Aug. 29, 1944. S. DE MIAN ET AL 2,357,092

CONTAINER

Filed July 13, 1942

Fig. 1.

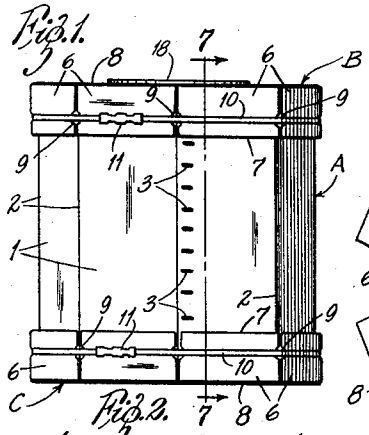


Fig. 3.

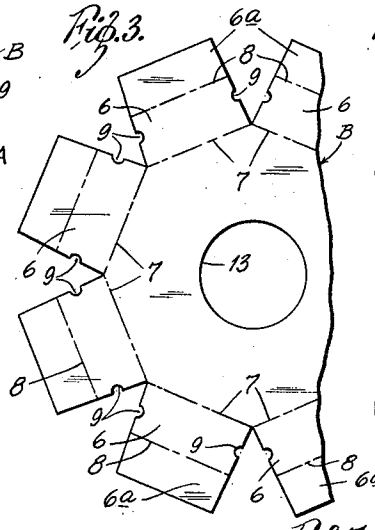


Fig. 4.

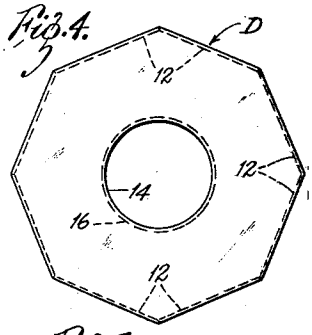


Fig. 5.

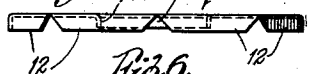


Fig. 6.



Fig. 2.

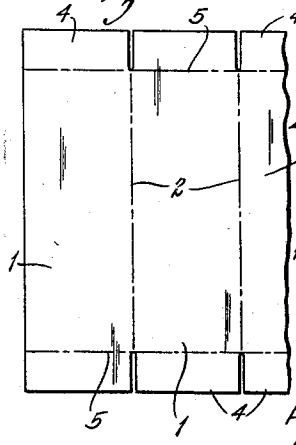


Fig. 7.

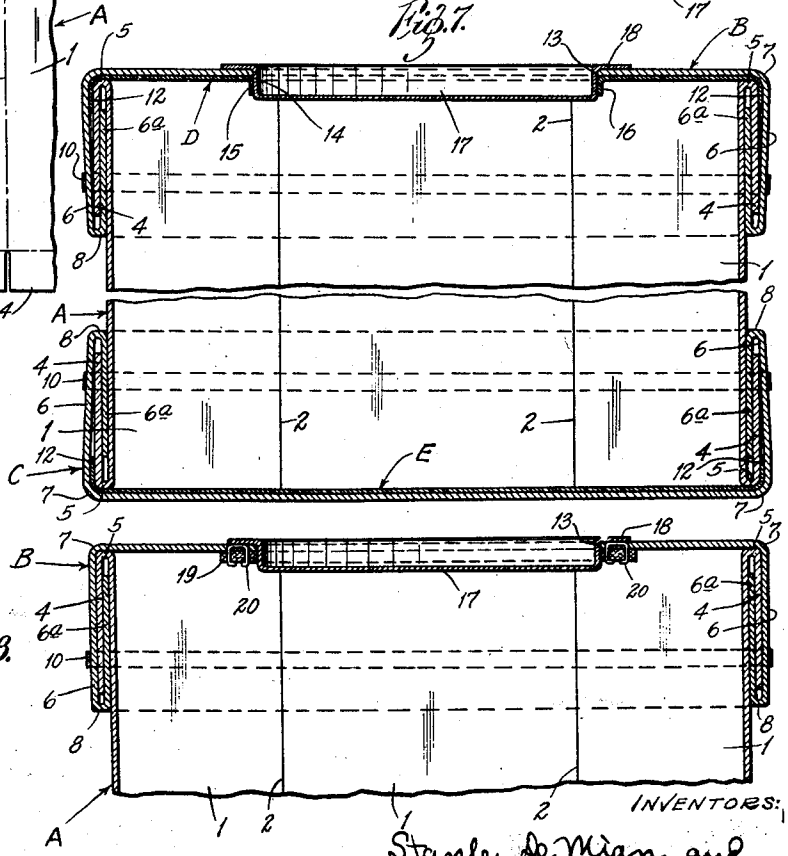


Fig. 8.

INVENTORS:
Stanley De Mian and
Cecil E. Taylor
By Carr Harris & Gravely,
THEIR ATTORNEYS.

Patented Aug. 29, 1944 2,357,092

UNITED STATES PATENT OFFICE

2,357,092

CONTAINER

Stanley De Mian and Cecil E. Taylor, New York, N. Y., assignors to Gaylord Container Corporation, St. Louis, Mo., a corporation of Maryland

Application July 13, 1942, Serial No. 450,652

1 Claim. (Cl. 229—5.5)

This invention relates to containers, particularly shipping cartons of the type shown in Beaman Patent No. 2,214,220 dated September 10, 1940. The present invention has for its principal object to preserve the advantages of such cartons and at the same time increase the strength, rigidity and load carrying capacity thereof and provide an opening through the top end closure or cover of the carton and a removable plug cap for said opening that will give ready access to said carton. The invention consists in providing the carton with metal top and/or bottom end closures that are interlocked with and retained by the interlocking joint connections between the fiberboard end closures and tubular body of the carton; it also consists in providing an access opening through the top fiberboard and metal end closures to give access to the carton; it also consists in providing a removable plug cap for said opening; it also consists in providing the fiberboard top end closure with a fiberboard ring for reinforcing and stiffening said cover around the access opening therein; and it also consists in the parts and combinations and arrangements of parts hereinafter described and claimed.

