

United States Patent

Woodrow et al.

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[54] SHIPPING CONTAINER WITH EMPTYING CHUTE

[72] Inventors: **James R. Woodrow; Robert R. Lynski**, both of Chicago, Ill.

[73] Assignee: **Continental Can Company, Inc.**, New York, N.Y.

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[52] U.S. Cl. **229/17 B, 229/15, 221/302, 221/305, 222/183, 222/485**

[51] Int. Cl. **B65d 5/72, B65d 5/48**

[58] Field of Search **222/541, 485, 502, 183; 221/305, 302; 229/17 B, 17 R, 15**

[56] References Cited

UNITED STATES PATENTS

2,005,924	6/1935	Wilson	229/17 B
2,326,527	8/1943	Emmerich	229/17 B
2,758,773	8/1956	Gibbons	229/15
2,799,440	7/1957	Frederich et al.	229/17 B
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3,066,842	12/1962	Croley	229/7 R
3,207,380	9/1965	Hennessey	222/183 X
3,228,573	1/1966	Nerenberg et al.	222/485

Primary Examiner—Davis T. Moorhead
Attorney—Diller, Brown, Ramik & Holt

[57] ABSTRACT

This disclosure relates to a corrugated shipping container which is provided with a dispensing spout. The shipping container is formed of an outer container having the interior thereof divided into a plurality of adjacent compartments by internal liners. Adjacent portions of liners defining adjacent compartments are provided with dispensing opening defining flaps, which in turn, are aligned with a dispensing opening defining flap in a wall of the outer container. The flaps open in opposite directions both to facilitate the dispensing of material through the openings defined thereby and to reinforce one another against accidental opening. In addition, upstanding liner walls are disposed intermediate the ends of the flap of the outer container so as to reinforce the flap against inward deformation.

