July 16, 1963 B. J. SCHAUS 3,097,784

EASY OPENING CARTON

Filed Feb. 9, 1959 3 Sheets-Sheet 1

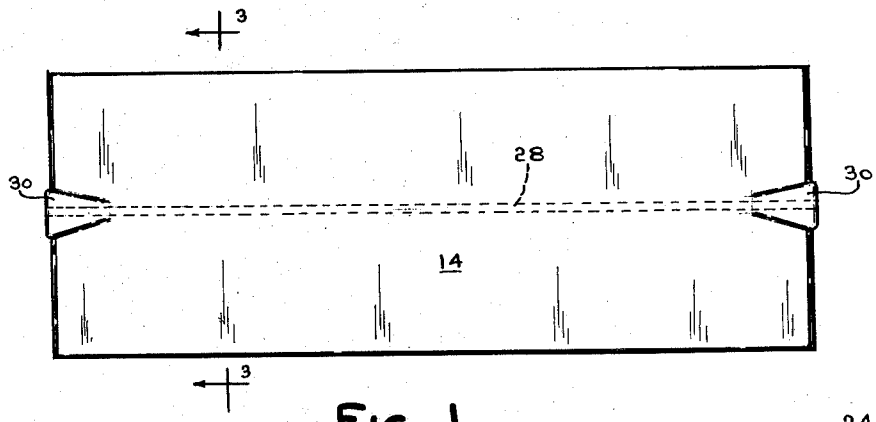


FIG. 1

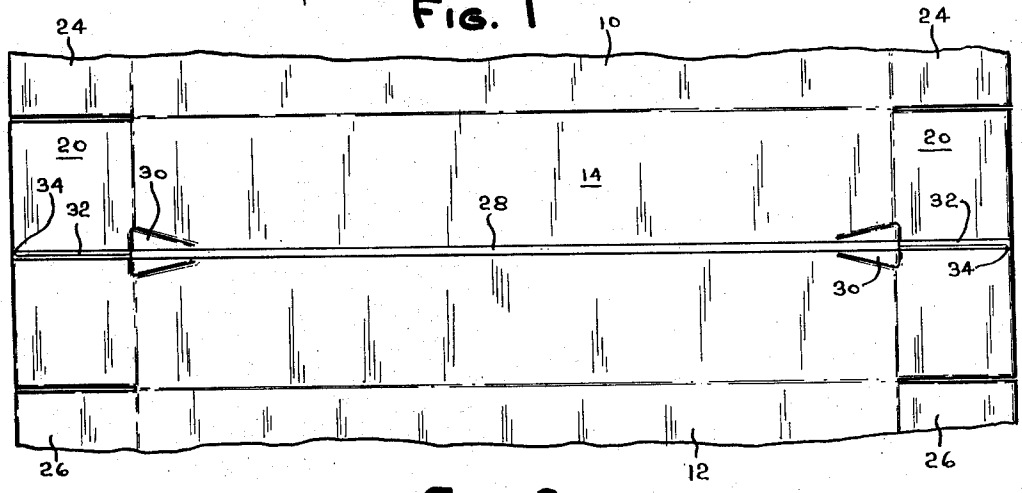


FIG. 2

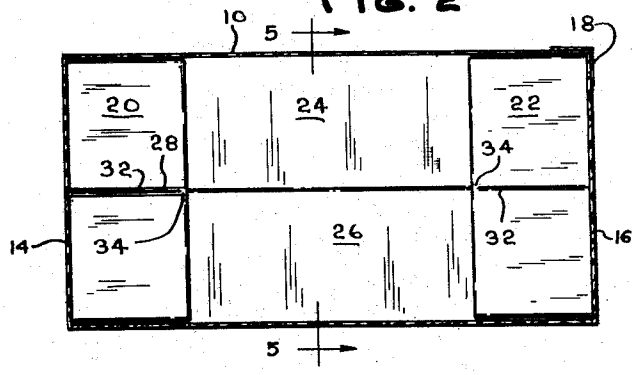


FIG. 3

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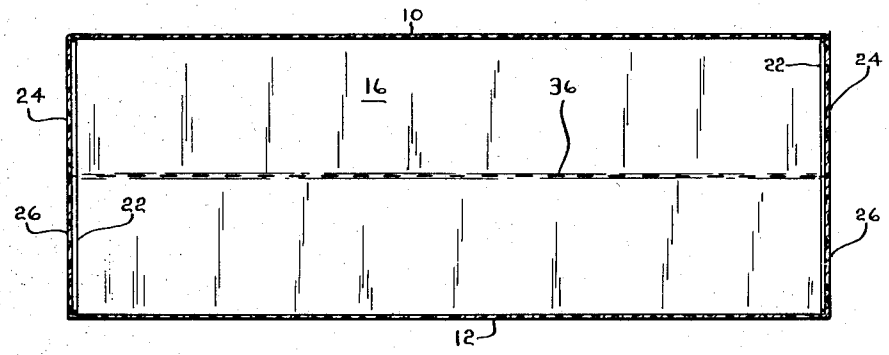


