

Feb. 9, 1943.

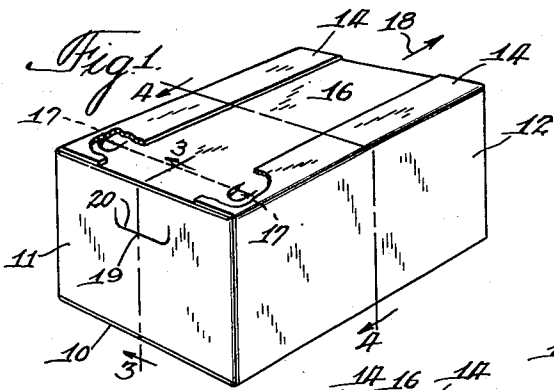
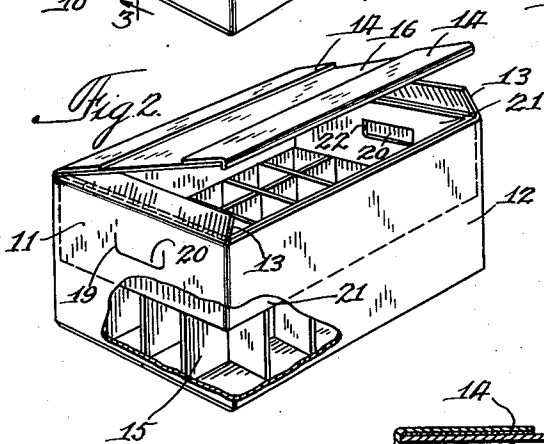
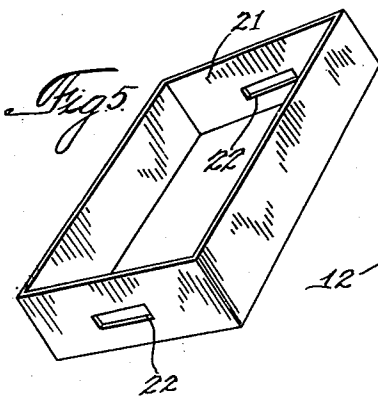
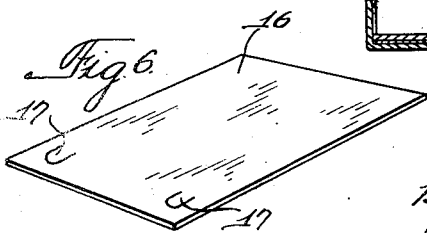
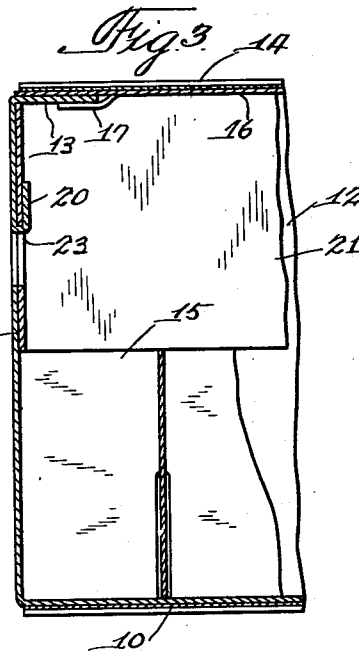
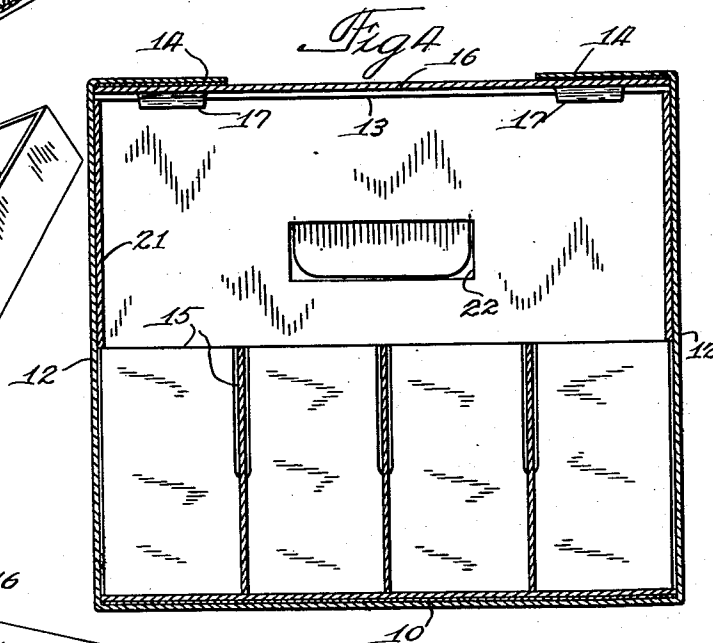
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2,310,408