11 Claims, 6 Drawing Figures

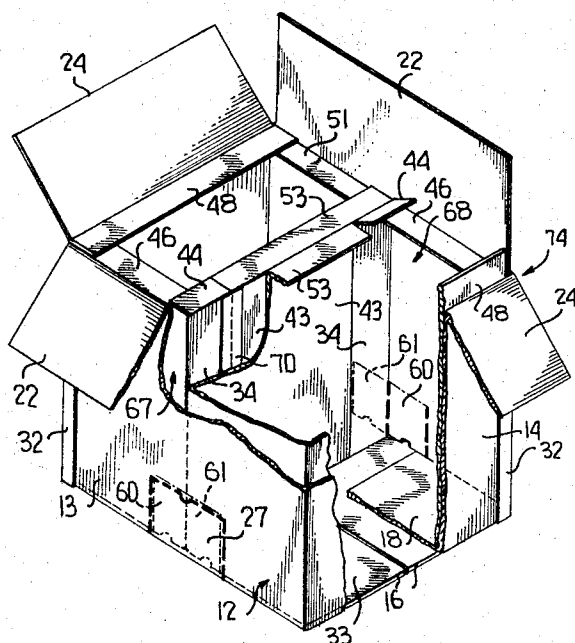


FIG. 1

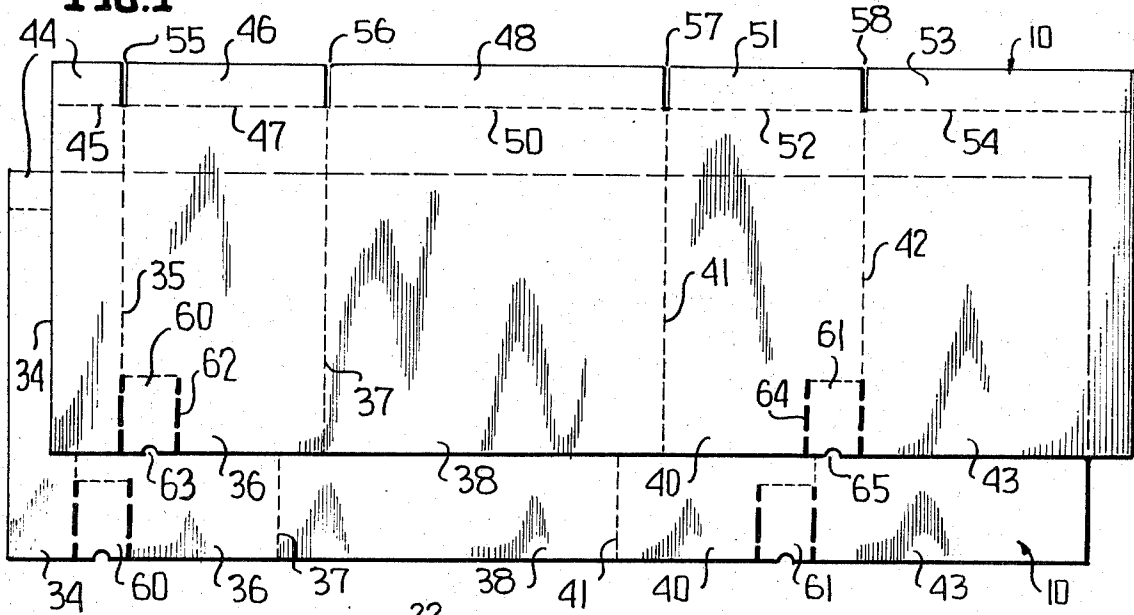
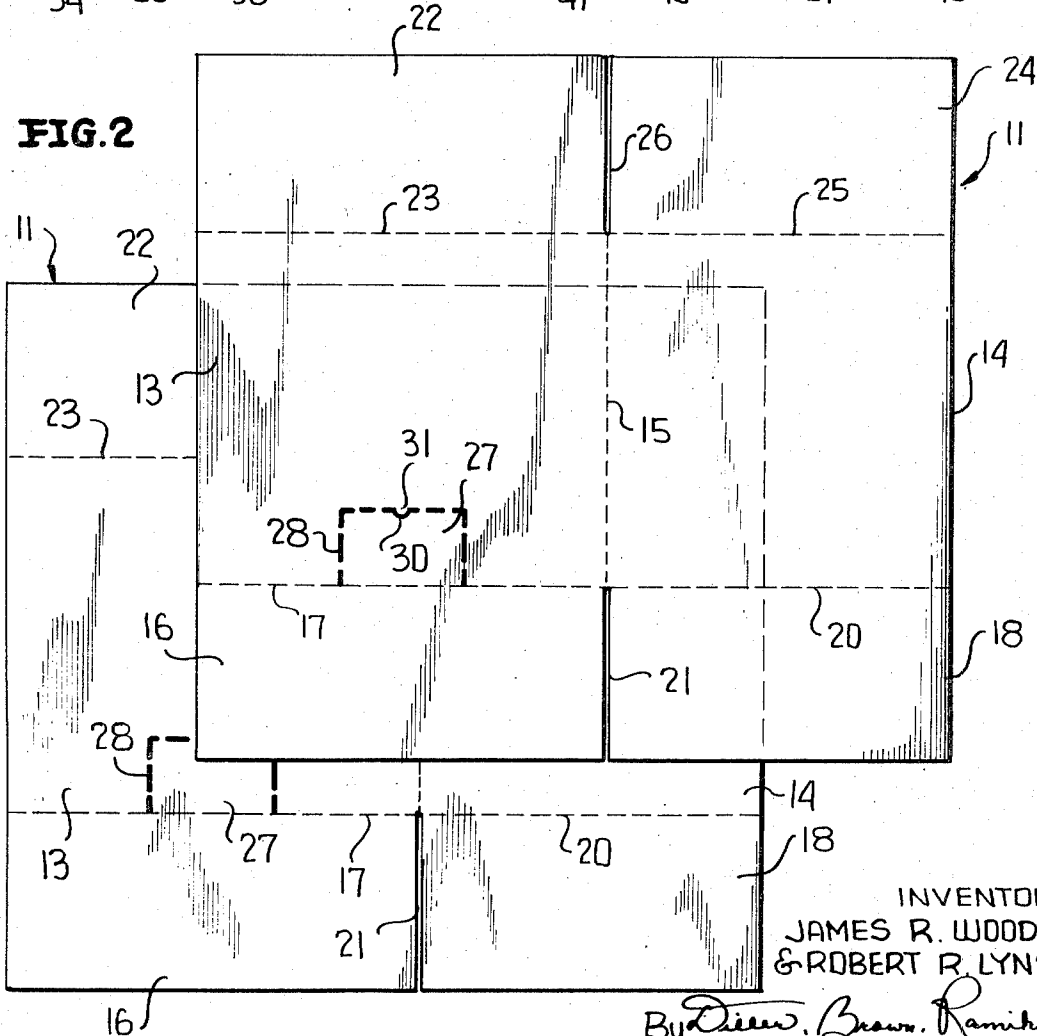