FIG. 5

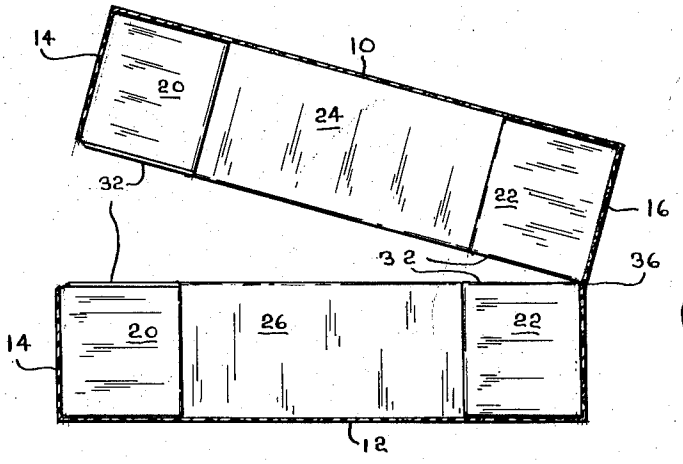


FIG. 4

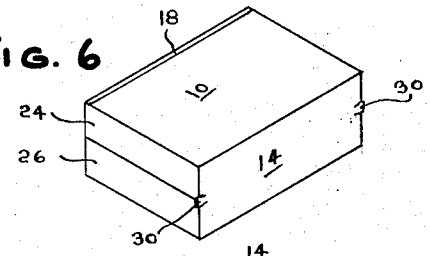


FIG. 6

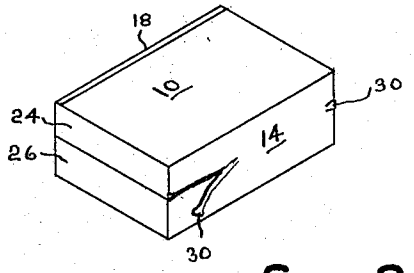


FIG. 7

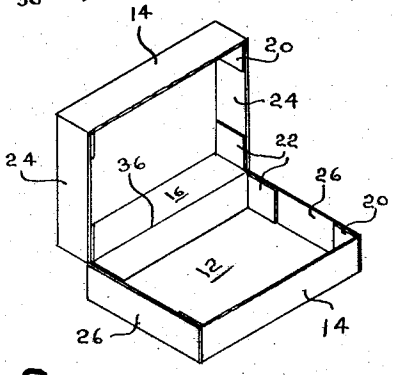


FIG. 8

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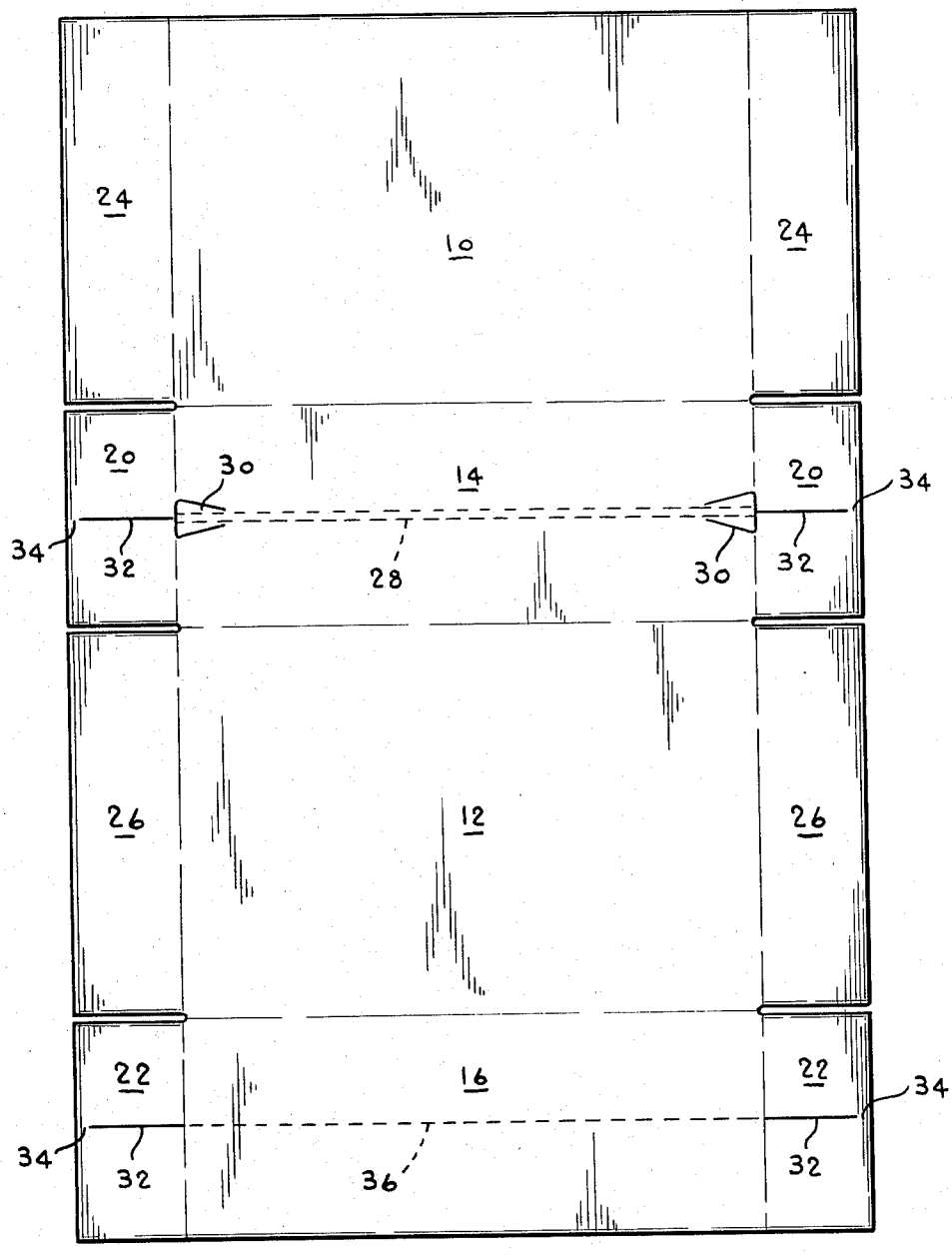


FIG. 9

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United States Patent Office 3,097,784 Patented July 16, 1963

3,097,784

EASY OPENING CARTON

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Filed Feb. 9, 1959, Ser. No. 792,215
6 Claims. (Cl. 229—51)

This invention relates to cartons and particularly to an improved carton construction which may be quickly and easily opened for removal of the contents.

