March 3, 1970 W. F. STEMBRIDGE ET AL 3,498,523

CONTAINER FOR CARRYING BOTTLES OR THE LIKE

Filed Sept. 5, 1967 4 Sheets-Sheet 1

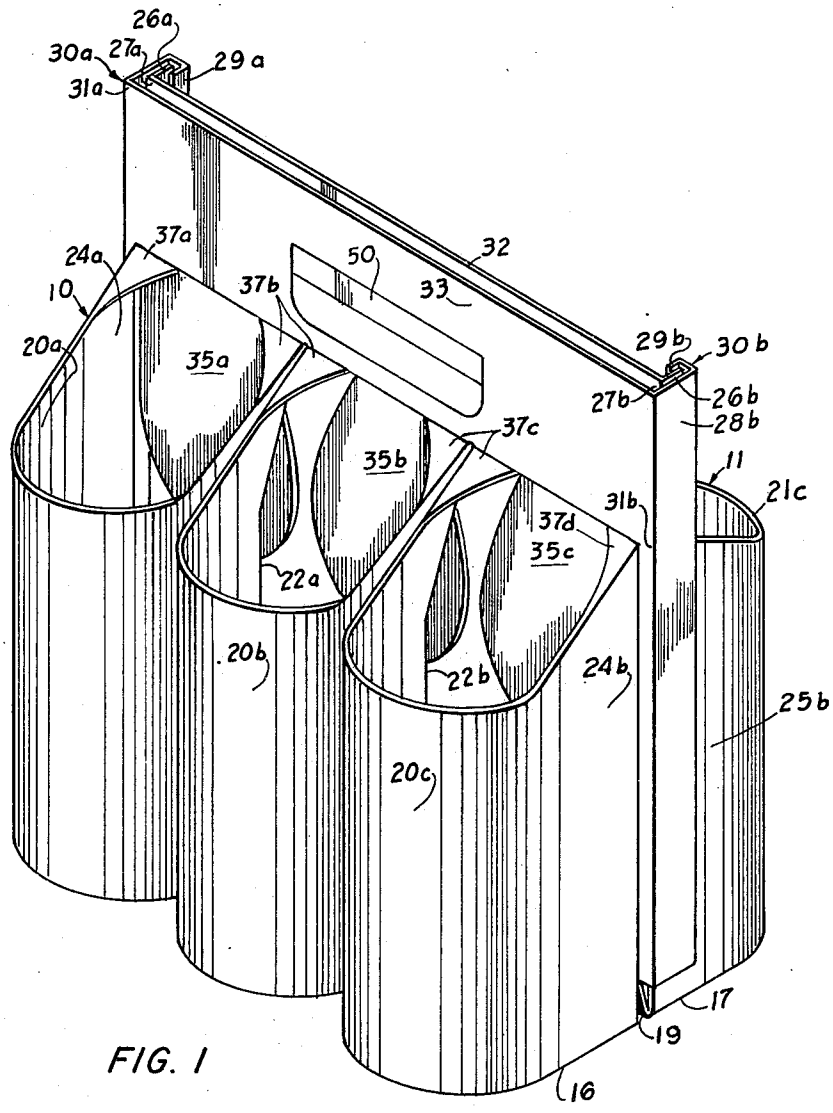


FIG. 1

INVENTORS
Carolyn C. Lambert
William F. Stembridge
Roger E. Stembridge

BY Newton, Hopkins, Jones & Ormsby
ATTORNEYS

March 3, 1970 W. F. STEMBRIDGE ET AL 3,498,523

CONTAINER FOR CARRYING BOTTLES OR THE LIKE