FIG. 2



INVENTORS
JAMES R. WOODROW
& ROBERT R. LYNISKI

By *Dieter. Brown. Ramik. Hall*
ATTORNEYS

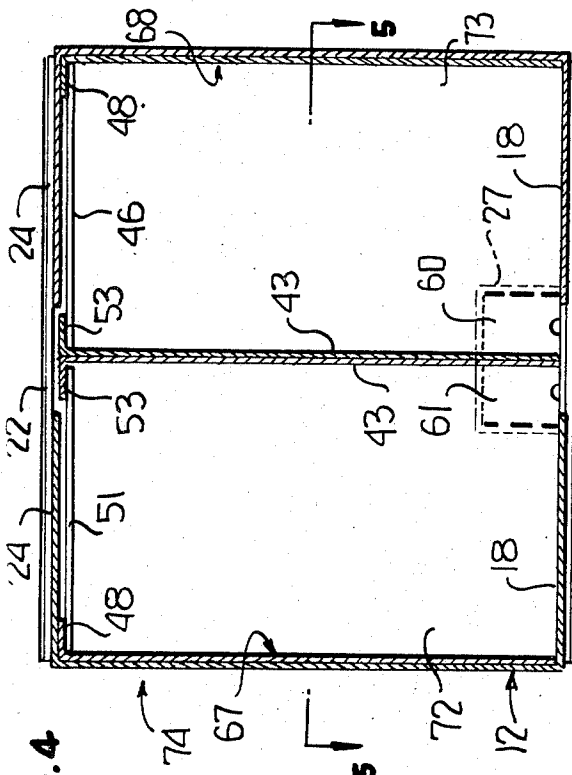


FIG. 4

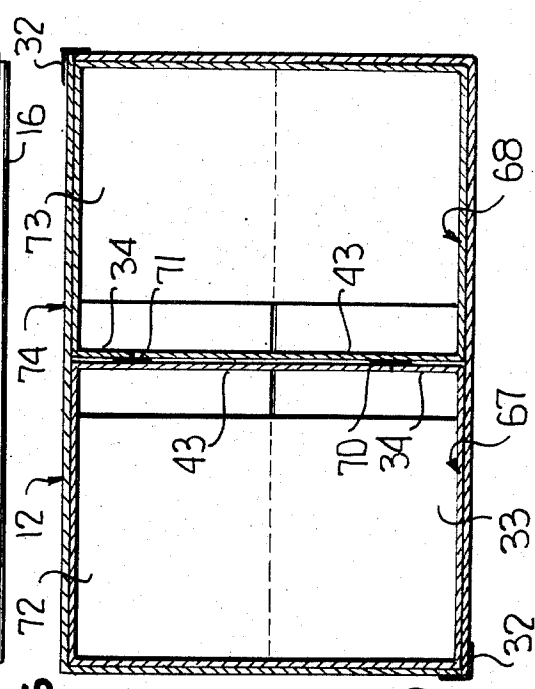


FIG. 5

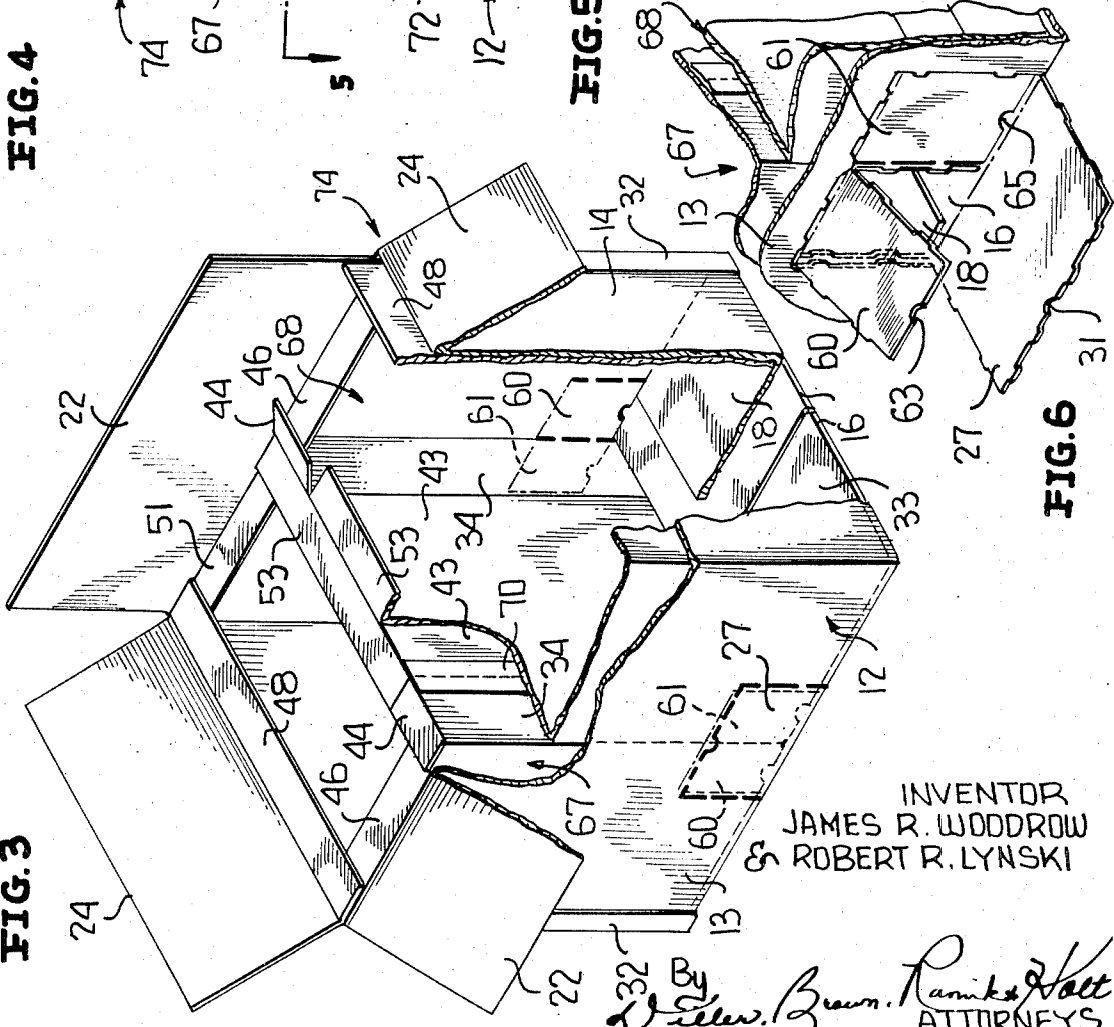


FIG. 6

FIG. 3

INVENTOR
JAMES R. WOODROW
& ROBERT R. LYNISKI

Weller, Brown, Runkle & Holt
ATTORNEYS

SHIPPING CONTAINER WITH EMPTYING CHUTE

This invention relates in general to new and useful improvements in shipping containers, and more particularly to a shipping container having means for defining a dispensing spout whereby products shipped within the container may be readily dispensed therefrom.

