July 23, 1957 K. T. BUTTERY 2,800,250

COLLAPSIBLE CARTONS

Filed Oct. 5, 1953 2 Sheets-Sheet 1

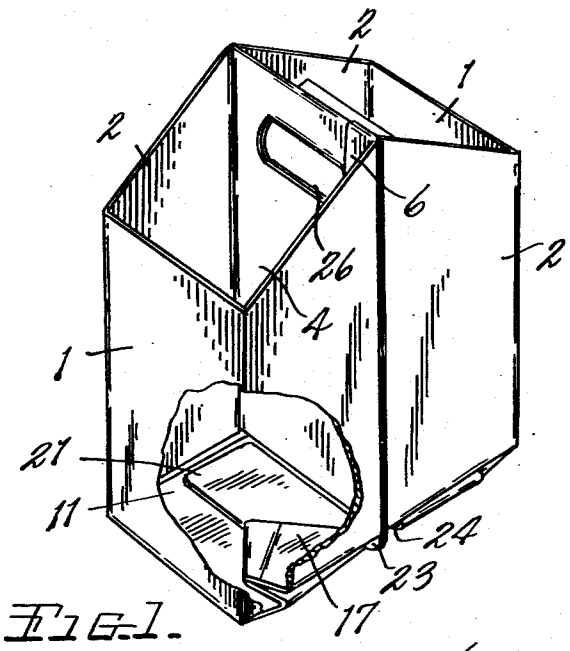


FIG. 1.

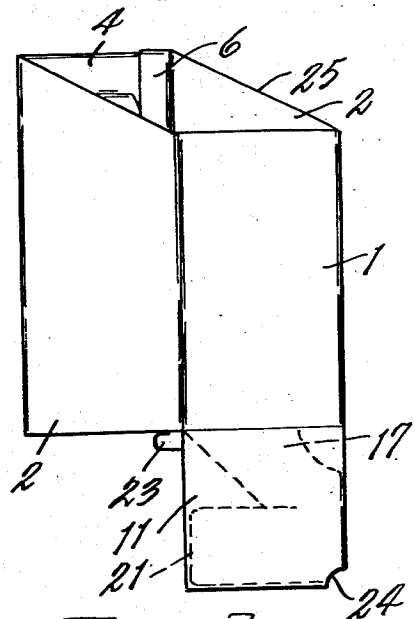


FIG. 2.

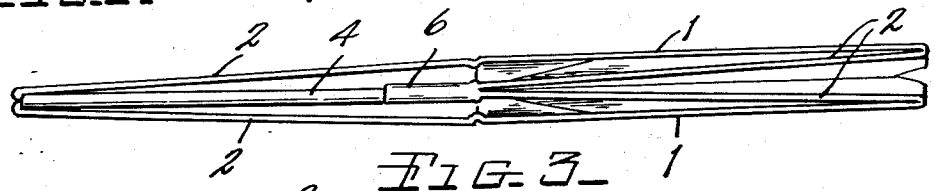


FIG. 3.

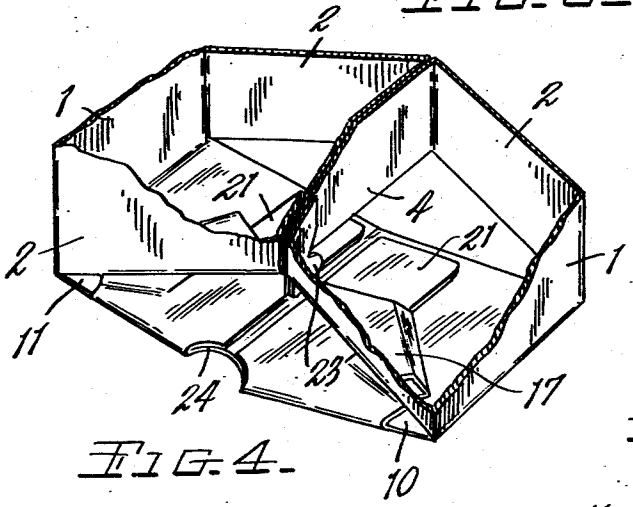


FIG. 4.