CONTAINER

Filed Aug. 31, 1939

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

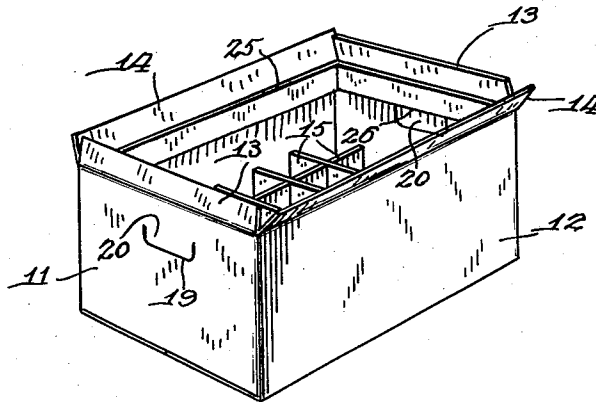


Fig. 7.

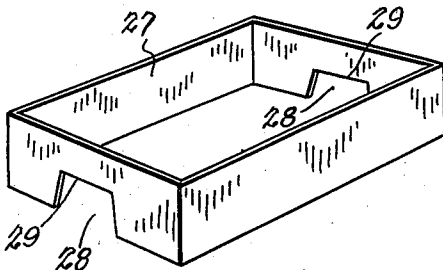


Fig. 8.

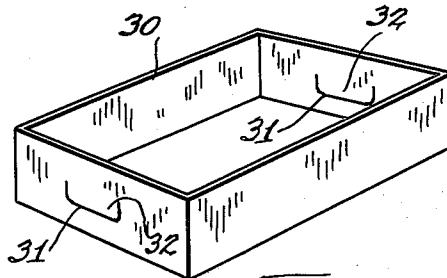


Fig. 9.

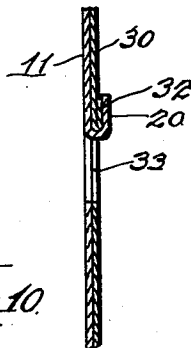


Fig. 10.

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UNITED STATES PATENT OFFICE

2,310,408

CONTAINER

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Application August 31, 1939, Serial No. 292,757

4 Claims. (Cl. 229—37)

My invention relates to shipping containers or cartons for bottled or canned goods, more particularly to containers for bottled goods that are injuriously affected by exposure to light for long periods, and my invention has for an object the provision of a durable and economical container or carton of this character.

Cartons or shipping containers have heretofore been constructed having reinforced hand holes in the end walls thereof, and having closure members adapted to be unsealed along one edge to provide a hinged cover for the carton, and my invention relates to improvements in cartons of this character, further objects of the invention being to provide a carton or container which is normally closed against the entrance of light while providing an improved hand hole reinforcing construction and an improved closure that may be readily sealed and easily opened.

For a more complete understanding of my invention, reference should now be had to the drawings in which:

Fig. 1 is a perspective view illustrating a sealed shipping container embodying my invention, portions of the sealing flaps being broken away more clearly to illustrate the constructional details;

Fig. 2 is a somewhat similar view of the container shown in Fig. 1, partially broken away at one corner and with the hinged cover partially raised after having been unsealed by slitting along one edge;

Fig. 3 is an enlarged fragmentary sectional view taken along the line 3—3 of Fig. 1 and illustrating the tab portion of the end wall bent inwardly to provide a hand hole;

Fig. 4 is an enlarged sectional view taken along the line 4—4 of Fig. 1;

Fig. 5 is a detail perspective view of the reinforcing liner embodied in the carton shown in Fig. 1;

Fig. 6 is a detail perspective view of the closure member shown in Fig. 1 and embodying my invention;

Fig. 7 is a perspective view of a shipping container constituting another embodiment of my invention;

Figs. 8 and 9 are detail perspective views of reinforcing liners illustrating further embodiments of my invention; and

Fig. 10 is a fragmentary sectional view taken through the end wall of a container utilizing a liner such as shown in Fig. 9.