BACKGROUND OF THE INVENTION

It is well known to construct corrugated shipping containers with means to facilitate the dispensing of the contents thereof, including spouts. Typical of the patents having dispensing openings are the patents to Powell U.S. Pat. No. 2,233,488 granted Mar. 4, 1941; Gibbons U.S. Pat. No. 2,758,773 granted Aug. 14, 1956 and Nerenberg, et al. U.S. Pat. No. 3,228,573 granted Jan. 11, 1966. It is also well known to provide dispensing containers which are divided into a plurality of compartments by an internal partition, such as is disclosed in the patent to Wilson U.S. Pat. No. 2,005,924 granted June 25, 1935.

It is further well known to provide shipping and dispensing containers which include an outer container having liners disposed within the interior thereof defining a plurality of individual compartments, and further the container having spout forming means whereby the contents of the compartments may be selectively dispensed, either individually or simultaneously. The patent to Croley U.S. Pat. No. 3,066,842 granted Dec. 4, 1962, discloses such a structure. However, prior containers including that of the Croley patent have certain deficiencies such as cost, stability, accidental opening, etc. which are undesirable. For example, in the Croley structure a special pallet is required and the dispensing is from the bottom whereby it is necessary that the container be elevated by suitable means, such as a lift truck, to facilitate the dispensing of the contents thereof.

SUMMARY OF THE INVENTION

In accordance with this invention, there has been provided a combined shipping and dispensing container which may be readily handled in the normal manner and which is so constructed whereby the contents thereof may be readily dispensed through suitable dispensing openings formed therein while the container is seated flat either on the floor, on a pallet, on another container or on a suitable support.

Another feature of the container of this disclosure is that while the contents of the several compartments of the container may be selectively singly or commonly dispensed, the dispensing takes place through a single opening formed in the container exterior wall whereby all of the dispensing may take place at the same point.

Another feature of this invention is to provide a combined shipping and dispensing container wherein there is provided an outer container having liners disposed therein with the liners and the other container each having a dispensing opening forming flap defined therein and wherein the flaps open in opposite directions so as to facilitate the flow of material from the container and at the same time the flaps reinforce one another against accidental opening.

Another feature of the carton is that the dispensing openings in the liners are disposed immediately adjacent adjacent walls of the liners which extend trans-

versely of the outer container with the dispensing opening defining flap of the outer container overlapping the flaps of the liners and bridging the transverse walls of the liners whereby the transverse walls of the liners serve to back up the flaps of the outer container and reinforce the same against accidental inward deformation.

A still further feature of the shipping container of this disclosure is the provision of the dispensing opening defining flaps in the opposite side walls of the container adjacent the bottom thereof whereby the contents of the container may be readily dispensed from either side or both sides of the container and does not require the container to be elevated in overlying relation to the receptacle for the contents thereof.

With the above and other objects in view that will hereinafter appear, the nature of the invention will be more clearly understood by reference to the following detailed description, the appended claims and the several views illustrated in the accompanying drawings:

IN THE DRAWINGS

FIG. 1 is a plan view of the liner blanks and shows the general outline thereof.

FIG. 2 is a plan view of the blanks for forming the outer container and shows generally the outline thereof.

FIG. 3 is a perspective view of the shipping container open, but with the upper portions of the liners partially closed to the positions they will assume after the container has been filled, parts being broken away and shown in section for purposes of clarity.

