Feb. 7, 1967 D. T. MARTIN 3,302,857

EASY OPENING CONTAINER

Filed July 8, 1965

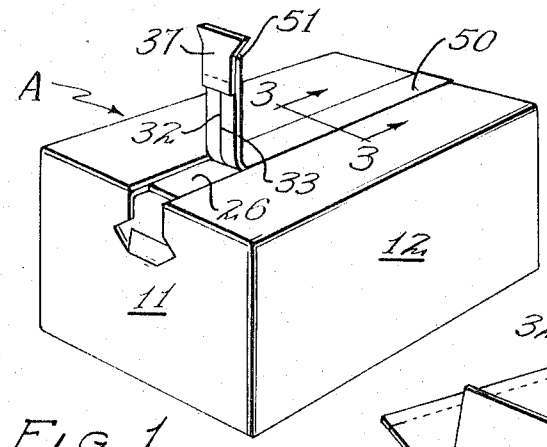


FIG. 1

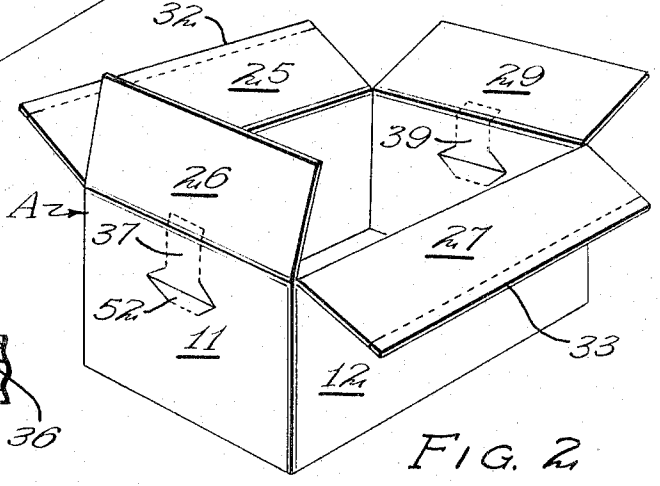


FIG. 2

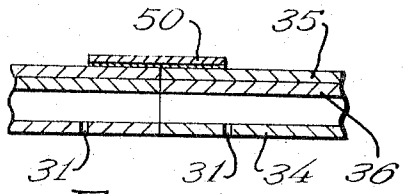


FIG. 3

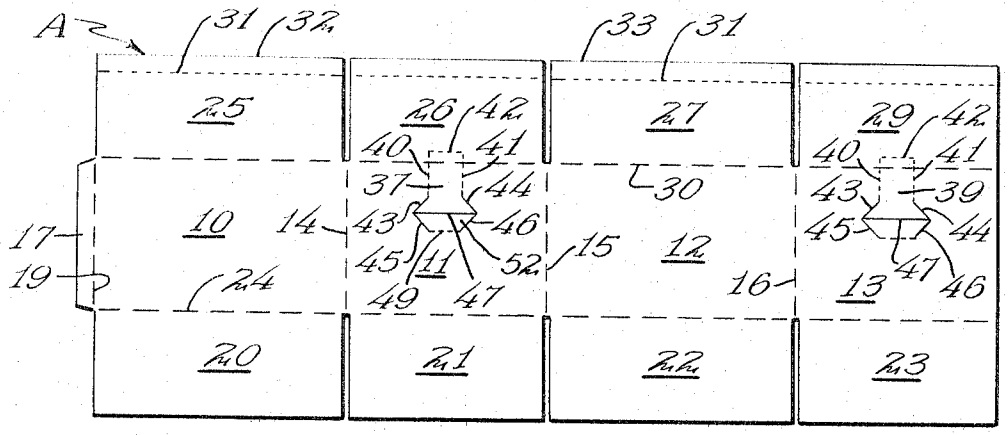


FIG. 4

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EASY OPENING CONTAINER

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This invention relates to an improvement in easy opening container and deals particularly with a simple and effective means of opening a container which has been taped shut.