The carton construction of this invention, while suitable for packaging a variety of different products, is particularly well adapted for packaging canned beer. Prior cartons have employed a taped joint in the middle of one side which serves as a means for opening the carton. The weakened side in which the taped joint is made provides a problem when used with automatic loading machinery. There has developed a need, therefore, for a carton which is rigid across all sides thereof and yet can be quickly and easily opened. Furthermore, it has become highly desirable with respect to the salability of the carton contents that not only can the carton be readily opened by the householder without tools of any kind but in addition when opened the contents can be removed easily with a minimum of effort.

It is the object of this invention, therefore, to provide a carton having the above characteristics which can be manufactured at little or no additional cost over that of prior constructions.

The carton is made from a blank of corrugated cardboard which is folded to form a top, bottom and two sides open at both ends with a corner joint to provide the structural rigidity necessary for use with automatic loading machinery. The top, bottom and sides each have a pair of flaps which are folded and glued to close the carton after it has been filled.

The means for opening the carton includes a length of nylon tape adhered to the inside surface of one side which when pulled will neatly cut the side open from end to end. This tearing operation by itself, however, does not afford easy access to the contents so I provide further means for quickly and easily opening up the carton like a suitcase after the side has been torn.

This is accomplished by die-cutting the side flaps along lines which extend substantially parallel to the top and bottom and which intersect the tear tape on the side. Preferably the die-cutting extends to a point just short of the edges of each side flap to facilitate bending and gluing the flaps during assembly of the carton. The top and bottom flaps are made so that they abut each other along the same line on which the side flaps are cut so that after tearing the side by pulling on the nylon tape the entire carton can be opened up like a suitcase by simply pulling up on the upper half. The side opposite that on which the tape is adhered may be serrated along a line which intersects the cut lines in the side flaps to facilitate swinging the upper portion of the carton to the open position.

Other objects and advantages will be pointed out in, or be apparent from the specification and claims, as will obvious modifications of the single embodiment shown in the drawings, in which:

FIG. 1 is a view in side elevation of a carton embodying the present invention;

FIG. 2 is a fragmentary view of the inside of an unfolded carton;

FIG. 3 is a vertical sectional view taken along line 3—3 of FIG. 1;

FIG. 4 is a view similar to FIG. 3 but showing how the carton opens for removal of the contents;

FIG. 5 is a vertical sectional view taken along line 5—5 of FIG. 3;

FIGS. 6, 7 and 8 are perspective views showing the carton before, during and after opening, respectively; and

FIG. 9 is a plan view of the carton blank in unfolded position.

The carton blank (FIG. 9) is manufactured in the usual fashion from a suitable material such as corrugated cardboard by first printing it as desired and then sending it through a cutting and scoring press. The completed blank is then folded to form a carton having a top **10**, a bottom **12** and side walls **14** and **16** with top **10** joined to side **16** by a strip of tape **18** at the corner joint. This construction results in a carton with top, bottom and sides connected together along their longitudinal edges and being rigid across their entire face and thereby well adapted for use with automatic loading machinery.

Sides **14** and **16** each have a pair of side flaps **20** and **22**, respectively, connected along the transverse edges thereof, and top **10** and bottom **12** each have a pair of top and bottom flaps **24** and **26**, respectively, connected along the transverse edges thereof. The carton is filled with canned beer by an automatic loading machine through one open end thereof. Side flaps **20** and **22** and top and bottom flaps **24** and **26** are then folded in that order to close the ends of the carton. Top and bottom flaps **24** and **26** are glued or otherwise secured to the side flaps to complete the carton. The edges of the top and bottom flaps abut each other to completely enclose the carton ends.

The means for opening the carton includes a length of nylon tape **28** adhered to the inside surface of side **14**. Tape **28** may be applied to the carton material in a continuous operation and when so applied will extend across side flaps **20**, **20** as shown in FIG. 2. The ends of tape **28** are made accessible for tearing side **14** from outside the carton by tabs **30** cut and bent from the side as shown in FIGS. 1 and 2. Thus, by gripping one tab and pulling on it side **14** will be neatly cut from one end to the other (FIG. 7). This tearing operation by itself, however, does not afford access to the contents of the carton. Additional means must be provided to enable a person to further open the carton for removal of the contents.