FIG. 4 is a vertical sectional view taken through the closed container generally through the central portion thereof.

FIG. 5 is a horizontal sectional view taken along the line 5—5 of FIG. 4 and shows further the details of the carton construction.

FIG. 6 is a fragmentary perspective view of a lower side portion of the container and shows the same in an open state for dispensing the contents of one compartment thereof.

Referring now to the drawings in detail, it will be seen that there is illustrated in FIGS. 1 and 2 the blanks from which the shipping container of this invention is formed, the blanks including a pair of liner blanks, generally identified by the numeral 10 and illustrated in FIG. 1, and a pair of outer container blanks, generally identified by the numeral 11 and illustrated in FIG. 2. The outer container blanks 11 will be described first.

The outer container, which is identified in FIGS. 3, 4 and 5 by the numeral 12, is defined by two identical blanks 11 which are generally rectangular in outline. Each blank 11 includes a side panel 13 and an end panel 14 which are hingedly connected together by a hinge line 15. A bottom closure flap 16 is hingedly connected to the lower edge of the side panel 13 along a hinge or fold line 17 while a further bottom closure panel or flap 18 is hingedly connected to the lower edge of the end panel 14 along a fold line 20. The flaps or panels 16 are separated by a narrow slit 21 which is in alignment with and functions as a continuation of the fold line 15.

Each blank 11 also includes an upper closure flap 22, which may be identical to the bottom closure flap 16

and which is hingedly connected to the side panel 13 along a fold line 23. In a like manner, an upper closure flap 24, corresponding to the bottom closure flap 18, is hingedly connected to the upper edge of the end panel 14 along a fold line 25. The flaps 22 and 24 are separated from one another by a narrow slit or cutout 26 which is aligned with the fold line 15.

Each blank 11 is further provided with a dispensing opening defining flap 27 which is an integral part of the side panel 13 thereof. Each flap 27 is preferably generally rectangular in outline and is defined by a central portion of the fold line 17 and a plurality of aligned and spaced apart cut lines 28. The cut lines 28 include a centrally located arcuate cut line portion 30 which opposes and is spaced from the fold line 17 and which is intended to define a finger receiving opening or notch 31 in the flap 27, as is best shown in FIG. 6.

With particular reference to FIG. 5, it is to be understood that the two blanks 11 are joined together along the free edges of the panels 13 and 14 to define corners by means of tape 32. After the two blanks 11 have been so joined together, the outer container 12 may be partially formed by first folding inwardly the closure flaps 18 and then folding inwardly the closure flaps 16 and adhesively securing the closure flaps 16 to the closure flaps 18 to form a substantially sealed bottom 33 of the outer container 12, as is clearly shown in FIGS. 3 and 5.

Returning now to FIG. 1, it will be seen that each liner blank 10 is of an elongated rectangular configuration and includes a partial transverse panel 34 which is hingedly connected along a hinge line 35 to a side panel 36 which, in turn, is hingedly connected along a fold line 37 to a centrally positioned end panel 38. A side panel 40 is hingedly connected to the end panel 38 along the opposite edge thereof by means of a fold line 41 and the side panel 40, in turn, has hingedly connected thereto along a fold line 42, a partial transverse panel 43, the combined widths of the panels 34 and 43 corresponding to the width of the end panel 38.

Along the upper edge of the liner blank 10 is a plurality of reinforcing flaps which include a partial flap 44 which is hingedly connected to the panel 34 along a fold line 45, a flap 46, which is hingedly connected to the panel 36 along a fold line 47, a flap 48 which is hingedly connected to the panel 38 along a fold line 50, a flap 51 which is hingedly connected to the panel 40 along a fold line 52 and a flap 53 which is hingedly connected to the panel 43 along a fold line 54. The flaps are separated from one another with there being a slit 55 between the flaps 44 and 46, a slit 56 between the flaps 46 and 48, a slit 57 between the flaps 48 and 51, and a slit 58 between the flaps 51 and 53.