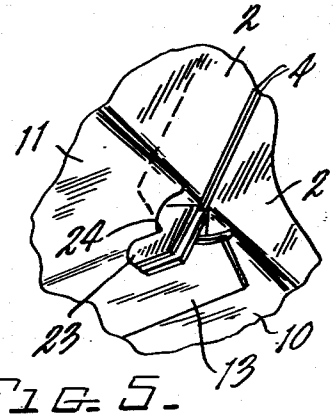


FIG. 5.

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July 23, 1957 K. T. BUTTERY 2,800,250

COLLAPSIBLE CARTONS

Filed Oct. 5, 1953 2 Sheets-Sheet 2

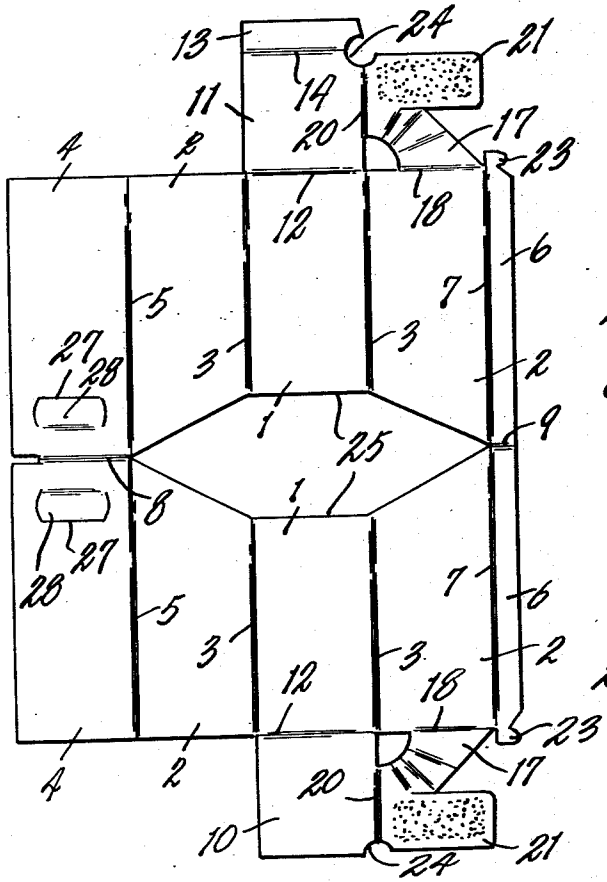


FIG. 6.

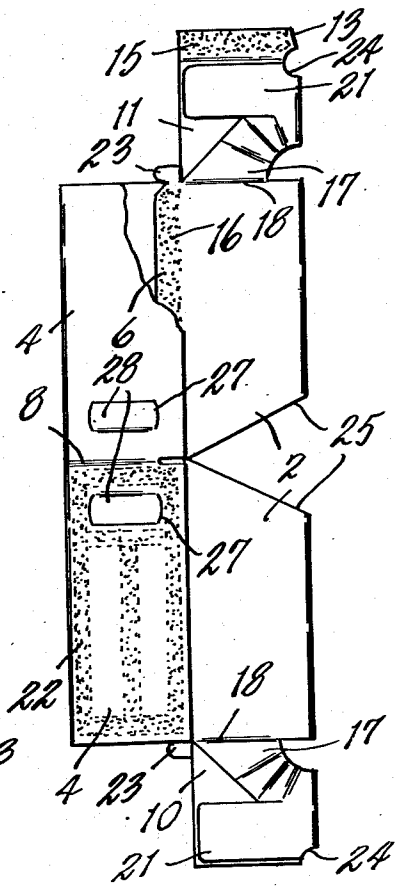


FIG. 7.

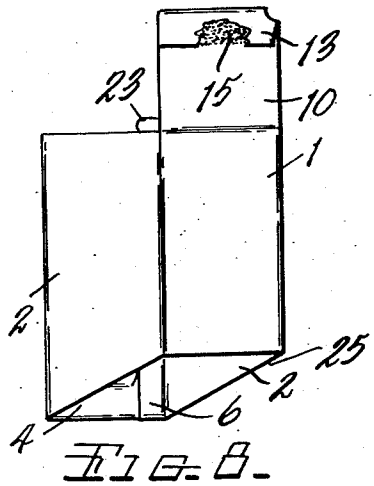


FIG. 8.

