United States Patent [19]

Gardner

[11] **3,780,934**

[45] **Dec. 25, 1973**

[54] **CONTAINER WITH LOAD CARRYING FEATURE**

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[73] Assignee: **Container Corporation,** Chicago, Ill.

[22] Filed: **May 22, 1972**

[21] Appl. No.: **255,407**

[52] **U.S. Cl.** ..... **229/52 B,** 229/39 R

[51] **Int. Cl.** **B65d 5/46**

[58] **Field of Search** ..... 229/52 B, 39, 38, 229/37

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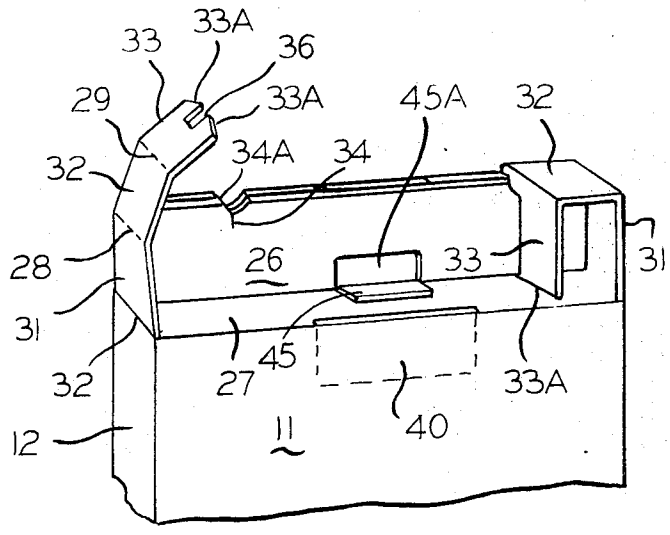
Primary Examiner—Davis T. Moorhead

Attorney—Carpenter, Ostis & Lindberg

[57] **ABSTRACT**

A shipping container has closure elements thereof arranged and folded to define a load carrying structure, the closure elements being first arranged in a conventional closing fashion. The container is formed from a cut and scored blank of paperboard and comprises opposed pairs of main and side panels defining a tube with closure elements foldably connected to one end of the tube to provide a closure therefor. Main and side closure flaps are foldably connected to the other end of the main and side panels and are folded into overlapping relationship to define a conventional closure for the correlative end of the tube. Such main closure flaps each have a score line therein to provide a pair of closure flap portions placed in facing relationship and a second pair of closure flap portions lying in the plane of the correlative end of the tube, such arrangement of the main closure flaps being provided so that the loaded container may be carried about after opening. The side closure flaps have spaced transversely extending scores providing a vertical side portion flanking ends of those portions of the main closure flaps in facing relationship, an intermediate portion overlying the facing flap portions and a distal portion in locking engagement with the facing flap portions.

