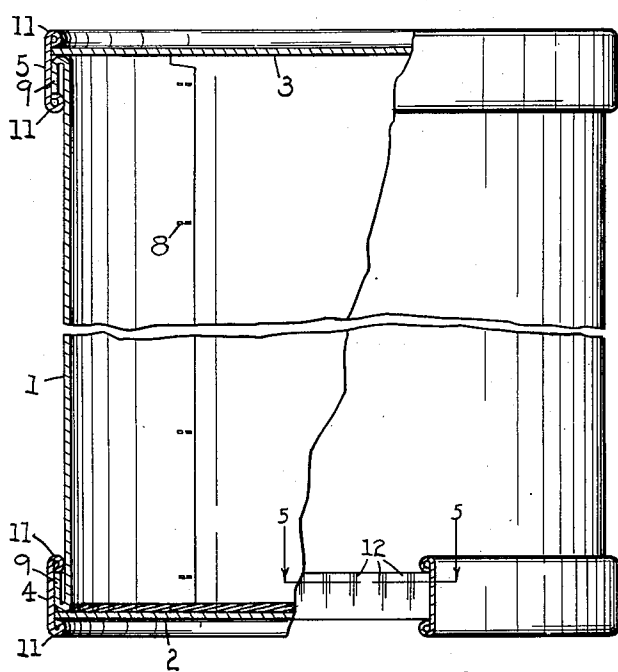


Fig. 1

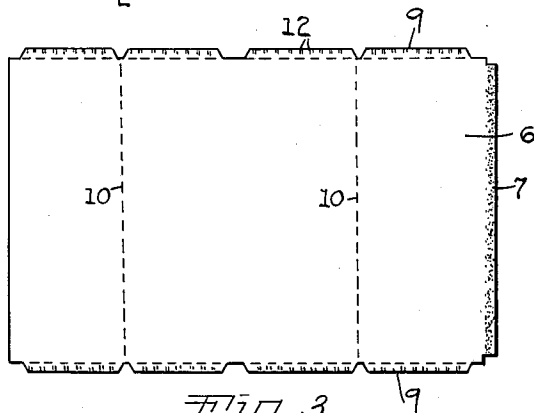


Fig. 3

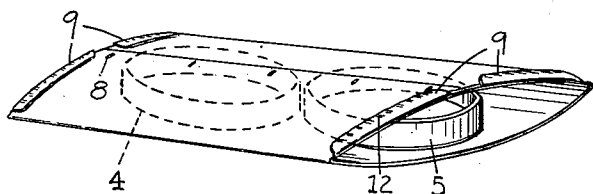


Fig. 4

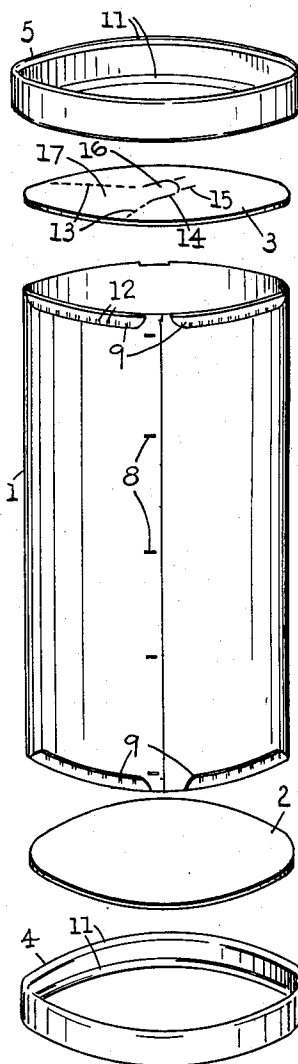


Fig. 2

INVENTOR.
James E. Annen
BY
Chappell, Earl & Chappell
ATTORNEYS

March 1, 1938.