Filed Sept. 5, 1967 4 Sheets-Sheet 2

FIG. 2

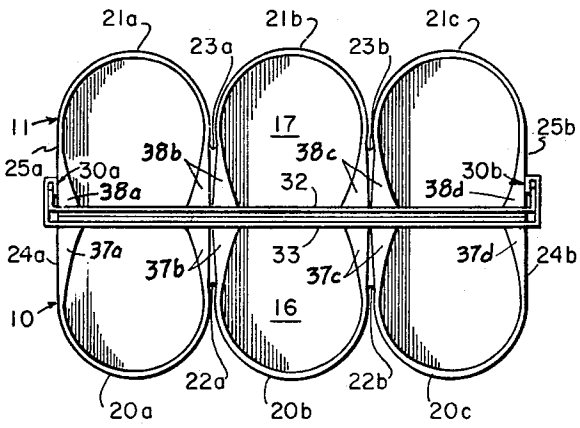
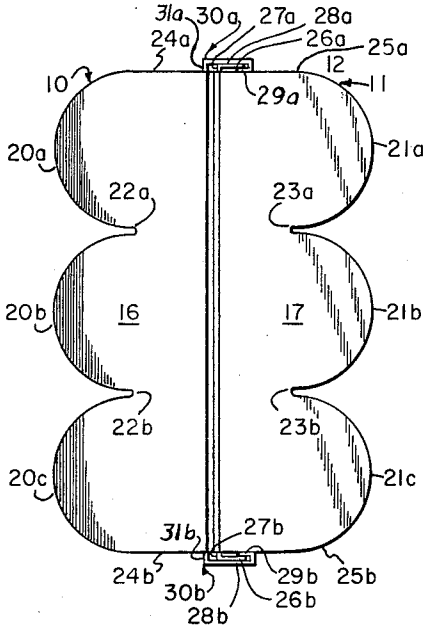


FIG. 3



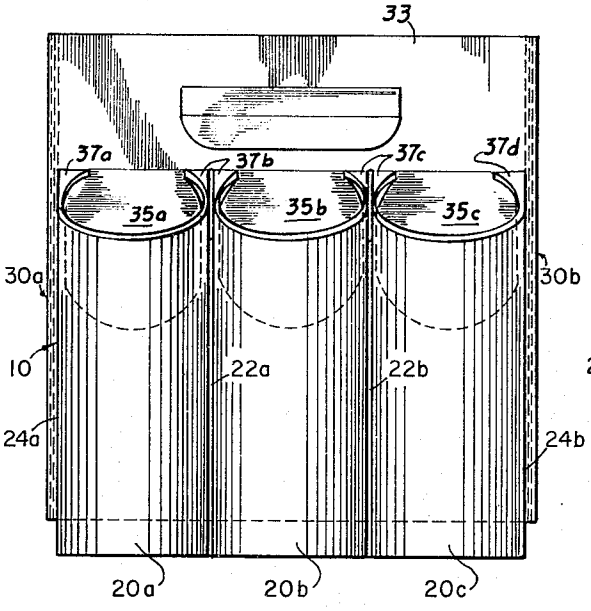


FIG. 4

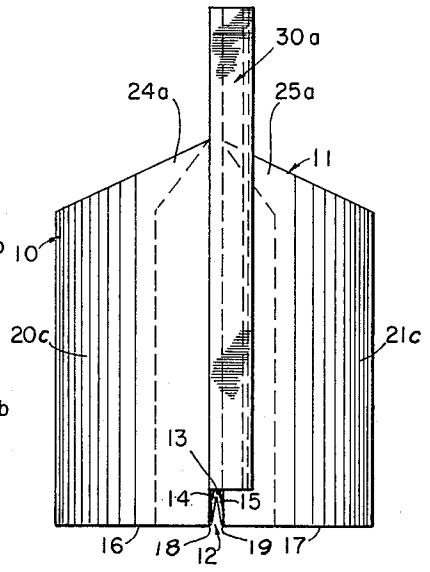


FIG. 5

INVENTORS
Carolyn C. Lambert
William F Stembridge
Roger E. Stembridge
BY Newton, Hopkins, Jones & Ormsby
ATTORNEYS