4 Claims, 12 Drawing Figures



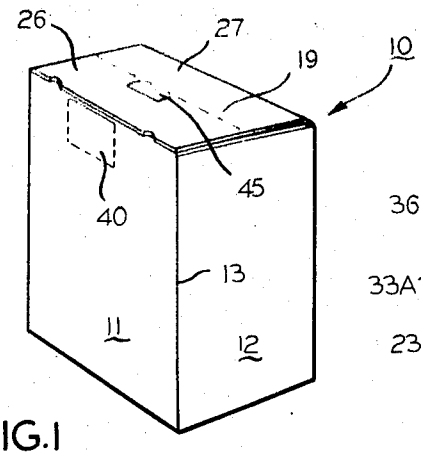


FIG.1

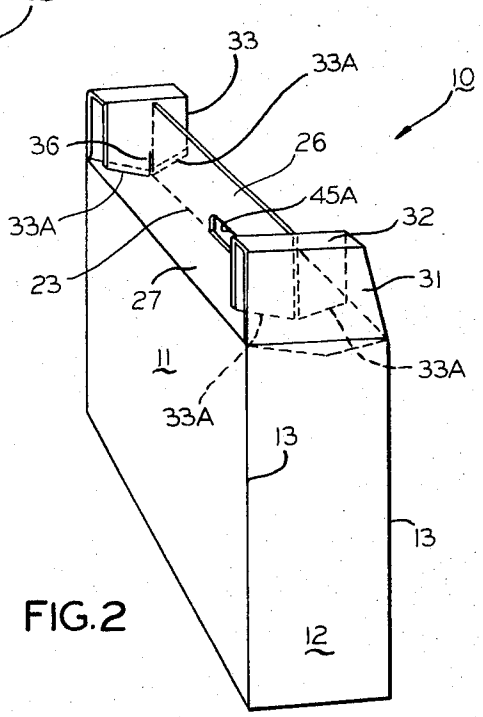


FIG.2

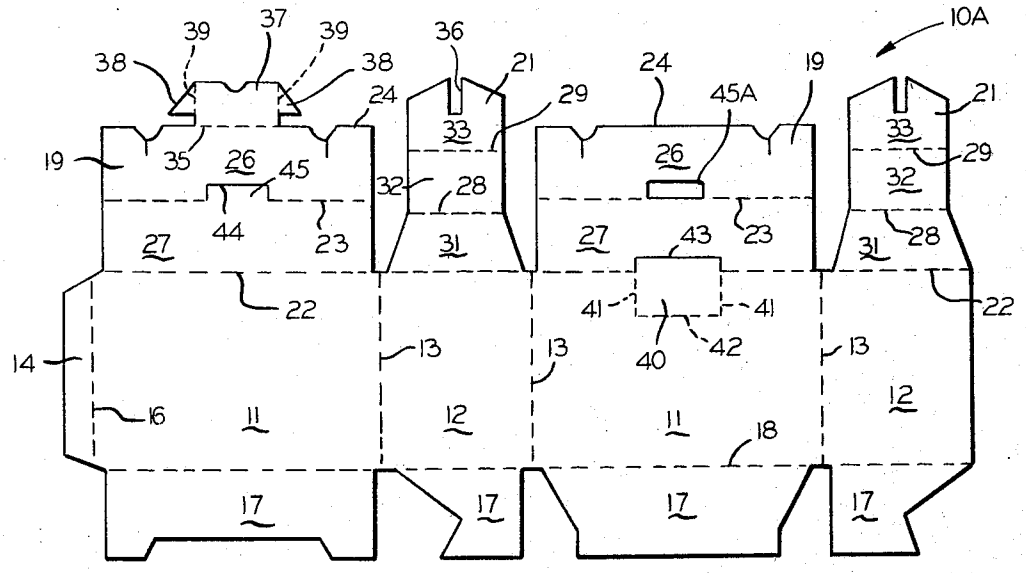


FIG.3

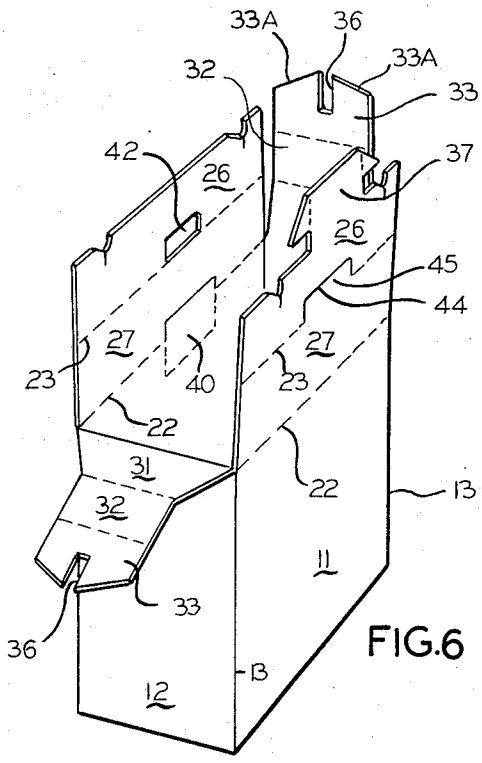


FIG.6

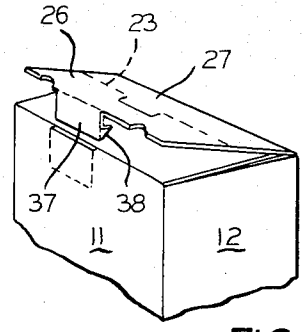


FIG.4

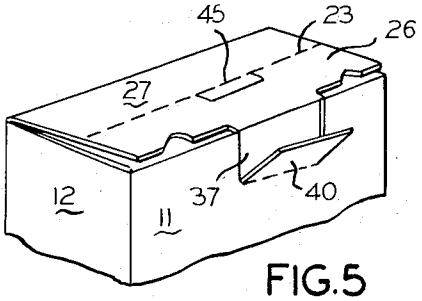


FIG.5

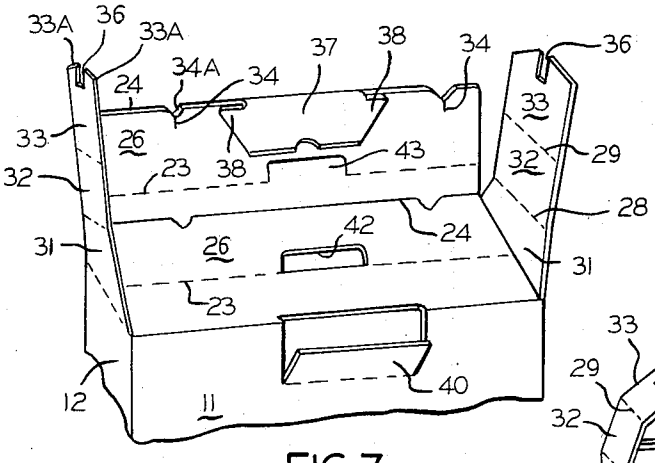


FIG.7

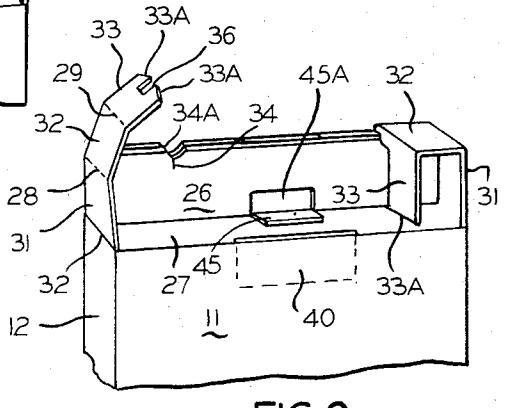


FIG.8

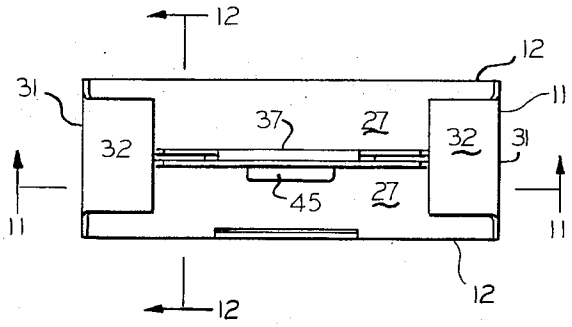


FIG.9

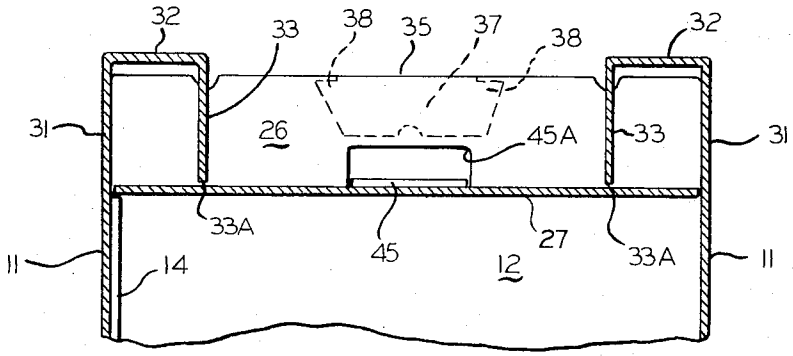


FIG.11

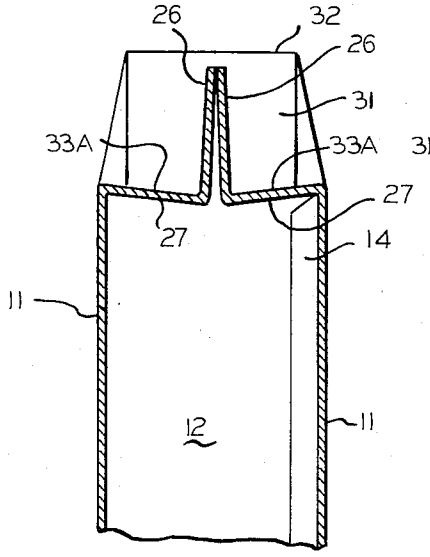


FIG.12

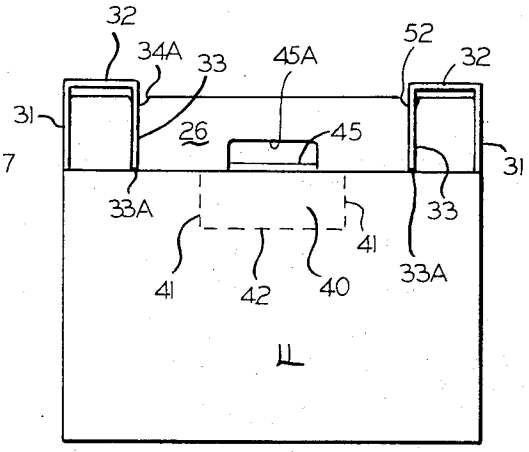


FIG.10

CONTAINER WITH LOAD CARRYING FEATURE

SUMMARY OF THE INVENTION

The invention relates to that form of shipping container which when loaded is in the shape of a parallelepiped, the opposed main and side flaps being then arranged in conventional overlapping relationship, and being capable of rearrangement whereby such opposed main and side closure flaps are enabled to support the load for easy transport thereof.

THE DRAWINGS

FIG. 1 is a perspective view of a container according to the present invention, the same being shown in its conventional shape and condition;

FIG. 2 is a perspective view of the container showing the same after having been opened and with the closure structure thereof rearranged and folded to define a load carrying structure.