To this end I have designed an end flap construction which, in cooperation with the tear tape, provides means for quickly and easily opening up the carton like a suitcase, as shown in FIG. 8. This is accomplished by die-cutting side flaps **20** and **22** as at **32** along lines which are substantially parallel to the top and bottom and which intersect tear tape **28** on side **14**. Cuts **32** preferably extend to a point just short of the edges of the side flaps to leave a small connecting portion **34** between the upper and lower portions thereof to facilitate bending and gluing the flaps. Top and bottom flaps **24** and **26** are made so that they abut each other along the same line on which cuts **32** in the side flaps are made. Thus, after tearing side **14** by pulling a tab **30**, the entire carton is opened up like a suitcase by simply pulling up on the upper half of side **14** to break connecting portions **34**.

Side **16** is serrated as at **36** (FIG. 5) along a line which intersects the cut lines in the side flaps to facilitate swinging the upper portion of the carton to the position shown in FIG. 8. The cans of beer (or other contents) are thus fully exposed for easy removal. If only part of the contents is removed the carton retains its original shape when closed for easy storage. The cuts **32** and serration **36** do not weaken the carton structurally making it suitable for use with automatic loading machinery.

Cuts **32** and serration **36** can be made and tape **28** applied by the automatic machinery used to print, cut and fold the carton with little modification thereto and without any additional handling required in the way of additional passes through the machinery.

While a pair of pull tabs **30** and a nylon tape **28** are

used in the disclosed embodiment it should be understood that only one end of the tear tape need be made accessible and that tape, string or other materials may be used. Furthermore, it is noted that the tear tape arrangement and cooperating end flap construction disclosed herein may be employed to open the carton across the top, bottom or either side thereof.

The foregoing and various other modifications will be recognized by those skilled in the art. Accordingly, it is to be understood that the embodiment described and illustrated herein is merely illustrative of my invention which is limited only by the scope of the appended claims.

I claim:

1. A carton comprising, a top, one side, a bottom and another side connected along their longitudinal edges, said top, bottom and sides being unitary across their entire surface, said top having a pair of top flaps connected along the transverse edges thereof, said bottom having a pair of bottom flaps connected along the transverse edges thereof, each of said sides having a pair of side flaps connected along the transverse edges thereof, said top, bottom and side flaps folded to close the ends of said carton, said side flaps folded to lie inside said top and bottom flaps and in overlapping relationship therewith, said top and bottom flaps adhered to said side flaps and having their edges abutting each other, said side flaps being cut along lines which extend between the abutting edges of said top and bottom flaps, said cuts in said side flaps extending to points just short of the edges of said side flaps to leave a small connecting portion between the portions thereof to facilitate bending and gluing the flaps, and a thin strip of strong material adhered to the inside of one of said sides and extending along a line which intersects said cuts in said side flaps, one end of said strip made accessible from outside the carton by a tab to which the end of said strip is adhered, said side opposite to that to which said strip is adhered being serrated along a line which extends parallel to said strip and intersects the lines along which said side flaps are cut, said carton being filled through one end thereof prior to bending and gluing the flaps at said one end thereof.

2. A carton comprising a top, one side, a bottom and another side connected along their longitudinal edges, said top, bottom and sides being unitary across their entire surface, said top having a pair of top flaps connected along the transverse edges thereof, said bottom having a pair of bottom flaps connected along the transverse edges thereof, each of said sides having a pair of side flaps connected along the transverse edges thereof, said top, bottom and side flaps folded to close the ends of said carton, said side flaps folded to lie inside said top and bottom flaps and in overlapping relationship therewith, said top and bottom flaps adhered to said side flaps, said side flaps being cut along lines which extend between the edges of said top and bottom flaps, said cuts in said side flaps leaving a small connecting portion between the portions thereof to facilitate bending and gluing the flaps, and a thin strip of strong material adhered to the inside of one of said sides and extending along a line which intersects said cuts in said side flaps, one end of said strip made accessible from outside the carton by a tab to which the end of said strip is adhered, said side opposite to that to which said strip is adhered being weakened along a line which extends parallel to said strip and intersects the lines along which said side flaps are cut, said carton being filled through one end thereof prior to bending and gluing the flaps at said one end thereof.

