

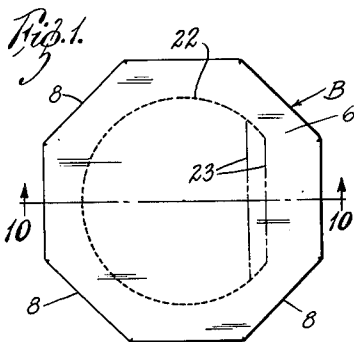
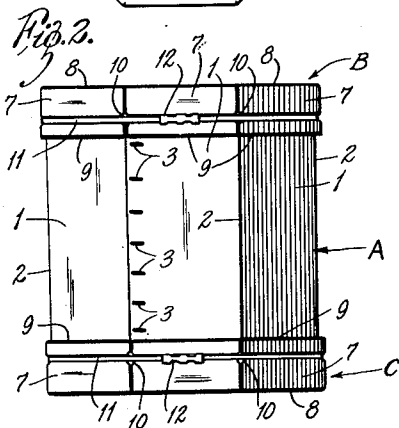
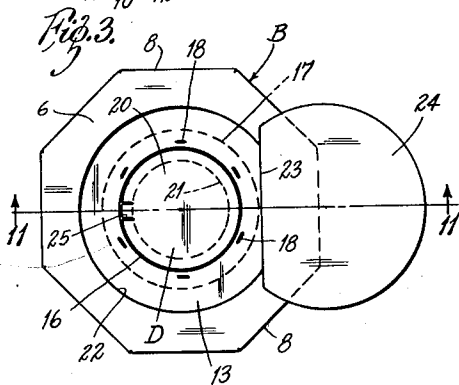
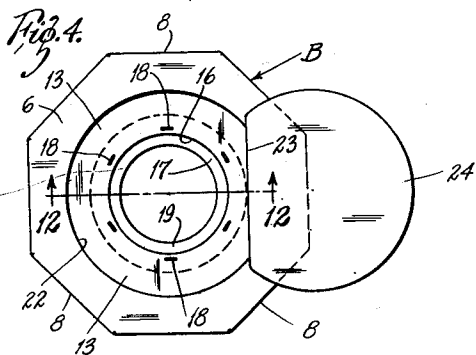
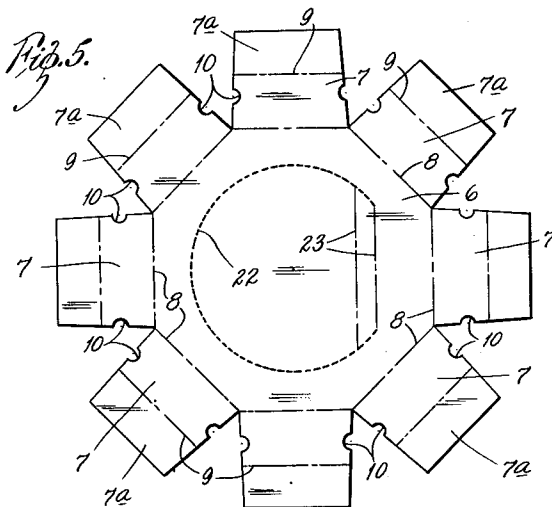
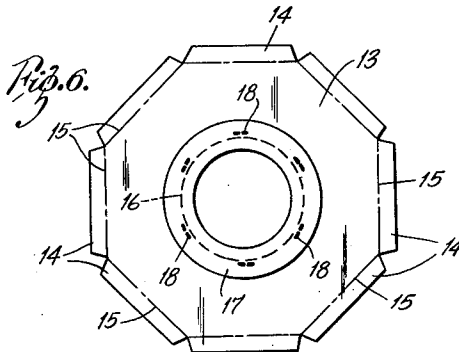
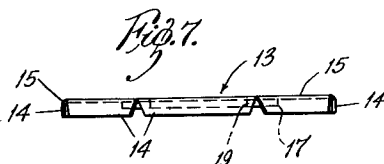
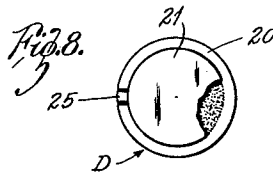
Aug. 29, 1944.