FIG. 3 is a plan view of a cut and scored blank for forming the container of FIGS. 1 and 2;

FIG. 4 is a perspective view showing a portion of the container seen in FIG. 1 showing a step in the opening of same;

FIG. 5 is a view similar to FIG. 4 showing the opening of a front inspection panel preparatory to opening the container;

FIG. 6 is a perspective view showing the container of FIG. 1 fully opened and with the flaps thereof ready for rearrangement to provide for carrying of the loaded container;

FIG. 7 shows one of the steps of rearranging the closure flaps for carrying of the loaded container;

FIG. 8 is a perspective view showing a pair of main closure flaps with portions thereof in confronting relationship, one of the end flaps being shown in locking engagement with the confronting flap portions, and the other end flap being folded preparatory to such engagement;

FIG. 9 is a plan view of the carton of FIG. 1 in its rearranged condition for carrying of the load;

FIG. 10 is a front elevational view of the carton in the rearranged condition thereof;

FIG. 11 is a longitudinal sectional view taken along the line 11—11 of FIG. 9 looking in the direction of the arrows; and

FIG. 12 is a transverse sectional view taken along the line 12—12 of FIG. 9 looking in the direction of the arrows.

The improved container according to the present invention is seen in FIGS. 1 and 2 and is referred to by the reference numeral 10. It is formed from a cut and scored blank 10A seen in FIG. 3, comprising opposed main panels 11 and opposed side panels 12, panels 11 and 12 being foldably connected along fold lines 13. A glue flap 14 is connected by a fold line 16 to one of the main panels 11 and is glued to one of the side panels 12 to define a tube.

Closure panels 17 for one end of container 10 are foldably connected to main and side panels 11 and 12 along a common fold line 18, and are adapted to be folded into position to provide a closure for one end of the tube. The precise details of the bottom closure are no part of the present invention, but it may be noted that the flaps 17 are of the type to make what is known as a Houghland type of closure.

Each of the main panels 11 has a main closure flap 19 connected thereto along a fold line 22, and each of the side panels 12 has a side closure flap 21 connected thereto along common fold line 22. Main closure flaps 19 each have a score line 23 extending longitudinally thereof and parallel to score line 22. Each of the score lines 23 is spaced from the distal edges of the flaps 19 to provide a pair of closure flap portions 26 and 27. Closure flap portions 26 are folded with respect to the score lines 23 so as to be in facing relationship, while the closure flap portions 27 are folded with respect to the fold line 22 to lie generally in the plane defined by the correlative end of the tube.