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COLLAPSIBLE CARTONS

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3 Claims. (Cl. 220—113)

This invention relates to collapsible cartons, particularly cartons adapted as carriers.

The main objects of this invention are:

First, to provide a collapsible handled carton which may be formed of relatively light paperboard stock and at the same time is capable of carrying loads of considerable weight.

Second, to provide a collapsible carton which may be very economically produced both in the matter of material and in manufacturing to produce a carton in the flat or knockdown, which may be quickly set up for use.

Further objects, and objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a perspective view of a carton embodying the invention with portions of the wall of one compartment broken away to show structural details.

Fig. 2 is a plan view of the collapsed carton, certain concealed parts being shown by dotted lines.

Fig. 3 is a top end view of the carton in collapsed form.

Fig. 4 is a fragmentary perspective view illustrating the relation of the parts at one stage in the erection of the carton.

Fig. 5 is a fragmentary bottom perspective view.

Fig. 6 is a plan view of the blank with adhesive indicated on parts thereof.

Fig. 7 is a fragmentary plan view illustrating the first folding step and certain of the parts with adhesive thereon.

Fig. 8 is a fragmentary plan view of the folded blank illustrating the final step.

The embodiment of my invention illustrated is a carrier carton for carrying bottles, cans and the like and has two compartments. An important advantage of my invention is that the carton may be formed integrally of paperboard cut and scored and produced in collapsed form by simple gluing and folding operations readily performed by machines. The structure comprises two complementary units, each unit comprising an end wall **1**, side walls **2** hingedly connected to the end wall as by the scores **3**, a partition member **4** is hingedly secured at **5** to the inner edge of one of the side walls, and a sealing flap **6** hingedly secured at **7** to the inner edge of the other side wall. The partition members of the units are hingedly connected to each other at **8** while the sealing flaps **6** of the units are hingedly connected to each other at **9**. These connections **8** and **9** form the sole connections for the units in the extended blank. Complementary bottom members **10** and **11** are hingedly secured to the bottom edges of the end walls at **12**. The bottom member **11** is provided with a sealing flap **13** hingedly secured thereto at **14**. Adhesive is indicated at **15**.

The sealing flaps **6** are lapped upon and adhesively secured to the corresponding partition members **4**, the

adhesive being indicated at **16**. The diagonally foldable bottom flaps **17** are hingedly connected at **18** to the bottom edges of corresponding side walls and hingedly connected at **20** to the adjacent edges of the bottom members. These bottom flaps have tabs **21** which are folded upon and adhesively secured to the inner sides of the bottom members. The partition members are folded upon each other in back to back relation and adhesively secured, preferably from top to bottom thereof, by adhesive indicated at **22**.

The sealing flaps **6** are provided with downwardly projecting bottom engaging lugs **23** which engage the edges of the recesses **24** when the carton is fully erected. These recesses or cut away portions permit the engagement of the lugs with the walls fully erected. The bottom flaps facilitate the swinging of the bottom to erected position and the engagement of the lugs **23** with the bottom as is best illustrated in Fig. 5.

The carton, folded and glued in the flat as shown in Fig. 3 may be erected by pressure on the opposite edges of the folded structure, while allowing the walls to swing outwardly. When in fully erected position the lugs **23** are engaged with the bottom and these lugs and the bottom flaps effectively hold the parts in erected position.

The first step in forming the collapsed carton is to apply adhesive at **15**, **16** and **21**. The side walls having sealing flaps are then folded upon the end walls and the tabs **21** are folded upon the inner sides of the bottom members. The partition members are then folded on their hinging connections to the adjacent side walls and adhered to the glue flaps **6**. The units are then folded upon their hinged fold connections **8** and **9** so that they are secured together by the adhesive **22** applied to the rear side of one of them. The bottom flap **13** is then adhered, which results in the collapsed structure shown in Fig. 3.

The upper edges **25** of the walls **1** and **2** are preferably substantially separated in the blank as shown so that when the carton is erected the partition projects above the walls facilitating grasping of the hand hold **26**, which is formed by the slits **27**. The slits result in tongues **28** which may be swung to one side to open the slots **26** and form a better gripping edge. The handled partition member is relatively stiff. The bottom is reinforced and supported by the bottom flaps and the bottom supporting lugs. The structure is strong and quite rigid even when formed of relatively light stock.