March 3, 1970 W. F. STEMBRIDGE ET AL 3,498,523

CONTAINER FOR CARRYING BOTTLES OR THE LIKE

Filed Sept. 5, 1967 4 Sheets-Sheet 3

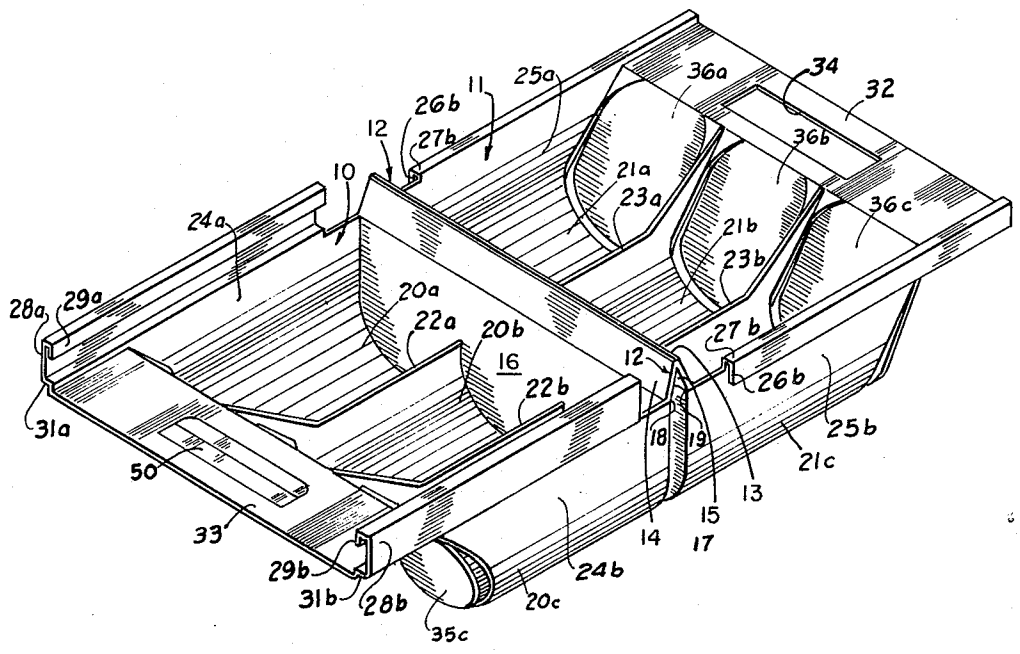


FIG. 6

INVENTORS
Carolyn C. Lambert
William F. Stembridge
Roger E. Stembridge

BY Newton, Hopkins, Jones & Ormsby
ATTORNEYS

March 3, 1970 W. F. STEMBRIDGE ET AL 3,498,523

CONTAINER FOR CARRYING BOTTLES OR THE LIKE

Filed Sept. 5, 1967 4 Sheets-Sheet 4

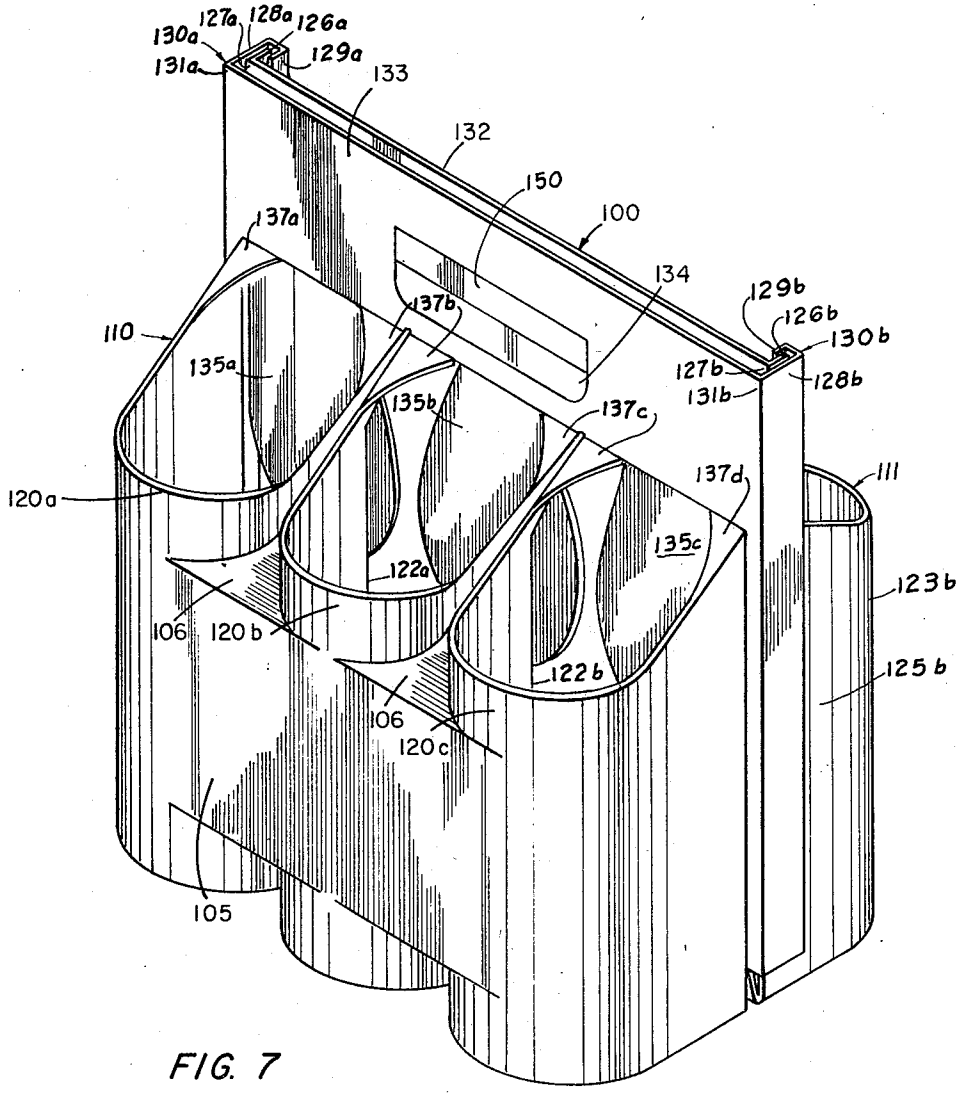


FIG. 7

INVENTORS
Carolyn C. Lambert
William F Stembridge
Roger E. Stembridge

BY Newton, Hopkins Jones & Ormsby
ATTORNEYS

United States Patent Office

3,498,523

Patented Mar. 3, 1970

3,498,523

CONTAINER FOR CARRYING BOTTLES OR THE LIKE

William F. Stembridge, P.O. Box 756, East Point, Ga. 30044; Roger E. Stembridge, 4633 Tucson Trail SW., Atlanta, Ga. 30331; and Carolyn C. Lambert, 2637 Hapeville Road SW., Atlanta, Ga. 30315

Filed Sept. 5, 1967, Ser. No. 665,458

Int. Cl. B65d *5/46, 5/48, 85/30*

U.S. Cl. 229—28 7 Claims

ABSTRACT OF THE DISCLOSURE

A container for carrying bottles or the like formed from a single thin flat plastic sheet deformed outwardly to provide pockets and folded together along a common inverter V-shaped central portion so that the pockets are on opposite sides of panels which form the carrying handle. The opposed side edges of the pockets are folded together to form locking members and the upper ends of the receiving pockets fold downwardly to form partition flaps which separate the bottles. In one embodiment, the tubular wall portions of the pockets merge to planar parallel surfaces on which advertising is displayed.

This invention relates to containers for carrying bottles and the like and is more particularly concerned with a thin walled plastic container or carton for supporting a plurality of bottles of the type which contains soft drinks or beer.

