

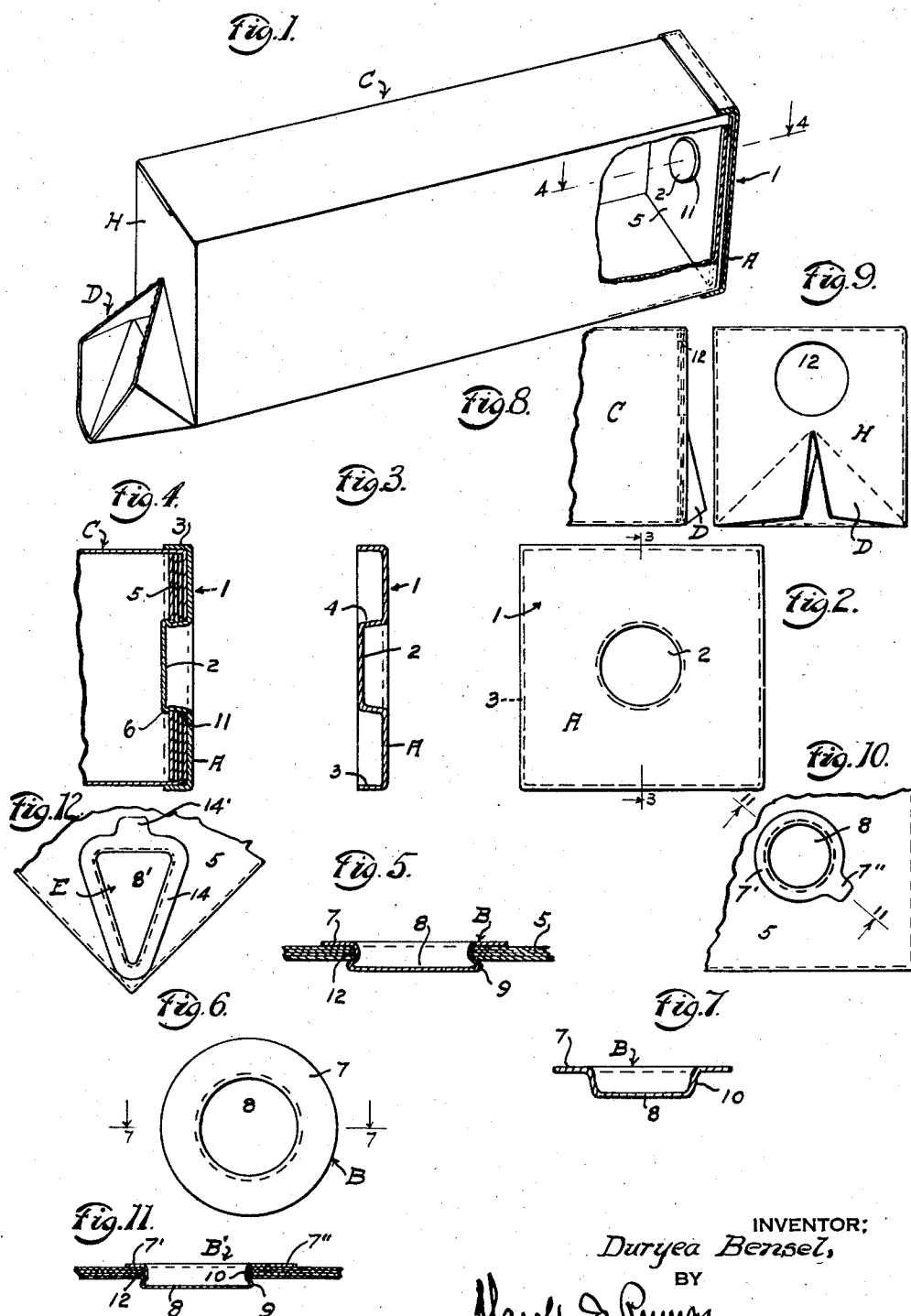
May 21, 1940.

D. BENSEL

2,201,332

BOTTOM FILL PAPERBOARD CONTAINER

Filed Dec. 15, 1936



INVENTOR:
Duryea BenseL,
BY
Harold D. Pinner
ATTORNEY.

UNITED STATES PATENT OFFICE

2,201,332

BOTTOM FILL PAPERBOARD CONTAINER

Duryea Bensel, New York, N. Y., assignor, by
mesne assignments, to Albert Borden, New
York, N. Y.