Side closure flaps 21 are each provided with laterally spaced transversely extending score lines 28 and 29 to divide the end flaps 21 into a closure flap portion 31 arranged to flank the end of the closure flap portion 26 now disposed in facing relationship. An intermediate side closure flap portion 32 is arranged to be folded in overlying relationship with respect to the confronting panel portion 26 as seen more clearly in FIGS. 8, 10 and 11. A distal side closure flap portion 33 of the side flap 21 is arranged to be in locking relationship with the confronting main panel portions 26, 26. The distal portion 33 of the side closure flap 21 is provided with a slot 36 in the free end thereof, slot 36 cooperating with a slot 34 in the confronting panel portions 26, entrance to the slot 34 being achieved by a cut-out entrance portion 34A.

The distal portion 33 has surfaces 33A disposed on each side of the slot 36, the surfaces 33A converging toward each other and being in bearing contact with main panel portions 27, so that the load within the container 10 is transferred to such distal portion and in turn to the side panels 12.

One of the main panel closure flaps 19 has a locking tab 37 extending therefrom, and foldably connected to the confronting main panel portion 26 along a score line 35. Locking tab 37 has locking ears 38 extending along each side thereof, these being foldably connected to the locking tab 37 along fold lines 39. Locking tab 37 is for the purpose of locking the main closure panels 19 in position when the container is arranged as seen in FIGS. 1 and 4, locking tab 37 being insertable behind the main panel 11 and behind a rectangular flap 40 therein defined by spaced perforated lines 41 and a score line 42 as well as a cut line in the opposite main portion 27. The locking ears 38 extending from locking tab 37 are engageable with the fold line 22 of the tube.

When container 10 is opened as seen in FIGS. 4 and 5, and the confronting main panel portions 26 are arranged as seen in FIGS. 7, 8 and 10, locking tab 37 is folded between the two confronting main panel portions 26.

Structure is provided for locking the two confronting main panel portions 26 together, and one of the main panel portions 27 is provided with a locking tab 45 defined by cut lines 44 in one of the confronting main panel portions 26, tab 45 cooperating with a cut-out portion 45A in the other confronting main panel portion 26, tab 45 extending through opening 45A as seen more clearly in FIG. 8.

As seen particularly in FIGS. 2, 8 and 10, the arrangement of the distal side panel portions 33 and the provision of the surfaces 33A at the distal end thereof is such as to depress slightly the main panel portions 27. Upon lifting of the container 10 at the lift opening 45A,

the bearing contact between the surfaces **33A** and the main panel portions **27** causes the load of the container to be transferred through the confronting panel portions **26** and the side flaps **21,** the load in turn being transferred to the side panels **12.**

I claim:

1. A shipping container adapted after opening to have closure elements thereof arranged and folded to define a load distributing structure for carrying the loaded container, said container being formed from a cut and scored blank of paperboard or the like, and comprising:

a. opposed pairs of main and side panels foldably connected to define a tube;

b. closure elements foldably connected to one end of said tube and adapted to be folded into position to provide a closure for one end of said tube;

opposed main and side closure flaps foldably connected to the other end of said main and side panels and adapted to be folded into overlapping position to define a closure for the correlative end of said tube;

d. said main closure flaps each having a score line parallel to and spaced from the distal edges thereof to provide a pair of closure flap portions arranged in facing relationship and a second pair of closure flap portions lying generally in the plane defined by the correlative end of said tube, and thereby modifying the arrangement of said main closure flaps so that the loaded container may be carried after opening;

e. said side closure flaps each having spaced score lines therein to provide:

i. a vertical side closure flap portion extending above the end wall and hingedly attached thereto flanking the ends of the main closure flap portions in facing relationship;

ii. an intermediate side closure flap portion overlying the main flap portions in facing relationship and in bearing contact therewith;

iii. a distal side closure flap portion in locking engagement with said main flap portions in facing relationship.

2. A shipping container according to claim **1** wherein said distal side closure flap portions are in bearing relationship with the second closure flap portions of said main closure flaps.

3. A shipping container according to claim **1** wherein one of said main closure flaps has a locking tab extending therefrom adapted to be in locking arrangement with the other main closure panel and its correlative main panel.

4. A shipping container according to claim **1** wherein said facing flap portions and said distal side flap portions are provided with cooperating locking slots.

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