In the past, containers of the general type here disclosed have been formed of paper and, when such paper containers receive the bottles, they are known in the trade as "six-packs." Usually four "six-packs" are received in a wooden crate or in a corrugated fibreboard box for transportation from a bottling plant to a retailer.

Such paper containers, especially when used for containing soft drinks in returnable bottles, are reused approximately three times by a bottling company. By the third use, the paper containers are usually so torn as to be incapable of further use. Of course, such paper containers, when subjected to rain, snow, and severe weather conditions, usually disintegrate. Nevertheless, due to the inexpensive nature of these paper containers, the use of such paper containers has been quite widespread.

The present invention, which overcomes the disadvantages described above, includes a thin walled plastic container which is formed from a flat plastic sheet which is deformed outwardly to form opposed pockets and is folded together along a common inverted V-shaped central portion which joins the bottoms of the pockets, so that the pockets are on opposite side of the contiguous vertical carrying panels. The vertical opposed edges of the panels and pockets are provided with flanges so joined together as to retain the planar central panels in contiguous relationship. Hand holes in these panels form a handle by means of which the container may be transported. The upper ends of the receiving pockets are cut to form individual flaps which fold downwardly to form partitions for separating the bottles. In one embodiment, the tubular outer wall portions of the pockets are provided with a surface or display panel for receiving advertising.

Accordingly, it is an object of the present invention to provide a plastic container for receiving bottles and the like, the container being inexpensive and yet relatively durable and being capable of repeated use.