3. A carton comprising a top, one side, a bottom, and another side connected along their longitudinal edges, said top, bottom and sides being unitary across their entire surface, said top having a pair of top flaps connected along the transverse edges thereof, said bottom having a pair of bottom flaps connected along the transverse edges thereof, each of said sides having a pair of side flaps connected along the transverse edges thereof, said top, bottom and side flaps folded to close the ends of said carton, said side flaps folded to lie inside said top and bottom flaps and in overlapping relationship therewith, said top and bottom flaps adhered to said side flaps, said side flaps having their edges abutting each other, said side flaps being cut along lines which extend between the abutting edges of said top and bottom flaps, said cuts in said side flaps extending to points just short of the edges of said side flaps to leave a small connecting portion between the portions thereof to facilitate bending and gluing the flaps, and a thin strip of strong material adhered to the inside of one of said sides and extending between the transverse edges thereof, said strip extending along a line which intersects said cuts in said side flaps, one end of said strip being made accessible from outside the carton by a tab to which the end of said strip is adhered, said carton being filled through one end thereof prior to bending and gluing the flaps at said one end thereof.

4. A paper board container having top, bottom and side portions defined by longitudinal and transverse score lines, said portions having separate end flaps, one said portion having severing means to sever it longitudinally including a tear tab formed at a transverse score line and tear means extending from said tear tab longitudinally substantially to an opposite said transverse score line, the end flaps of said portion having lines of weakness extending substantially from said severing means, the end flaps of the adjacent portions being secured to said end flaps on opposite sides of said lines of weakness, said end flaps being severable under light force to open said container when said portion is severed, said tear tab intersecting a said transverse score line and a said line of weakness.

5. A paper board container having top, bottom and side portions defined by longitudinal and transverse score lines, said portions having separate end flaps, one said portion having severing means to sever it longitudinally including a tear tab formed at a transverse score line and tear means extending from said tear tab longitudinally substantially to an opposite said transverse score line, the end flaps of said portion having lines of weakness extending substantially from said severing means, the end flaps of the adjacent portions being secured to said end flaps on opposite sides of said lines of weakness, said severing means being disposed along a side portion and the opposite side portion having a longitudinal fold score extending between transverse score lines and its end flaps having lines of weakness extending substantially from said longitudinal fold score, the said end flaps of the adjacent portions also being secured to said last mentioned flaps on opposite sides of their said lines of weakness, said end flaps having said lines of weakness being severable under light force to open said container and said longitudinal fold score providing a hinge when said side portion is severed.

6. A carton comprising a top, one side, a bottom, and another side connected along their longitudinal edges, said top, bottom and sides being unitary across their entire surface, said top having a pair of top flaps connected along the transverse edges thereof, said bottom having a pair of bottom flaps connected along the transverse edges thereof, each of said sides having a pair of side flaps connected along the transverse edges thereof, said top, bottom and side flaps folded to close the ends of said carton, said side flaps folded to lie inside the top and bottom flaps and in overlapping relationship therewith, said top and bottom flaps adhered to said side flaps, said side flaps having lines of weakness which extend between the edges of said top and bottom flaps, a pair of pull tabs cut from one of said sides at opposite ends thereof, said lines of weakness on the side flaps of said one side intersecting said pull tabs, and a thin strip of strong material adhered to the inside of said one side and extending from underneath one of said pull tabs to underneath the other of said pull tabs, said carton being filled through one end thereof prior to bending and gluing the flaps at said one end thereof.

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