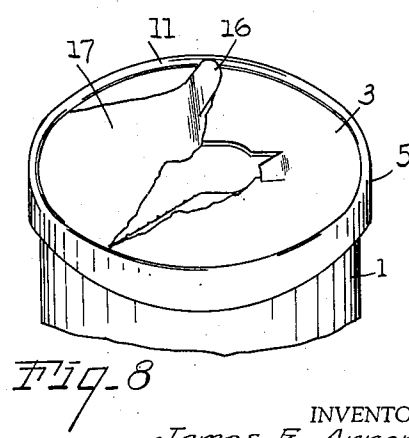
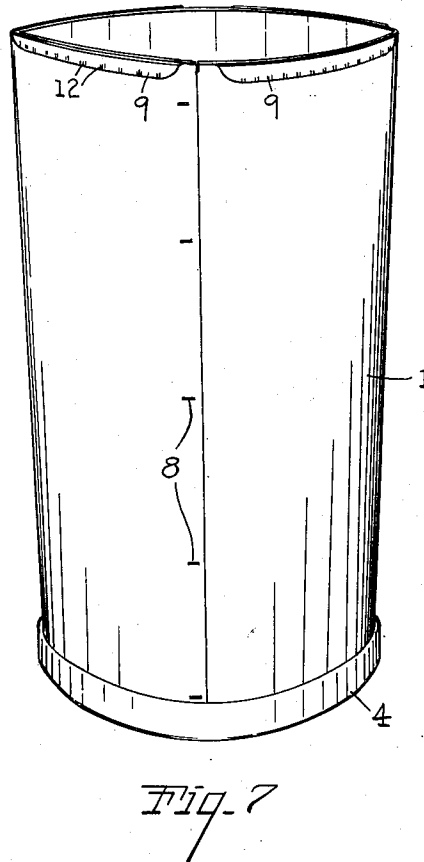
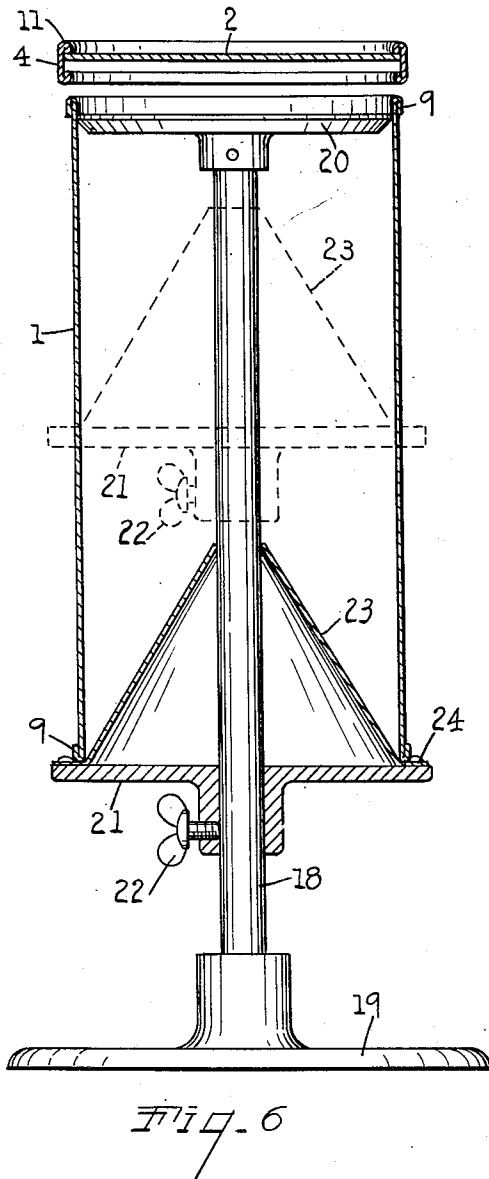
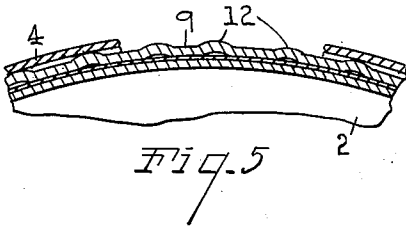
J. E. ANNEN

2,109,716

CONTAINER AND CLOSURE THEREFOR

Filed March 2, 1936

3 Sheets-Sheet 2



INVENTOR.
James E. Annen

BY *Chappell, East & Chappell*
ATTORNEYS

March 1, 1938.