Another object of the present invention is to provide a container for bottles or the like, the containers being capable of being shipped in a nested extended condition and being readily and easily assembled into an upright or righted position for receiving bottles and the like.

Another object of the present invention is to provide a container for bottles and the like in which the bottles are separated both at the top portion and at the bottom portion by resilient partitions to prevent breakage thereof.

Another object of the present invention is to provide a container for bottles and the like which container has a relatively large flat surface for receiving advertising.

Other objects, features and advantages of the present invention will become apparent from the following description when taken in conjunction with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views and wherein:

FIG. 1 is a perspective view of a container produced in accordance with the present invention;

FIG. 2 is a top plan view of the container illustrated in FIG. 1;

FIG. 3 is a bottom plan view of the container illustrated in FIG. 1;

FIG. 4 is a side elevational view of the container illustrated in FIG. 1;

FIG. 5 is an end view of one end of the container illustrated in FIG. 1;

FIG. 6 is a perspective view of the container illustrated in FIG. 1, in an extended condition such that it may be nested with other like containers; and,

FIG. 7 is a perspective view of a modified form of the invention.

Referring now in detail to the embodiments chosen for the purpose of illustrating the present invention, it being understood that in its broader aspects the present invention is not limited to the exact details herein depicted, the container of the present invention is formed from a unitary thin flat sheet of thermoplastic material which is deformed by the application of heat and pressure to provide a pair of pocket portions, denoted generally by numerals **10** and **11**, respectively.

While any number of plastic materials could be used, we prefer to use either polyethylene or polystyrene sheets.

The pocket portions **10** and **11**, as initially formed, are spaced from each other by a rectangular central hinge member or portion **12** and lie side by side as shown in FIG. 6. In the same operation which formed the pockets **10** and **11**, the central hinge portion **12** is reversely bent to provide a central common edge **13** and a pair of juxtaposed downwardly diverging central walls **14** and **15**. Thus, an inverted V-shaped central portion **12** is formed.

The pockets **10** and **11** include a pair of bottoms **16** and **17** which, when the container is in its extended position, as shown in FIG. 6, are disposed in spaced essentially parallel relationship. Score lines **18** and **19**, which are disposed parallel to the common edge **13** and extend across and define respectively the extremities of pockets **10** and **11**, form the common boundary between central member **14** and bottom **16**, and between central member **15** and bottom **17**.

When the container is folded from its extended position, as shown in FIG. 6, to its righted position, as shown in FIGS. 1 through 5, the container is folded along the score lines **18** and **19** so that the bottoms **16** and **17** are disposed in a common plane while the central walls **14** and **15** converge upwardly, as seen in FIG. 5.

The side walls of pockets **10** and **11** which extend upwardly from the bottoms **16** and **17** are fluted to define a plurality of tubular segments or curved wall portions **20***a*, **20***b*, and **20***c* for pocket **10**, and **21***a*, **21***b*, and **21***c* for pocket **11**. These tubular segments **20***a*, **20***b*, **20***c*, **21***a*, **21***b*, and **21***c* are respectively approximately semi-cylindrical and are disposed along parallel vertical axes which are in planes parallel to and outwardly of the central por-

tion of the container on opposite side of the centerline of the container when the container is righted and are in a common plane offset downwardly from the upper plane of the container when the container is in its extended position.

The center tubular wall portion **20***b* has vertical edges which are joined respectively to the inner edges of the outer wall portions **20***a* and **20***c* along common vertical edges **22***a* and **22***b*. In like manner, the wall portions **21***a*, **21***b*, and **21***c* are provided with vertical edges **23***a* and **23***b*. The vertical edges **22***a* and **22***b* lie in the common plane with the axes of the wall portions **20***a*, **20***b* and **20***c* while the vertical edges **23***a* and **23***b* lie in the common plane with the axes of wall portions **21***a*, **21***b* and **21***c*.

The outer edges of the outer wall portions **20***a* and **20***c* merge with the end walls **24***a* and **24***b* of the container while the outer edges of the outer wall portions **21***a* and **21***c* merge with the end walls **25***a* and **25***b*.

The end walls **24***a* and **25***a* lie in a common plane while the end walls **24***b* and **25***b* lie in a common plane, these planes being parallel to each other and perpendicular to bottoms **16** and **17**. When the container is righted from its extended position to the position illustrated in FIGS. 1 through 5, the inner edges of walls **24***a* and **25***a* are rotated toward each other while inner edges of walls **24***b* and **25***b* are likewise rotated toward each other.