Corrugated paperboard containers are commonly used as shipping containers for goods delivered to supermarkets and the like. Considerable damage to the product is experienced when such containers are opened with a knife. If the containers are securely closed, and there is no simple means of opening the containers, knives are often used to cut off the top of the container. If the container contains cartons and the knife goes through the corrugated board, the packages are often damaged. This is not of great concern to the usual supermarket as the damaged packages are returned to the source of supply for replacement. However, the damage is of great concern to the supplier as the goods must either be removed and repacked or else discarded entirely. Thus a simple means of opening containers is of great interest to such suppliers.

An object of the present invention resides in providing a simple and effective means of opening a container which has been taped closed. Usually such containers are opened by slitting the tape between the top closure flaps with a knife. However, it has been found that if the area of the container to which the tape is adhered is removable, the containers may be easily opened.

Containers which are taped closed are usually provided with a strip of tape which overlies the ends of the flaps hinged to the wider panels of the container, and the ends of the tape are folded down and adhered to the center portions of the end walls of the container. By providing weakened lines of separation in the areas of the end walls to which the tape is secured, and weakened lines of separation extending across the end portions of the closure flaps to which the tape is adhered, the portions of the container to which the tape is attached may be completely separated to open the container.

In U.S. Patent 2,706,076 issued April 12, 1955, to Reynolds Guyer, a tear strip is shown extending transversely of the corrugations of the board. The inner liner of the board is slit before being attached to the corrugated medium and the area between two such weakened lines may be grasped and a strip of the corrugated may be removed. Such weakened lines add no expense to the corrugated board other than the time to set up the slitting rollers on the corrugating machine. By providing a single weakened line of separation of this type, or by providing a perforated line extending across the flaps of the wider wall panels spaced from, and parallel to, the ends of these flaps, the end extremities of the flaps may be torn away during the opening of the container.

A further feature of the present invention resides in the provision of a container having removable areas in the end walls of the container to which the ends of the strip of tape are attached. A cut line or series of cut lines near the end of this area may define a tab which may be grasped by the fingers. By pulling outwardly on the area encircled by weakened lines, this area is removed. A continued pull acts through the tape to remove the end portions of the main flaps. A continued pull may serve to remove the detachable area in the second end wall. At this point the container is completely open.

These and other objects and novel features of the present invention will be more clearly and fully set forth in the following specification and claims.

In the drawings forming a part of the specification,

FIGURE 1 is a perspective view of the container after the opening process has begun.

FIGURE 2 is a perspective view of the container prior to the filling and closing operation.

FIGURE 3 is an enlarged sectional view through the main top closure flaps of the container, the position of the section being indicated by the lines 3—3 of FIGURE 1.

FIGURE 4 is a diagrammatic view of the blank from which the container is formed.

As is noted in FIGURE 4 of the drawings, the container A includes a side wall panel 10, an end wall panel 11, a side wall panel 12, and an end wall panel 13 which are connected along parallel fold lines 14, 15, and 16. A stitch flap or glue flap 17 is connected to an edge of the blank by a fold line 19. The flap 17 is shown connected to an edge of the side wall panel 10 and is designed to be stitched or glued in overlapping relation with an edge of the end wall 13.

Bottom closure flaps 20, 21, 22, and 23 are foldably connected to the lower edges of the panels 10, 11, 12 and 13 along a fold line 24. Top closure flaps 25, 26, 27 and 29 are foldably connected to the upper edges of the panels 10, 11, 12, and 13 along a fold line 30. A weakened line of separation 31 is provided in spaced relation to the end edges 32 and 33 of the side wall closure flaps 25 and 27, the distance between the weakened lines 31 and the end edges of the flaps being at least equal to one half the width of the tape which will be used to close the container. The weakened lines 31 may extend also across the end wall closure flaps 26 and 29 if the weakened line is formed as a part of the corrugating operation. In the particular form illustrated, the corrugated board includes an inner liner 34, an outer liner 35, and a corrugated medium 36 between the liners, and the weakened lines are formed by slitting the inner liner 34. However, the weakened lines may be formed by perforating the corrugated board if this is desired.