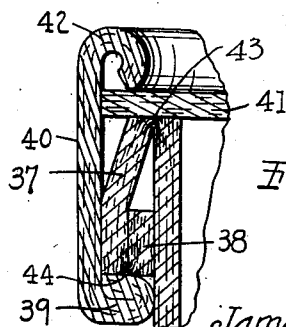
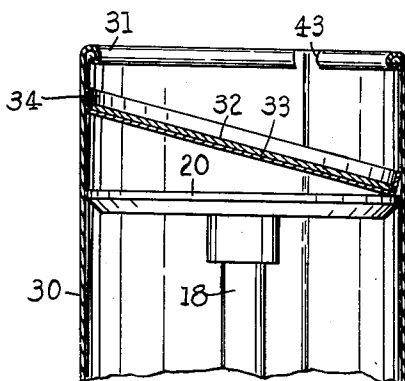
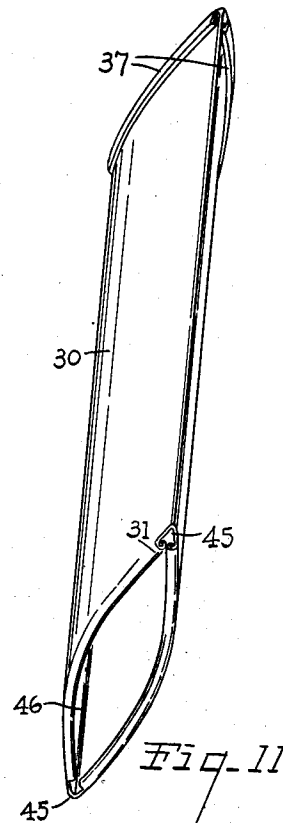
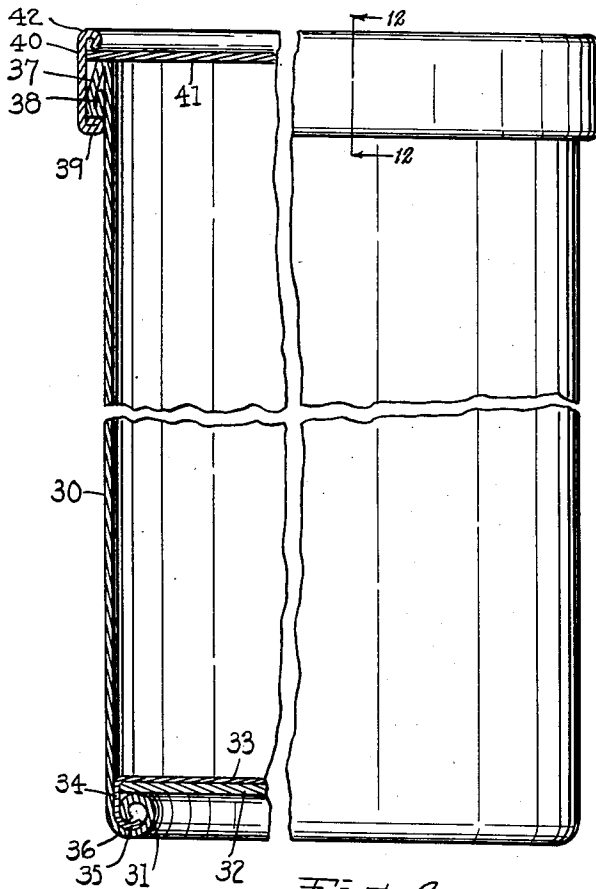
J. E. ANNEN

2,109,716

CONTAINER AND CLOSURE THEREFOR

Filed March 2, 1936

3 Sheets-Sheet 3



INVENTOR.

James E. Annen

BY

BY
Chappell, Earl & Chappell
ATTORNEYS

ATTORNEYS

UNITED STATES PATENT OFFICE

2,109,716

CONTAINER AND CLOSURE THEREFOR

James E. Annen, Kalamazoo, Mich., assignor to
Sutherland Paper Company, Kalamazoo,
Mich.

Application March 2, 1936, Serial No. 66,692

12 Claims. (Cl. 229—5.7)

The main objects of this invention are:

First, to provide a container which is well adapted for the marketing of products in bulk, for example ice cream, and for the packaging and delivery of numerous other products.

Second, to provide a container or shipping package which may be shipped and stored in the knock-down and may be quickly and easily set up for use as required.

Third, to provide a container or shipping package having these advantages formed of fibrous material which at the same time is very strong and rigid when set up.

Fourth, to provide an apparatus or device for use in the setting up of my containers.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawings, in which:

Fig. 1 is a fragmentary view partially in vertical section of my improved container.

Fig. 2 is a perspective view of parts of my container in disassembled relation.

Fig. 3 is a plan view of the side wall member blank.

Fig. 4 is a perspective view of the container in collapsed or knock-down form.

Fig. 5 is an enlarged detail section on line 5—5 of Fig. 1.

Fig. 6 is a view partially in side elevation and partially in vertical section of a device or apparatus for use in assembling parts of my container, the parts of the container to be assembled being shown in section.

Fig. 7 is a perspective view of the container with the bottom portion assembled therewith.