These inner edges of walls **24***a*, **25***a*, **24***b*, and **25***b* are provided with locking members, denoted generally by the numerals **30***a* and **30***b*. If desired, members **30***a* and **30***b* may be "self-locking" so as to maintain the container in its righted condition, once it has been righted. In more detail, the inner edges of end walls **25***a* and **25***b* are provided with reversely bent elongated rectangular flanges **26***a* and **26***b*, respectively. Flanges **26***a* and **26***b* project along the outside surfaces of end walls **25***a* and **25***b*, being joined thereto along vertical edges **27***a* and **27***b*.

The inner edges of end walls **24***a* and **24***b* have offset flanges **28***a* and **28***b* which are offset outwardly of the end walls **24***a* and **24***b* by connectors **31***a* and **31***b* so as to overlie the flanges **26***a* and **26***b*, when the container is righted. The outer edge portions of offset flanges **28***a* and **28***b* are reversely bent to provide latching tabs **29***a* and **29***b*, the flanges **28***a* and **28***b* being sufficiently wider than flanges **26***a* and **26***b*, to provide for latching engagement therewith.

It will be noted in FIGS. 1, 4 and 5 that the locking members **30***a* and **30***b* terminate in spaced relationship to the bottoms **16** and **17** whereby they do not interfere with the functioning of the central portion **12**. The locking members **30***a* and **30***b*, however, preferably extend above the pockets **10** and **11** so that the upper portions of flanges **26***a* and **26***b* are provided therebetween with a flat rectangular handle or carrying panel **32** which is in registry with a complimentary flat rectangular handle panel **33**, the handle panel **33** extending between connectors **31***a* and **31***b*.

The lower ends of the carrying panels **32** and **33**, when the pockets **10** and **11** are initially formed, are connected to the outwardly and downwardly sloping tops which cover pockets **10** and **11**. After being formed, these tops are cut to provide openings through which the bottles (not shown) may be inserted into the pockets **10** and **11**. These cuts conform generally to the shape of the tubular walls **20***a*, **20***b*, **20***c*, **21***a*, **21***b*, and **21***c*, and each commences at the bottom edge portion of its associated carrying panel **32** or **33** and curves outwardly in an arcuate path and then inwardly to terminate again at the lower edge of carrying panel **32** or **33**, in spaced relationship to the commencement of the cut. It is, therefore, seen that a plurality of individual elliptically shaped flaps **35***a*, **35***b*, **35***c*, **36***a*, **36***b*, and **36***c*, corresponding to the tubular walls **20***a*, **20***b*, **20***c*, **21***a*, **21***b* and **21***c*, respectively are provided.

These flaps **35***a*, **35***b*, **35***c*, **36***a*, **36***b*, and **36***c* are hingedly secured to the carrying panels **33** and **32** and yieldably fold downwardly along fold lines as the bottles are inserted into the chambers of all portions **20***a*, **20***b*, **20***c*, **21***a*, **21***b* and **21***c*. Therefore, the flaps **35***a*, **35***b*, **35***c*, **36***a*, **36***b* and **36***c* form spacers, separators or partitions which resiliently urge the bottles outwardly against the inner surfaces of the wall portions **20***a*, **20***b*, **20***c*, **21***a*, **21***b* and **21***c*.

As the bottles approach being fully inserted into the pockets **10** and **11**, the upwardly converging central walls **14** and **15** acting as camming surfaces deflect the bottom portions of the bottles outwardly and also cooperate with the flaps **35***a*, **35***b*, **35***c*, **36***a*, **36***b*, and **36***c* in spacing the bottles in pocket **10** from the bottle in pocket **11**, the flaps receiving the upper portions of the bottles and the central walls **14** and **15** receiving the lower portions thereof.