S. DE MIAN ET AL
CONTAINER

2,357,093

Filed Aug. 10, 1942

2 Sheets-Sheet 1



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Aug. 29, 1944.

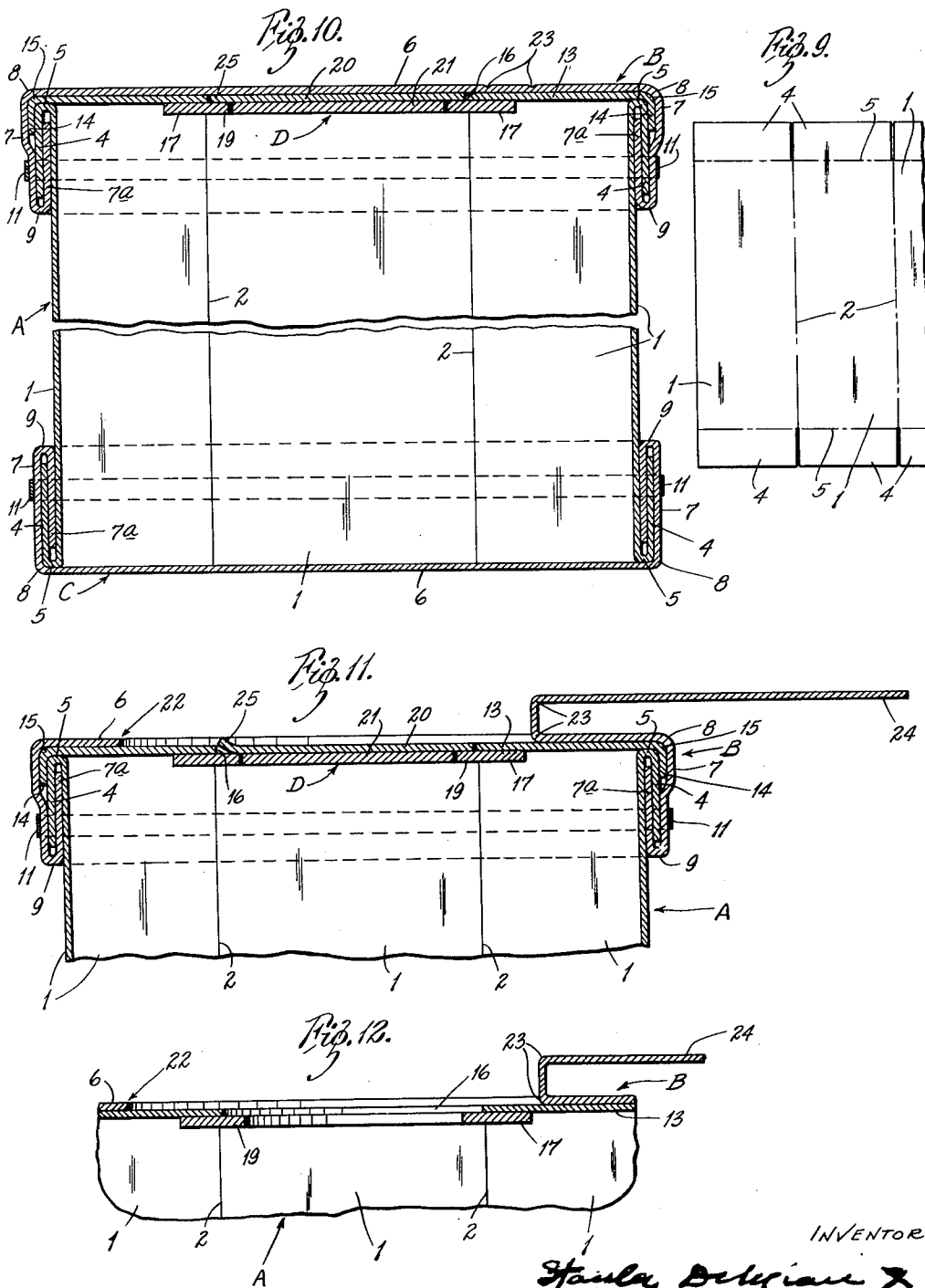
S. DE MIAN ET AL

2,357,093

CONTAINER

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,357,093

CONTAINER

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Application August 10, 1942, Serial No. 454,274