Fig. 8 is a fragmentary top perspective view illustrating the break-out portion of the top or cover partially opened.

Fig. 9 is a fragmentary view partially in longitudinal section of a modified form or embodiment of my invention.

Fig. 10 is a fragmentary view partially in section illustrating steps in the assembly of the bottom of the embodiment shown in Fig. 9.

Fig. 11 is a perspective view of the container wall partially collapsed.

Fig. 12 is an enlarged fragmentary section on line 12—12 of Fig. 9.

My improved container in the embodiment illustrated comprises a tubular side wall member 1, end walls 2 and 3, the end wall 3 being the top wall or cover, and the wall reinforcing or supporting and retaining bands or hoops 4 and 5, these being duplicates but separate numerals being used to facilitate description.

The side wall member is formed of a blank 6

of fibrous material such as box or container-board of suitable quality and thickness having a sealing flap 7 at one end which is lapped upon and glued to the other end of the wall member and preferably further secured by means of the metal stitches or staples 8.

This container is designed for the packaging of heavy materials and therefore the fastening means 8 in addition to the adhesive sealing means is very desirable.

At each end, the wall member is provided with outwardly disposed reversely folded segmental flaps 9. By reversely folded, I mean that they are folded inwardly into approximately parallel relation with the sides of the container as clearly shown in the drawings.

The wall member is preferably longitudinally scored at 10 to permit collapsing, as shown in Fig. 4, when the hoops or annular retaining members 4 and 5 are removed or before they are applied. These hoops or annular retaining members have inwardly turned or beaded edges 11. The disk-like end members 2 and 3 are of such diameter as to fit within the hoop members and rest upon the outer beads or inturned edges thereof in overlapping relation to the ends of the container when the hoop members are in telescoping engagement with the ends of the container. When the hoop members are pushed upon or telescoped upon the wall member, the flaps 9 are collapsed or held under the compressive stress of the bead portion of the hoops but as soon as the beads have passed beyond the edges of the flaps, the flaps spring outwardly of their own resilience and engage behind the inner beads, thus effectively locking and retaining the hoops and thus securing the end members in position on the body.

These hoop or annular wall supporting members serve to hold the side wall member in extended cylindrical form and reinforce and stiffen it so that even when made of comparatively light stock the containers are very strong and rigid. To add to the holding capacity of the side wall and flaps, they are preferably fluted at 12—that is, they have spaced corrugation-like portions struck up therein providing projecting lugs which very securely engage behind the inner beads of the hoops so that the bottoms or tops are capable of withstanding the load imposed thereon when the container is filled without likelihood of the device accidentally opening.

When used as an ice cream container or as a dispensing container for other material which may be dipped from the container, I preferably provide the top member with perforations 13 arranged in inwardly extending converging relation from one edge of the end member 3 and terminating in the U-shaped slit 14. The slits 15 are provided opposite the end of this U-shaped

slit to facilitate the engagement of a tool beneath the tongue portion 16 of the tear-out 17.

In distributing such materials, the containers are filled and delivered to the retailer by whom they are commonly placed in an ice box or refrigerator box. The tear-out 17 enables the ready opening of the containers for dipping out the contents. The containers may be shipped in the knock-down form or handled in the knock-down form prior to filling with the end disks inserted therein being assembled as shown in Fig. 4 with a pair of the hoop members.

My containers or packages are also well adapted for embodiment in containers of considerable length—for example, such as may be used for the packaging or wrapping of linoleum, shade cloth, and rolled-up fabrics or cloth and the like. For such purposes, the containers are made of stock of suitable gage and quality to effectively withstand severe usage in shipping and as the rolls of material are usually of uniform dimensions, the wall portion can be slipped over the roll of material and the self-locking ends applied.

In the embodiment shown in Figs. 9 to 12 inclusive, the wall member 30 is formed at its bottom end with a scroll-like inturned bead or roll 31 forming a ledge upon which the outer bottom member 32 rests and by which it is supported, this bottom member 32 being in the form of a flat disk. To lock this in place and provide the bottom joint, I provide an inner bottom member 33 having a flange 34 which embraces the edge of the bottom member 32, the diameter of the member 32 being such as to permit the flange 34 being telescoped into the container wall, the flange being of such width that when the bottom members are forced downwardly, the edge 35 of the flange is forced around the edge 36 of the roll-like bead 31—see Fig. 9. In forming, this edge 36 lies close to the wall of the container so that when the parts are forced together as shown in Fig. 9, there is a locking engagement of the parts, thus forming a very secure end assembly for the container.