In addition, each liner blank 10 is provided with a pair of dispensing opening defining flaps 60 and 61 which are formed in the panels 36 and 40 and which are intended to be disposed in oppositely directed relation in the assembled liner. The flap 60 is disposed in the lower corner of the panel 36 along the fold line 35 and is defined by a plurality of closely spaced short cut lines 62. The lower edge of the flap 60 is common with the lower edge of the panel 36 except that the flap 60 has a finger receiving cut out 63 formed therein.

The flap 61 is disposed in a lower corner of the panel 40 along the fold line 42 and has a lower edge common

with the lower edge of the panel 40. The flap 61 is defined by a series of closely spaced and relatively short cut lines 64 and is provided in the lower edge thereof with a finger defining cutout 65.

Referring now to FIGS. 3 and 5, it will be seen that the liner blanks 10 are assembled to generally rectangular cross section to define liners 67 and 68 which are generally rectangular in cross section and wherein the partial panels 34 and 43 of the liner 67 are joined together by a strip of tape 70 in edge abutting relation. In a like manner, the partial panels 34 and 43 of the liner 68 are joined together in edge abutting relation by means of a strip of tape 71.

The liners 67 and 68 are disposed within the outer container 12 in a manner wherein the joined together partial transverse panels thereof are disposed in face to face relation and with the tapes 70 and 71 offset from one another whereby the partial panels of the two liners reinforce one another.

It is to be noted that the liner 67 defines a compartment 72 while the liner 68 defines a compartment 73 and these two compartments each constitute substantially one half of the volume of the shipping container, which shipping container is identified by the numeral 74. It is also to be noted that the liners 67 and 68 are so related to one another whereby at each of the two opposite sides of the outer container 12, there is one each of the flaps 60, 61 and these flaps are disposed in immediately adjacent relation and in alignment with a respective flap 27 of the outer container 12.

After the liners 67, 68 have been assembled within the partially formed outer container 12, the compartments 72 and 73 of the still open outer container 12 may be readily filled from the top of the outer container 12. After the filling operation has been completed, the flaps 44, 46, 48, 51 and 53 of each liner 67, 68 are then folded inwardly to a generally horizontal position, as is shown in FIG. 3. Thereafter the closure flaps 24 are folded inwardly into overlying relation to the liner flaps, followed by the inward folding of the flaps 22 into position overlying the flaps 24 and with the flaps 22 being sealed relative to the flaps 22 to complete the shipping container 74.

It is to be noted that it is virtually impossible for there to be an accidental rupture of the shipping container 74 in the area of the flaps 27, 60 and 61 due to the relative configurations of the flaps. Any inner force within the compartments 72, 73 tending to rupture the flaps 60, 61 is resisted by not only the bridging material between the flap and the panels from which they are formed, but also by the hinge connection of the flaps to the respective panels. Furthermore, since normally there would be a progressive opening of the flaps 60, 61 the tendency would be for the free edges of the flaps 60, 61 to move outwardly first. These free edges of the flaps 60, 61 are engaged by that portion of the respective flap 27 which is permanently secured to the respective panel 13.

Inward deformation of the flaps 27, 60 and 61 is resisted primarily by the transverse panels of the liners 67, 68 which are in direct alignment with the central portion of the flap 27. Thus, it is virtually impossible to deform the flaps 27 inwardly of the shipping container 74.

It is also to be noted that the finger receiving cut-outs 63 and 65 of the flaps 60,61 are disposed remote from the finger receiving cutout 31 of the flap 27 so that a sealed container is maintained until the same is opened.

With particular reference to FIG. 6, when it is desired to dispense the contents of one of the compartments 72,73, the flaps 27 at a convenient side of the shipping container 74 are torn to an open position where it depends outwardly and generally downwardly to define a dispensing sheet. Thereafter, the associated flap of the compartment which is to be emptied is torn upwardly in the manner illustrated with respect to the flap 60. The thus folded outwardly flap combines with the flap 27 to define a dispensing chute.