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, wherein the end closures of the carton are secured to the ends of the tubular body thereof by an interlocking flap construction and a retaining hoop therefor, and access is had to the contents of the carton by removing the hoop end closure at one end of said carton. The principal object of the present invention is to provide an end closure construction of the above type that will give ready access to the contents of the carton without removing the locking hoop or end closure from the carton. Other objects are to provide for closing the carton after access is had thereto and to increase the strength and rigidity of the end closure construction. The invention consists in the improved carton and in the parts and combinations and arrangements of parts hereinafter described and claimed.

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

Fig. 1 is a plan view of a shipping carton provided with an end closure construction embodying my invention,

Fig. 2 is a side elevational view of said carton,

Fig. 3 is a top plan view of the carton, showing the outside section or ply of the end closure cut away and folded back to expose the access opening in the inside section or ply of said end closure and the plug cap for said opening.

Fig. 4 is a view similar to Fig. 3, showing the plug cap removed from the access opening,

Fig. 5 is a plan view of the blank for the fiberboard outside section of the end closure,

Fig. 6 is an inside face view of the fiberboard inner section of the end closure,

Fig. 7 is an edge view of said inside section of said end closure,

Fig. 8 is a bottom plan view of the plug cap for the access opening in the inside section of said end closure,

Fig. 9 is a fragmentary plan view of the fiberboard blank for the tubular body of the carton,

Fig. 10 is an enlarged central vertical section through the sealed carton from the line 10—10 in Fig. 1; and

Figs. 11 and 12 are similar sections through the upper portion of the opened carton on the lines 11—11 and 12—12, respectively, in Figs. 3 and 4.

Our invention is shown embodied in a shipping carton of the type shown in Beaman Patent No. 2,214,220. Said carton includes a tubular

body A, a top end closure B and a bottom end closure C, all preferably made of corrugated board, fiberboard or other bendable sheet material. The tubular body A is divided into side wall 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 and a score or crease line 5 facilitating folding of said flap into proximity with the outside face of the said panel.

Each of the end closures B and C comprises a closure member 6 of polygonal shape to fit the ends of the tubular body member A; and each side of said closure member has a projecting flap 7 with a score or crease line 8 for facilitating bending of said flap, said flap having a continuation that is marked off by means of a score or crease line 9 and constitutes a tuck or locking flap 7a. Each end closure member 6 is placed opposite one end of the tubular body A, its flaps 7 are bent over the folded body panel flaps 4 and the locking flaps 7a are tucked beneath said folded body panel flaps so as to lie between the latter and the body panels 1. The flaps 7 of each end closure member 6 have notches 10 in their adjacent edges to constitute locking recesses for a retaining hoop or band 11 that tightly encircles said flaps, the ends of said hoop being permanently united by means of a suitable hoop lock 12.

The top end closure construction B also comprises an inside end closure member 13, preferably of corrugated board, fiberboard or other bendable sheet material. The inside end closure member 13 is located directly beneath, and in flatwise contact with the outside end closure member 6 of the top end closure construction B. The inside end closure member 13 is of polygonal shape to fit the end of the paneled tubular body 1 and extends between said end and the outside end closure 6 therefor. The sides of the inside end closure member 13 have projecting flaps 14 and score lines 15 for facilitating bending of said flaps. The flaps 14 are bent over the folded panel flaps 4 of the tubular body A and are interposed between said folded panel flaps and the folded flaps 7, 7a of the outside end closure member 6 and are thus held against lateral movement relative to the latter and to said body.