I have illustrated and described my invention in a practical commercial form. While the cartons are especially desirable as carrier cartons, they are also desirable for general use as collapsible packaging cartons, in which case the side and end walls would ordinarily not be cut away in their upper edges as shown at **25** in Fig. 6.

I have not illustrated or described such modifications as it is believed that this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

Having thus described the invention, what is claimed as new and is desired to be secured by Letters Patent is:

1. A collapsible two-compartment carton formed of an integral blank and comprising, a pair of end walls aligned in the blank, a side wall hingedly connected to each side edge of the end walls, said side walls being disposed in the blank in aligned pairs, partition members aligned in the blank and hingedly connected to the vertical edges of one aligned pair of said side walls and foldably connected to each other at their upper ends, side wall attaching flaps aligned in the blank and hingedly connected to the vertical edges of the other aligned pair of side walls and foldably connected to each other at their upper ends, said partition members being folded on their said foldable connection and fixedly secured together

in back-to-back relation, said side wall attaching flaps being fixedly secured to said partition members, and a bottom unit comprising complementary bottom members hingedly connected to the bottom edges of the end walls, one bottom member having an attaching flap hingedly connected to its swinging end and fixedly connected to the swinging end of the other bottom member, and diagonally foldable bottom flaps hingedly connected to the bottom edges of one aligned pair of side walls and to the adjacent edges of adjacent bottom members, said bottom flaps having tab portions lapped upon and fixedly secured to the inner sides of the bottom members to which said bottom flaps are hingedly connected, said side wall attaching flaps having inwardly facing lugs on their lower ends supportingly engaging said bottom unit when the carton is erected.

2. A collapsible two-compartment carton formed of an integral blank and comprising, a pair of end walls aligned in the blank, a side wall hingedly connected to each side edge of the end walls, said side walls being disposed in the blank in aligned pairs, partition members aligned in the blank and hingedly connected to the vertical edges of one aligned pair of said side walls and foldably connected to each other at their upper ends, side wall attaching flaps aligned in the blank and hingedly connected to the vertical edges of the other aligned pair of side walls and foldably connected to each other at their upper ends, said partition members being folded on their said foldable connection and fixedly secured together in back-to-back relation, said side wall attaching flaps being fixedly secured to said partition members, and a bottom unit comprising complementary bottom members hingedly connected to the bottom edges of the end walls, one bottom member having an attaching flap hingedly connected to its swinging end and fixedly connected to the swinging end of the other bottom member, and diagonally foldable bottom flaps hingedly connected

to the bottom edges of one aligned pair of side walls and to the adjacent edges of adjacent bottom members, said bottom flaps having tab portions lapped upon and fixedly secured to the inner sides of the bottom members to which said bottom flaps are hingedly connected.

3. A collapsible two-compartment carton comprising, a pair of end walls, pairs of side walls hingedly connected to the side edges of the end walls, partition members hingedly connected to the inner edges of one pair of said side walls and fixedly secured together in back-to-back relation, side wall attaching flaps hingedly connected to the inner edges of the other pair of side walls and fixedly secured to said partition members, and a bottom unit comprising complementary bottom members hingedly connected to the bottom edges of the end walls, one bottom member having an attaching flap hingedly connected to its swinging end and fixedly connected to the swinging end of the other bottom member, and diagonally foldable bottom flaps hingedly connected to the bottom edges of one aligned pair of side walls and to the adjacent edges of adjacent bottom members, said bottom flaps having tab portions lapped upon and fixedly secured to the inner sides of the bottom members to which said bottom flaps are hingedly connected, said side wall attaching flaps having a lug at their lower ends supportingly engaging said bottom unit when the carton is erected.

References Cited in the file of this patent

UNITED STATES PATENTS

732,071	Hartrampf	June 30, 1903
801,579	Flora et al.	Oct. 10, 1905
2,537,615	Arneson	Jan. 9, 1951
2,555,655	Painter	June 5, 1951
2,576,179	Holy	Nov. 27, 1951
2,630,264	Holy	Mar. 3, 1953
2,652,968	Bolding	Sept. 22, 1953
2,756,900	Collura	July 31, 1956