If desired, both compartments 72,73 may be simultaneously emptied by pulling open both of the flaps 60,61 aligned with the particular flap 27. Furthermore, under certain conditions, the shipping container 74 may be emptied from opposite sides thereof by opening both of the flaps 27 and the respective flaps 60,61.

It is also to be noted that if only a portion of the content of the shipping container 74 is to be dispensed at one time, the same may be conveniently closed by returning the respective one of the flaps 60,61 to its proper position and then folding the associated flap 27 upwardly. Normally, the frictional interlock of the flaps with respect to the associated panels will be sufficient to hold the flaps in their closed positions. Of course, if desired, a slight amount of tape may be utilized to hold the flap 27 in its closed position.

It will be readily apparent that the shipping container 74 is of a simple construction, but at the same time provides for the convenient dispensing of the contents thereof without the use of any special equipment and without the special elevating thereof so as to overlie the material receiving hopper or other receptacle normally utilized in receiving the contents of the container.

It is also readily apparent that the container construction is such that the blanks thereof may be readily handled in a flat state and readily assembled when the container is to be used. Furthermore, it will be readily apparent that the container is reuseable within limits.

Although only a preferred embodiment of container construction has been specifically illustrated and described herein, it is to be understood that minor variations may be made in the shipping container and emptying chute or spout without departing from the spirit and scope thereof, as defined by the appended claims.

We claim:

1. A combined shipping and dispensing container assembly comprising an outer container and inner liners dividing the interior of said outer container into at least two adjacent compartments, a dispensing opening defining flap in a wall of said outer container bridging

said compartments, and a dispensing opening defining flap in adjacent portions of said liners in alignment with said outer container flap for selectively dispensing the contents of one or both of said compartments.

2. The container assembly of claim 1 wherein said outer container includes a bottom, said outer container wall is an upstanding wall, and said outer container flap is disposed adjacent said bottom.

3. The container assembly of claim 2 wherein said outer container flap is hingedly connected to said bottom and opens downwardly and outwardly to function as a chute for material being dispensed.

4. The container assembly of claim 3 wherein said liner flaps open upwardly and outwardly to facilitate material flow in cooperation with said outer container flap.

5. The container assembly of claim 3 wherein said outer container flap and said liner flaps have remote hinges whereby said flaps open in opposite directions and said flaps reinforce one another against accidental opening.

6. The container assembly of claim 5 wherein each of said flaps is defined by cut lines and has a finger receiving cut-out to facilitate the tearing loose thereof, and said finger receiving cut-outs are disposed remote from one another whereby said carton assembly remains sealed until said flaps are loosened.

7. The container assembly of claim 1 wherein said outer container flap and said liner flaps have remote hinges whereby said flaps open in opposite directions and said flaps reinforce one another against accidental opening.

8. The container assembly of claim 7 wherein each of said flaps is defined by cut lines and has a finger receiving cut-out to facilitate the tearing loose thereof, and said finger receiving cut-outs are disposed remote from one another whereby said carton assembly remains sealed until said flaps are loosened.

9. The container assembly of claim 1 wherein each of said flaps is defined by cut lines and has a finger receiving cut-out to facilitate the tearing loose thereof, and said finger receiving cut-outs are disposed remote from one another whereby said carton assembly remains sealed until said flaps are loosened.

10. The container assembly of claim 1 wherein said flaps are formed in oppositely disposed walls of both said outer container and said liners whereby alignment of said liner flaps with outer container flaps is assured.

11. The container assembly of claim 1 wherein said liners are disposed in upstanding positions and said outer container flap is disposed normal to and in generally abutting relation to adjacent walls of said liner wherein said outer container flap is reinforced against inward deflection.

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