Application December 15, 1936, Serial No. 115,912

2 Claims. (Cl. 229-43)

The present invention relates to paperboard containers and while not limited as to the material packaged therein, is particularly adapted for carrying and dispensing milk and other liquids.

The instant case is related in part to my pending application Serial No. 3,246, filed January 24, 1935, for improvements in Dispensing spout containers.

The present invention has for one of its objects the provision of a container wherein separate methods and structures are rendered available for the filling and sealing operations, and for pouring and dispensing functions, features of the invention being individual openings, for these purposes.

According to the present arrangement an end dispensing opening is provided, and this is first closed in such manner as to provide both an efficient seal, which is easily openable, and a dispensing means.

As the dispensing structure is first sealed and rendered easily rupturable, before the container is filled, this is an advantage, the difficulty of providing such dispensing means on a filled container being avoided. The second opening is then used for filling purposes, and another advantage of the invention is that this opening may be permanently sealed.

Another feature of the invention, in one aspect thereof, resides in the positioning of the openings, and in one disclosed embodiment these openings are provided in opposite ends of the container, although they may be incorporated in separate parts of the same end.

Except during the filling operation, that end of the container having the dispensing structure or spout may be regarded as the top of the device. The container is then filled at the bottom, and since the latter is used as the part on which the device stands, yet another advantage of the invention is that this bottom or stand, while permanently sealing the container, may conveniently be made particularly strong and flat.

The device is made of paperboard throughout, and all parts are thoroughly waterproofed or coated with a liquid proofing compound, when used for the particular purposes indicated.

The foregoing and other features of advantage will be apprehended as the herein description proceeds, and it will be obvious that modifications may be made in the structure herein disclosed without departing from the spirit hereof or the scope of the appended claims.

In the drawing,

Fig. 1 is a perspective view of the container, with parts broken away to disclose other parts;

Fig. 2 is a bottom view of the filling end cap or lid of the container;

Fig. 3 is a sectional view taken on line 3-3, Fig. 2, looking in the direction of the arrows;

Fig. 4 is a fragmentary sectional view taken on the lines 4-4, Fig. 1, looking in the direction of the arrows;

Fig. 5 is a transverse sectional view of a modified filling aperture seal, on a container shown in fragmentary section;

Fig. 6 is a plan view of the seal of Fig. 5;

Fig. 7 is a sectional view taken on the line 7-7, Fig. 6, looking in the direction of the arrows;

Fig. 8 is a fragmentary side view of a container in which, as in Fig. 9, the filling inlet is shown on the dispensing head end of the container; said Fig. 9 being an end view of the same structure;

Fig. 10 is a fragmentary end elevational view of a container wherein a modified form of removable sealing means is illustrated;

Fig. 11 is a section taken on the line 11-11 of Fig. 10; and

Fig. 12 is a fragmentary end elevational view wherein another modified form of removable sealing means are shown.

The container itself, generally denoted by C and having a rupturable pouring top H, as in the above noted copending application, is provided with a bottom having closing flap 5. Each of the four body-forming panels, being the walls of the container, is provided with a bottom closing flap and when these are glued together, one upon the other, as indicated in Figs. 1, 4, 5, the multiple flaps or plies form a bottom of considerable thickness and rigidity, as shown amplified in said Fig. 4.

Through this multiple-ply bottom closure there is provided an aperture 11, Fig. 4, and through this aperture, when the device is otherwise set up, the top H being flat, the container is filled. In the set-up condition just mentioned, the carton is completely erected, and glued up, the only access to the interior being through the inlet or filling aperture 11.

After the container is erected, it is immersed in a liquid-resisting bath and the repellant coating thus provided seals up all crevices, interiorly and exteriorly, and renders the container leak-proof.

Then the container is filled with the desired contents through the aperture 11, and is lockingly sealed, there being an embossed paper sealing

cap, generally denoted by 1, Figs. 1-4. This cap comprises a rectangular plain portion A, having a flange 3 disposed all round the perimeter. In the mid-section of said plain portion is a circular indentation 2, Fig. 3, there being an annulus or wall 4, which is slightly tapered.

As thus constructed the cap 1 is in the form of a flanged, snug fitting lid, the flange 3 being embracingly engaged against the bottom edge portions of the container panels, as shown in Figs. 1 and 4. In this position the indented part 2 is wedged into the aperture 11, and tightly fitted against its boundary face.