Referring now to Figs. 1 to 6 of the drawings, I have shown my invention as embodied in a shipping container or carton for bottled beer, which

container is preferably formed of suitable material, such as corrugated board or fiber, folded so as to form a bottom wall 10, end walls 11, and side walls 12, the end walls 11 being provided with marginal flaps 13 along the upper edges thereof and the side walls 12 being provided with marginal flaps 14 along the upper edges thereof. The lower portion of the carton is provided, as shown, with the usual transverse and longitudinal partition members 15, and a closure member 16, comprising a flat sheet as illustrated best in Fig. 6, is provided for completing the carton.

Adjacent one end of the closure member 16 is cut or slit so as to form a pair of depressible tabs or tongues 17 that are adapted, when the closure member is placed on the carton, to extend beneath one of the end marginal flaps 13 and lock the closure member against endwise movement with respect to the carton. As indicated, the closure member 16 is disposed within the side marginal flaps 14 which are adapted to be folded over and adhesively or otherwise sealed to the closure member to complete the carton.

During the filling and sealing operations, cartons of this character are usually carried on a travelling conveyor, and the sealing operations are carried out during the continuous movement of the cartons. Referring to Fig. 1, it will be apparent that if the carton there shown rests on a conveyor which is moving in the direction indicated by the arrow 18, engagement of the closure member with pasting or sealing means would tend to move the closure member 16 in an endwise direction with respect to the carton. Such endwise movement is prevented, however, by the interlocking engagement of the depressible tongues 17 with the end marginal flange 13 on the rear or left-hand end of the carton, as viewed in Figs. 1 and 3.

In order to provide suitably reinforced hand holes which may be utilized in lifting the carton but which normally do not permit the entrance of substantial quantities of light to the container or carton, each of the end walls 11 is provided, as shown, with a channel-shaped or U-shaped slit 19 which extends around and thus defines three edges of a tab portion 20, the remaining edge of the tab portion being integral with the end wall 11. Within the carton or container and resting on the upper edges of the partition members 15, I provide a reinforcing liner 21 which, as shown in Fig. 5, is shaped to conform to the shape of the carton and comprises a continuous band which extends completely around the inside of the carton walls. The proportions of this liner 21, which

extend across the end walls 11 of the carton, are provided, as shown, with cut-outs or slots 22 aligned with the tab portion 20, so that the upper edge of each of the slots 22 extend across the integral edge of the adjacent tab portion 20 and forms a bending line therefor.

It is course well known that beverages such as bottled beer are injuriously affected by exposure to light for extended periods, and accordingly should be protected therefrom as much as possible. In cartons constructed as described above, substantially all light is excluded from the carton during storage and transportation periods while hand holes are provided to facilitate lifting the cartons after delivery to the consumer. When it is desired to utilize the hand holes for lifting purposes, it is only necessary to press the tab portions 20 inwardly through the slots 22 in the liner 21 so that the fingers of the one desiring to lift the carton may be inserted to grip the end walls 11. As shown in Fig. 3, the tab portions 20, when pressed inwardly, folds about the bending line formed by the upper edge of the slot 22, and when the carton is gripped through the hand hole thus formed, the inner edge of the tab portion will be bent upwardly about the reinforcing liner 21 so as to provide a smooth gripping portion 23 (Fig. 3), and so as to lock the liner 21 to the end wall 11 of the carton. Thus the hand hole and the end wall 11 are reinforced against tearing, and it will be apparent that the major portion of the load is transmitted to the longitudinally extending side walls of the reinforcing liner 21.

The slits 19 which define the tab portions 20 may of course be formed in any suitable manner, as by die-cutting the end walls 11 of the container or by perforating along lines corresponding to the slits 19, and the term "slit" as used herein is intended to define either a continuous cut or suitable perforations.

The container or carton may be unsealed or opened simply by cutting one of the side walls 12 from end to end so as to sever therefrom the associated marginal flap 14 and the entire closure member 16 may then be swung open as shown in Fig. 2, the opposite marginal flap 14 serving as a hinge. It will be apparent that when the closure member 16 is thus swung open the depressible tongues 17 on the closure member readily release the end marginal flap 13. Thus these depressible tongues 17 while preventing endwise movement of the closure 16 during the sealing operation, do not interfere with the swinging opening movement of the closure member when the carton is unsealed.