In this embodiment shown in Figs. 9 to 12, the top flaps 37 are suitably scored to permit the infolding of their edges 38, thus forming a wider ledge for engagement with the inturned edge 39 of the hoop or band 40, this being inturned and reversely folded to provide a substantially flat face coacting with the substantially flat edge of the flap, thus providing a very secure locking engagement for these parts. This form of locking flap insures a very secure locking engagement of the parts. The cover 41 corresponding to one of the end walls of the previously described structure overlaps the end of the side wall member and is held in place by the bead-like flange 42 at the upper edge of the band or hoop 40.

In Fig. 12 the parts are enlarged. To facilitate folding into the position indicated, the stock is scored at 43 and 44.

To facilitate the ready setting up of a container, I preferably provide the packer with a device such as illustrated in Fig. 6 which consists of an upright 18 mounted on a suitable base 19, the upright being preferably in the form of a rod or tube. On the top of this upright I mount a disk 20 having a diameter corresponding to the internal diameter of the container so that the wall member may be telescoped over the same as shown in Fig. 6. The base plate 21 is mounted for vertical adjustment on the upright and secured in its adjusted position by means of the set screw 22. This base plate carries a cone 23

having a diameter at its base or bottom 24 corresponding to the internal diameter of the container.

In use, the base plate is adjusted to correspond to the length of the container to be set up and a container wall member 1 is telescoped over the same and pushed down upon the base plate, the center cone 23 expanding the container to its circular form. The bottom hoop 4 with the bottom end disk 2 assembled therein is then pushed down over the upper end of the container until its inner bead or inturned edge 11 passes the flange 9 when they will snap or spring out into locking engagement. The container is then removed from the support and is ready to be filled when positioned upright as in Fig. 7. When the container is filled, the top hoop with the top end member 3 therein may be telescoped into locking engagement with the upper retaining flaps of the container, the contents of the container ordinarily serving to bring the upper portion of the filled container to a cylindrical form so that the top hoop may be easily slipped into position.

In Fig. 10, I illustrate the manner of using the assembling apparatus in assembling the bottom with the side wall of the embodiment best shown in Fig. 9. In this embodiment, the outer and inner bottom members 32 and 33 are assembled as shown in Fig. 10 and pushed into the wall member. They will ordinarily assume a position similar to that shown in Fig. 10. The container is then inverted upon the assembling device and the wall member pushed down until the bottom is brought into its proper position and the flange 34 is forced into locking engagement with the scroll-like flange of the wall member, as shown in Fig. 9. This forms a tight bottom and one in which the parts are securely retained in assembled relation. The scroll-like bottom flanges of the wall member are divided or cut away at 45 to permit the alignment with the collapsing scorings 46 to permit the collapsing of the wall member.

As stated, my improved container is particularly designed for the packaging and handling of heavy materials—for example, ice cream, it being well adapted as a substitute for tin now commonly used in the delivery of bulk ice cream to dispensers and it is also adapted for the packaging of lard and other materials in bulk to the dispensers thereof. Further, it is well adapted as a package or shipping container or wrapper for rolls of material such as linoleum, shade cloth, fabrics and in fact as a substitute for the usual wrapping of paper and boxing or crating.

I have illustrated and described my improvements in embodiments which I have found very practical. I have not attempted to illustrate or describe certain other embodiments or adaptations which I contemplate or to point forth all the uses for which it may be desirable as it is believed that this disclosure will enable those skilled in the art to which my invention relates to embody or adapt the same as may be desired.

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

1. A container comprising a tubular side wall member of fibrous material having outwardly disposed reversely folded segmental flaps at an end thereof, the edges of the flaps being fluted, an annular hoop of fibrous material having telescoping engagement with said side wall member and having inwardly beaded edges, the inner bead being in retaining engagement with the edges of said flaps of said wall member, and a disk-like end

member disposed within said hoop in supporting engagement with the inturned bead at the outer edge thereof and in lapping engagement with the end of said side wall member, said fluted edges projecting the flaps outwardly from the side wall member for engagement with the hoop to secure the end member to the wall member.

2. A container comprising a tubular side wall member of fibrous material having outwardly disposed reversely folded segmental flaps at an end thereof, an annular hoop of fibrous material having telescoping engagement with said side wall member and having inwardly beaded edges, the inner bead being in retaining engagement with the flaps of said wall member, and a disk-like end member disposed within said hoop in supporting engagement with the inturned bead at the outer edge thereof and in lapping engagement with the end of said side wall member, said flaps having provision for projecting the same outwardly from the side wall member whereby the retaining action is increased and the end member is permanently secured to the wall member.