The container end walls 11 and 13 are provided with removable areas 39 which will underlie the tape when the tape is applied thereto. A pair of perforated lines 40 and 41 are provided at generally right angular relation to the fold line 30 and intersect this fold line to extend slightly into the closure flaps 26 and 29. The upper ends of the perforated lines 40 and 41 are connected by a transverse weakened line 42. V-shaped cut lines including outwardly diverging portions 43 and 44 and inwardly converging cut lines 45 and 46 are provided in the end walls 11 and 13 with the diverging cut lines 43 and 44 communicating with the lower ends of the weakened lines 40 and 41. Transverse cut lines 47 extend between the V-shaped cut lines extending from the juncture of the cut lines 43 and 45 to the juncture of the cut lines 44 and 46. A fold line 49 extends between the lower ends of the V-shaped cut lines described.

The area defined by the cut lines 45, 46, 47, and the fold line 49 thus forms a trapezoidal tab or flap which may be forced inwardly slightly to permit the insertion of the fingers inwardly of the removable area of the end walls above the cut line 47.

After the container A has been filled, the end wall closure flaps 26 and 29 are folded down into a common plane, and the side wall closure flaps 25 and 27 are folded to overlie the flaps 26 and 29. A strip of tape 50 is then applied over the abutting edges of the flaps 25 and 27, the ends such as 51 of the tape extending down over the end walls 11 and 13 and adhered to the removable

areas **37** and **39** of these end walls. The container and contents are shipped to its destination in this form.

When it is desired to open the container, the trapezoidal flap **52** of one end wall is pressed inwardly and the lower end of the removable area **37** or **39** is grasped. By pulling outwardly, the removable area is removed together with the end portion **51** of the tape strip which is attached thereto. By pulling the tape upwardly as indicated in FIGURE 1 of the drawings, the end portions of the closure flaps **25** and **27** are detached along the weakened lines **31**, freeing these flaps. By continuing the pull, the removable area of the other end wall may also be removed.

In accordance with the patent statutes, I have described the principles of construction and operation of my improvement in easy opening containers; while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that obvious changes may be made within the scope of the following claims without departing from the spirit of my invention.

What is claimed is:

1. An easy opening container including:
rectangularly arranged side and end walls,
side and end wall closure flaps hingedly connected to said side and end walls,
weakened lines of separation extending across said side wall closure flaps parallel to the ends thereof,
said side wall closure flaps substantially meeting in end abutting relation in closed position of the container,
detachable areas in said end walls substantially aligned with the portions of said side wall closure flaps between said weakened lines, and
a strip of tape adhered to the portions of said side wall closure flaps between said weakened lines, the ends of said tape being adhered to said end walls only within said detachable areas.

2. The structure of claim **1** and including a cut line through each said end wall at the lower end of said detachable area.

3. The structure of claim **1** and including a foldable flap in at least one end wall below said detachable area.

4. An easy opening container including:

rectangularly arranged side and end walls,
side and end wall closure flaps hingedly connected to said side and end walls,
weakened lines of separation extending across said side wall closure flaps parallel to the ends thereof,
said side wall closure flaps substantially meeting in end abutting relation in closed position of the container,
a detachable area in one of said end walls substantially aligned with the portions of said side wall closure flaps between said weakened lines, and
a strip of tape adhered to the portions of said side wall closure flaps between said weakened lines,
one end of said tape strip being adhered to said one end wall only within said weakened area.

5. An easy opening container including:
rectangularly arranged side and end walls,
side and end wall closure flaps hingedly connected to said side and end walls,
weakened lines of separation extending across said side wall closure flaps parallel to the ends thereof,
a detachable area in one said end wall substantially aligned with the portions of said side wall closure flaps between said weakened lines,
said side wall closure flaps substantially meeting in end abutting relation in closed position of the container, and
a strip of tape connecting the abutting ends of the side wall closure flaps between said weakened lines,
at least one end of said strip of tape adhered to one end wall within said detachable area.

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