In Fig. 7 I have shown a carton or container embodying my invention and provided with a somewhat different form of reinforcing liner 25, which liner comprises simply a narrow continuous band of corrugated board or fiber adapted to be positioned within the container adjacent the top thereof so that portions of the liner extend across the end walls 11 and the side walls 12 of the container. The portions of the liner 25 which extend across the end walls 11 are of such a width that the lower edges 26 thereof extend across the integral edges of the tab portions 20 in the end walls 11, and form bending lines for these tab portions 20 as is described above in connection with the embodiment shown in Figs. 1 to 6. As shown, the reinforcing liner 25 does not rest on the partition members 15 as does the liner 21 of Fig. 5, and although the liner 25 is preferably supported within the container

solely by frictional engagement with the end walls 11 and the side walls 12, it may of course be supported in any desired manner, as for example by adhesive.

In Fig. 8, a further form of liner construction is shown which is similar to that shown in Fig. 5 except that the reinforcing liner 27 of Fig. 8 is provided with cut-out portions 28 in the form of notches which serve the same function as the slots 22 in the construction shown in Fig. 5. When the liner 27 is assembled within a container of the type heretofore described as embodying my invention, the upper edges 29 of the cut-out portions or notches 28 extend across the integral edges of the adjacent tabs 20 in the end walls 11 and form bending lines therefor.

In Figs. 9 and 10 I have illustrated a still further embodiment of my invention, in which a reinforcing liner 30 is provided with substantially U-shaped or channel-shaped slits 31 which define tab portions 32 in the portion of the liner member which extend across the end walls 11 of the container. When the reinforcing liner 30 is positioned within the container, the tab portions 32 are aligned with the adjacent tab portions 20 in the end walls 11 of the container so that both tab portions may be pressed inwardly and folded upwardly, as shown in Fig. 10, to provide reinforced hand holes 33 having smooth gripping surfaces.

While I have shown particular embodiments of my invention, it will be understood, of course that I do not wish to be limited thereto since many modifications may be made, and I, therefore, contemplate by the appended claims to cover any such modifications as fall within the true spirit and scope of my invention.

I claim:

1. A shipping container having end and side walls provided with foldable marginal flaps on the upper edges thereof, a closure member comprising a single flat sheet adapted to rest on the inwardly folded marginal flaps of said end walls, locking means depending from said closure member in spaced relation to the edges thereof for engaging an edge of the marginal flap on one of said end walls to prevent endwise movement of said closure member, said marginal flaps on said side walls being folded over the upper surface of said closure member and secured thereto to seal said container, said container being adapted to be opened by severing the marginal flap from one of said side walls, the marginal flap on said other side wall serving as a hinge for said closure member, said locking means on said closure member being readily releasable from the marginal flap on said one end wall to permit said closure member to swing about said hinge.

2. A shipping container having end and side walls provided with foldable marginal flaps on the upper edges thereof, a closure member comprising a flat sheet disposed within the side marginal flaps and resting on the end marginal flaps, said closure member being slit adjacent one end to form a depressible tongue adapted to engage one of said end marginal flaps to prevent endwise movement of said closure member, said side marginal flaps being secured to said closure member to seal the container and to permit opening thereof by severing one of said side marginal flaps from the associated side wall, the opposite side marginal flap serving as a hinge for said closure member and said tongue being readily releasable from said one end marginal

flap to permit said closure member to swing about said hinge.

3. A shipping container having end and side walls provided with foldable marginal flaps on the upper edges thereof, a closure member comprising a flat sheet disposed within the side marginal flaps and resting on the end marginal flaps, said closure member having a plurality of depressible tongues adjacent one end adapted to be interlocked beneath one of said end marginal flaps to prevent endwise movement of said closure member, said closure member being adapted when said container is opened to swing about one of said side marginal flaps as a hinge and said tongues being readily releasable from said one end marginal flap upon swinging movement of said closure member.

4. A shipping container having end and side walls provided with foldable marginal flaps on the upper edges thereof, partition members within said container, a liner shaped to corre-

5 spond to the shape of said container disposed within said container with the walls of said liner extending alongside the walls of said container, the end walls of said container being slit to provide tab portions aligned with cooperating portions of the end walls of said liner, said tab portions normally forming continuations of said end walls and being bendable inwardly and upwardly about said end walls of said liner to form reinforced hand holes having smooth gripping portions, a closure member consisting entirely of a flat sheet disposed within the side marginal flaps and resting on the end marginal flaps, and a plurality of depressible tongues in said closure member adapted to be interlocked beneath one of said marginal flaps to prevent endwise movement of said closure member while said side marginal flaps are being sealed thereto to close and seal said container.

LOUIS EHRENFELD.