The inside closure section or ply 13 of the top end closure construction B has a central circular hole 16 extending vertically therethrough

and is strengthened and stiffened around said hole by means of an annular member 17 of fiber-board or like material which is stapled or otherwise permanently secured as at 18, flatwise to the under side of said inside closure section. The annular reinforcing member 17 is disposed concentric to the opening 16 in the inside end closure member 13; and the opening in said annular reinforcing member is of smaller diameter than the opening in said inside closure member, thereby forming an inwardly extending ledge 19 at the lower end of said last mentioned opening.

The opening 16 in the inside closure member 13 is closed by means of a removable plug cap D whose upper face is disposed substantially flush with the upper surface of said member. The cap or closure D preferably comprises two concentric disks 20 and 21, respectively, that are preferably made of corrugated board, fiber-board or the like and are adhesively or otherwise permanently secured together flatwise. The upper disk 20 of the plug cap D corresponding substantially to the diameter of the opening 16 in the inside closure member 13, and the lower disk 21 is of smaller diameter than the upper disk, whereby said upper disk fits in said opening and seats on the ledge 19 therein and said lower disk fits within the annular reinforcing member 17 for said inside closure member.

The outside end closure member 6 of the top end closure construction B completely covers the inside end closure member 13 thereof and the removable plug cap D for the access opening 16 in the latter; and access is had to the contents of the container through said opening by partially cutting away the portion of said outside end closure member around said opening. Such line of cutting or separation is indicated on the outer face of the outside end closure member 6 of the top end closure construction B by a dotted, scored, or perforated arcuate line 22 disposed concentric to and of larger diameter than the access opening 16 in the inside end closure member 13 the extremities of such arc being connected by two spaced parallel straight line creases or scores 23 in said face of said outside end closure member. By this arrangement, access is had to the contents of the container by cutting through the outside end closure member 6 of the top end closure construction B along the arcuate or horseshoe line 22 and then swinging the flap 24 thus formed upwardly along the score lines 23 which form a hinged connection between said flap and said member. Access may then be had to the container through the opening 16 in the inside end closure 13 thereof by removing the plug cap B, from said open-

ing, the marginal edge of said cap being slit to provide a partially detached lifting tab 25 for said plug cap.

The hereinbefore described carton has several important advantages, the double or two-ply top end closure construction B, together with the annular reinforcing member 17, serves to increase and strengthen the rigidity of the end of the carton. Access may be had to the contents of the carton without disturbing the interlocking flap connections between the inside and outside closure members of the top end closure construction and the body A or the flap clamping hoop 11, merely by partially cutting away the outside closure member along the arcuate line 22 thereon, folding back the hinged cover flap 24 thus formed and then removing the plug cap D from the opening 16 closed thereby. The desired quantity of material may be removed from the carton, after which the plug cap D may be replaced and the hinged cover flap 24 folded down upon the latter.

Obviously, the inside closure member 13 may be made of metal or other hard material to prevent cutting thereof when the outside closure member 6 is cut along the arcuate line 22 and changes may be made in the connections between said closure members and the tubular body without departing from the invention.

What we claim is:

A shipping carton comprising a body and a closure construction therefor, said closure construction comprising separate load sustaining inside and outside closure members, each having a rigid marginal connection with said body, said inside closure member having an opening therethrough, an annular member fixed to the inner face of said inside closure member around the opening therethrough and forming a reinforcement therefor and an inwardly projecting ledge at the lower end of said opening, and a separate detachable plug cap having a head portion fitting in the opening in said inside closure member substantially flush with the outer face thereof and seating on said ledge and a plug portion fitting the opening in said annular member, said inside closure member and plug cap being entirely covered by said outside closure member, whereby access may be had to said carton through the opening in said inside closure member by cutting away the portion of said outside closure member that covers said plug cap and removing said plug cap from said opening through the cut-away portion of said outside closure member.

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CECIL E. TAYLOR.