To prevent the tapered wall 4 from being inadvertently displaced from its sealing position in the aperture 11, and to assure a liquid-tight fit, said wall is rimmed or crimped into position, an expanded rim 6 being provided, Fig. 4, which firmly engages against the inner face of the associated flap of the bottom 5 thereat. Owing to the inclination of the annulus 4, this construction, with said rim, makes a perfect liquid-tight seal, and as the bottom is perfectly flat, the sealed device, either singly or in quantities, may be reliably set upright without tilt, and without danger of falling over.

The sealing means, as in the case of the embodiment disclosing the cap 1, including its flanges, is also covered with a liquid-proof coating.

As when delivered, after the container is filled and sealed, and when it is desired to dispense the contents, the top H is ruptured, as indicated in Figs. 8 and 9, there being a dispensing spout D, which is pulled out into its extended pouring position, as in Fig. 1, so as to render the contents conveniently removable. The spout D may afterwards be closed to protect the residual contents of the container, when only partly used at first.

In Figs. 5 to 9 inclusive, wherein the spout D is the same as in the embodiment of Fig. 1, there is disclosed a modified structure, and in this case a filling aperture 12 is located in the top H, adjacent the rupturable spout. As this top is also constructed of multiple ply flaps, as at 5, Fig. 5, the features of the boundary face of the aperture 12 are like those of the other aperture.

When the container of Fig. 9 is filled, the aperture 12 is plugged with an embossed paper cap, generally denoted B, which, as in Figs. 6 and 7, is of one piece construction. This cap has a circular flange 7, indented at 8, and an annulus 11, between said flange and the part 8, is tapered.

After the sealing cap B has been positioned, by wedging it into position in the aperture 12, it is rimmed or crimped into holding engagement, there being an expanded rim 9 which functions in the same manner as the rim 6.

Another modification of structure is disclosed in Figs. 10 and 11, wherein an aperture similar to that shown at 12, has removably incorporated therewith a cap B', having a brim or flange 7', which is less extensive than the flange 7. This cap, which is provided with annulus and rim features like those of the embodiment of Figs. 5-7, also for use with an aperture 12, may be used exclusive of a dispensing spout, there being extending from the flange 7' a manipulating tab

7''. It is noted that the extent of this tab and also that of a tab 14' of Fig. 12, may be greater than that which is illustrated, since the gripping action of the cap is very considerable.

The cap of said Fig. 12, denoted generally by the character E, is located near a corner of the container head, which may have features otherwise like the head H, and the location of the cap of Fig. 10 may also be at a corner or edge portion of the container head. The aperture wherein the cap E is removably located is indicated by the dash line shown, and this aperture, as well as the contour of the cap is triangular, or rather obovate, there being for convenience and advantage no angles to the formation, and the ovate or narrow end of the opening being lowermost or in the pouring position, as illustrated. The flange of this cap is numbered 14, and its recessed part or crown is identified at 8'.

An advantage of the novelty of structure shown in Fig. 12 is that it secures more desirable control of the contents while being poured. With this opening, although the complete contents may be poured very quickly, it is possible to carefully pour a very small quantity of liquid, such as about a drop, and whether used for rapid or other selective pouring, the form of the pouring stream is smooth and symmetrical.

As the opening of Fig. 12, and the contours of the cap structure which includes the recessed part 8', are circumscribed by unbroken curves, close fitting of said structure into the opening is assured, and the location of the ovate or tapered end of the pouring features, at the pointed end of the container head and side walls thereat, is instrumental in forming a compact and functionally efficient pouring structure.

By the construction above noted, when the devices are used for containing milk, they may be fed through standard bottle-filling machines, such as have heretofore been used for filling glass milk bottles.

Variations other than those specified may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

What I claim is:

1. A paperboard closure seal for a paperboard container having a plurality of plies of end closing flaps superposed upon one another and having an access aperture through said plies, said closure having a flanged lid-like portion to engage with the walls of said container and having an indented sealing portion to frictionally engage in said aperture to close the same.

2. A closure for a paperboard container having angularly disposed sides and an end wall including coating flaps having therein distant from the sides a filling opening, comprising a paperboard member having a flat outermost surface, an indented portion formed in said member and having an annulus tightly engaging the boundary of the opening, and flanges formed on the outer margin of said member and embracingly engaging the adjacent parts of said sides entirely therearound.

DURYEA BENSEL.