3. A container comprising a tubular side wall member of fibrous material scored longitudinally to permit collapsing and having an outwardly disposed reversely folded segmental flap at an end thereof, an annular hoop of fibrous material having telescoping engagement with said side wall member and having inwardly beaded edges, the inner bead being in retaining engagement with the flap of said wall member, and a disk-like end member disposed within said hoop in supporting engagement with the inturned bead at the outer edge thereof and in lapping engagement with the end of said side wall thereof, said flap having provision for projecting the same outwardly from the side wall member, whereby the retaining action is increased and the end member is permanently secured to the wall member.

4. A container comprising a tubular side wall member having outwardly disposed reversely folded flaps at the ends thereof, the edges of the flaps being fluted to provide lug-like edge projections, wall supporting and end retaining hoops having telescoping engagement with said side wall member and having inturned edges, the inner inturned edge being in retaining engagement with the edges of said flaps of said wall member, and end members disposed within said hoops in supporting engagement with the inturned outer edges thereof, said edge projections increasing the retaining action exerted on said hoops to secure the end members to the wall member.

5. A container comprising a tubular side wall member having outwardly disposed reversely folded flaps at an end thereof, the edges of the flaps being fluted to provide lug-like edge projections, a wall supporting and end retaining hoop having telescoping engagement with said side wall member and having inturned edges, the inner inturned edge being in retaining engagement with the edges of said flaps of said wall member, and an end member disposed within said hoop in supporting engagement with the inturned outer edge thereof, said edge projections increasing the retaining action exerted on said hoop to secure the end member to the wall member.

6. A container comprising a tubular side wall member having an outwardly disposed reversely folded flap at an end thereof, a wall supporting and end retaining hoop having telescoping engagement with said side wall member and having

inturned edges, the inner inturned edge being in retaining engagement with the flap of said wall member, and an end member disposed within said hoop in supporting engagement with the inturned outer edge thereof, said flap having provision for projecting the same outwardly from the side wall member, whereby the retaining action is increased and the end member is permanently secured to the wall member.

7. A container comprising a tubular side wall member having an outwardly disposed reversely folded flap at an end thereof, and a wall supporting and end retaining hoop adapted for telescoping engagement with said side wall member and having an inturned inner edge, said flap being scored and having a reversely folded edge providing a substantially flat and widened hoop engaging ledge, said inturned inner edge being in retaining engagement with the reversely folded edge of said flap of said wall member.

8. A container comprising a tubular side wall member having an outwardly disposed reversely folded flap at an end thereof, and a wall supporting and end retaining hoop adapted for telescoping engagement with said side wall member and having an inturned inner edge, said flap having a reversely folded edge whereby a widened hoop engaging ledge is provided, said inturned inner edge being in retaining engagement with the reversely folded edge of said flap of said wall member.

9. A container comprising a tubular side wall member having outwardly disposed reversely folded segmental flaps at an end thereof, the edges of the flaps being turned inwardly upon themselves, the bights of the inturned portion being scored to facilitate folding and presenting a substantially flat edge, an annular hoop of fibrous material having telescoping engagement with the side wall member and having its inner edge reversely folded to provide a double thickness flange engaging the edges of said flaps, and an end member in supporting engagement with said hoop.

10. A container comprising a tubular side wall member having outwardly disposed reversely folded segmental flaps at an end thereof, the edges of the flaps being turned inwardly upon themselves, the bights of the inturned portion being scored to facilitate folding and presenting a substantially flat edge, an annular hoop of fibrous material having telescoping engagement with the side wall member and having its inner edge turned inwardly and engaging the edges of said flaps, and an end member in supporting engagement with said hoop.

11. A container comprising a tubular side wall member of fibrous material having outwardly disposed reversely folded flaps, the flaps having reversely folded edges, and an annular end retaining member having telescoping engagement with said side wall member and having its inner edge reversely folded and engaging the reversely folded edge of said flap.

12. A container comprising a tubular side wall member of fibrous material having outwardly disposed reversely folded flaps, the flaps having reversely folded edges, and an annular end retaining member having telescoping engagement with said side wall member and having its inner edge turned inwardly and engaging the reversely folded edge of said flap.

JAMES E. ANNEN.