In the accompanying drawing, which forms part of this specification and wherein like symbols refer to like parts wherever they occur,

Fig. 1 is a side elevational view of a shipping carton embodying my invention,

Fig. 2 is a fragmentary plan view of the fiberboard blank for the tubular body of the carton.

Fig. 3 is a fragmentary plan view of the blank for the fiberboard end closure for the top of the carton.

Fig. 4 is a plan view of the metal end closure for the top of the carton,

Fig. 5 is an edge view of said metal end closure,

Fig. 6 is an edge view of the plug cap for the openings in the fiberboard and metal top end closure,

Fig. 7 is a central vertical section through the carton on the line 7—7 in Fig. 1; and

Fig. 8 is a section similar to Fig. 7 showing a top end closure construction of modified form.

Our invention is shown embodied in a carton of the type shown in Beaman Patent No. 2,214,220. Said carton includes a tubular body A and top and bottom end closures B and C, respectively, all made of corrugated board, fiberboard, or other bendable sheet material. The tubular body A is divided into panels 1 by means of creases or scores 2 extending longitudinally thereof and is made from a flat blank whose ends are overlapped and permanently secured together by staples 3 or otherwise.

Each panel 1 of the tubular body A, has at each end a projecting flap 4, a score line 5 facilitating folding of each flap into proximity with the outside face of the panel to which it is attached. The end closures B and C are of polygonal shape to fit the ends of the body member A and each side is provided with a projecting flap 6, score lines 7 being provided for facilitating bending of said flaps, said flaps having continuations that are marked off by means of wide scores or creases 8 and constitute locking flaps 6a.

Each of the end closures B and C is placed opposite one end of the tubular body A, its flaps 6 are bent over the folded body panel flaps 4 and the locking flaps 6a are rebent or tucked beneath said folded body panel flaps so as to lie between the latter and the body panels 1. The flaps 6 of each of the end closures A and B are provided with notches 9 in their adjacent edges to constitude locating recesses for a securing band or wire 10 located around said flaps. The securing band may be drawn up tight so as to hold the end closure securely in place, said band being locked in contracted position by means of a suitable coupling member 11.

The above carton is provided with auxiliary or supplementary top and bottom end closures D and E, respectively, made of metal or other non-paper material. Each metal end closure is of polygonal shape to fit the end of the paneled tubular body A, extends between said end and the corrugated board end closure therefor, and has peripheral edge flanges 12 that fit over the folded panel flaps 4 of said body, so that said flanges are interposed between said folded body panel flaps and the folded flaps 6 of said corrugated board end closure and are thus held against lateral movement relative to the latter and to said body.

As shown in the drawing, the corrugated board and metal end closures at the top of the carton have registering central circular holes 13 and 14, respectively, therethrough, forming an opening 15 through which access may be had to the contents of the carton, metal end closure B having a depending flange 16 defining the hole therein. The opening 15 is closed by means of a removable plug cap comprising a cup-shaped metal disk 17 adapted to fit said opening and frictionally engage the edge thereof and having an outstanding rim flange 18 that seats on the corrugated end closure B around said opening and serves to limit inward movement of said cap and to minimize leakage.

As shown in Fig. 8, the corrugated board top end closure B may be stiffened and strengthened

around the hole 13 therein by means of an annular member 19 of corrugated board, fiberboard, or the like which is stapled or otherwise permanently secured, as at 20, to the underside of said end closure around said hole so as to form therewith the plug cap receiving opening 15 and thus prevent mutilation or tearing of said top end closure around the edges of said opening by repeated insertion and removal of the plug cap 17 and the withdrawal of the contents through said opening.

The above described construction greatly increases the strength and rigidity of the carton at the top and/or bottom thereof; it also provides an opening in the top of the carton to facilitate access to the contents thereof without disturbing the interlocking flap connections between the fiberboard top end closure and the fiberboard body or the clamping band which holds said end closure in place; it also provides a leakproof friction type closure member for said opening; and it also gives increased strength and rigidity to the bottom of the carton, whereby the carton is adapted to support a heavy load without bulging at the bottom and thus making it difficult to stack the cartons.

Obviously, numerous changes may be made without departing from the invention and we do not wish to be limited to the precise construction shown and described.

What we claim is:

In a heavy duty shipping carton having a tubular body and a closure for one end thereof, said body and end closure being made of fiberboard or like material, said end of said body having a series of flaps that are folded alongside the outer face of said body and said end closure having a series of marginal flaps that are folded over said body flaps and are thence rebent so as to lie therebeneath, the combination of a stiff metal interior end closure extending between said end of said fiberboard body and said fiberboard end closure next to the inner face of the latter and having a series of preformed marginal flanges disposed between the series of cooperating flaps of said fiberboard body and end closure, said fiberboard and metal end closures having an opening extending therethrough, and said metal end closure having an inwardly extending flange surrounding said opening, and a metal plug having a friction fit in said opening and an outstanding outer end flange seating against the outer face of said fiberboard end closure around said opening.

STANLEY DE MIAN.
CECIL E. TAYLOR.