Since the flaps **35***a*, **35***b*, and **35***c* and flaps **36***a*, **36***b* and **36***c* are side-by-side and yet spaced from each other, there remains, as the tops of pockets **10** and **11**, certain gussets **37***a*, **37***b*, **37***c*, and **37***d*; **38***a*, **38***b*, **38***c*, and **38***d*, which re-enforce the pockets **10** and **11**. The outer or end gussets **37***a*, **37***d*, **38***a*, and **38***d* are at the corners of the outer bottle openings and extend from the upper edges of the end walls **24***a*, **24***b*, **25***a*, and **25***b*, to the bottom edges of panels **32** and **33** so as to re-enforce the ends of the container. The central gussets **37***b*, **37***c*, **38***b*, and **38***c* project outwardly from the lower edges of the panels **32** and **33** to the upper ends of the edges **22***a*, **22***b*, **23***a*, **23***b*, respectively. These central gussets form straps which arrest appreciable outward movement of the walls **20***a*, **20***b*, **20***c*, **21***a*, **21***b* and **21***c*.

In the embodiment shown in FIG. 7 all elements of the carton or container **100** are the same as in the preceding embodiment, except that the central portions of the tubular walls **120***a*, **120***b* and **120***c* are joined by a planar side panel **105** and a similar panel (not shown) is provided on the opposite side thereto, in parallel relationship to the carrying panels **132** and **133**. Gussets **106** join the tubular walls **120***a*, **120***b*, and **120***c* to the upper and lower edges of the planar side panel **105**. The side panel **105** is less wide than and tangential to walls **120***a*, **120***b*, and **120***c*, the walls **120***a* and **120***c* merging with the opposed ends of panel **105**.

In the embodiments here illustrated, hand carrying holes such as holes **34** and **134** are provided in panels **32**, **33**, **132**, and **133**. It is desirable, however, that the panels **32**, **33**, and **132**, **133** not form the sole carrying edges. Hence, tabs, such as tabs **50** and **150**, are projected into the handle opening from one of the panels and is folded over the other associated panel.

From the foregoing description, the operation of the present invention should be apparent. The container, as initially formed, and as diecut, is in an extended position, as illustrated in FIG. 6. In such a position, it may be nested with additional containers so as to occupy a relatively small space. Thus, the containers are quite economical for shipping and storing.

When it is desired to right a container to the position illustrated in FIGS. 1 through 5, it is only necessary to fold the two halves together, folding about the fold lines **18** and **19**, and urge the flanges **26***a* and **26***b* beneath the flanges **28***a* and **28***b*, sufficiently for the flanges to snap into their locked juxtaposition, whereby the tabs **29***a* and **29***b* are received on the insides of the flanges **26***a* and **26***b* between these flanges and end walls **25***a* and **25***b*. The tab **50** is then folded through the hole **34**. In such a position, the container is now ready for use. The tops of the pockets **10** and **11** appear to be planar in that, in their normal positions, the flaps **35***a*, **35***b*, **35***c*, **36***a*, **36***b* and **36***c* are co-planar with the gussets **37***a*, **37***b*, **37***c*, **37***d*, **38***a*, **38***b*, **38***c* and **38***d*. These flanges are readily deformed downwardly by the insertion of bottles in the vertical chambers of pockets **10** and **11**. When the flaps are swung downwardly, they form partitions and cooperate with the central walls **14** and **15** in dividing the container into compartments and preventing the bottles on one side of the container from engaging the bottles on the other

side of the container. In like manner, the concaved wall portions adjacent the vertical edges **22***a*, **22***b*, **23***a*, and **23***b* prevent movement of the bottles on one side toward each other. It is, therefore, seen that the characteristic clanking of the bottles together is eliminated, utilizing the container of the present invention.

It will be understood that the container of the present invention, while being relatively inexpensive, nevertheless is quite durable and may be used many times, prior to being discarded. In the embodiment of FIG. 7, the planar display panels, such as panel **105**, are used for advertising and provide an area to abut partitions in the carrying crates (not shown).

It will be obvious to those skilled in the art that many variations may be made in the embodiments here chosen for the purpose of illustrating the present invention without departing from the scope thereof.

We claim:

1. A container for supporting bottles or the like, composed of a unitary sheet of plastic and comprising a pair of opposed outwardly deformed pockets, said pockets having wall portions defining chambers for respectively receiving said bottles or the like, a bottom for each of said wall portions, a central hinge portion joining the bottoms of each of said pockets, said pockets being open along their upper portions, a pair of upstanding panels secured by their lower portions respectively to said pockets, a pair of upstanding panels extending between said pair of pockets and in juxtaposition with each other, one of said panels secured by its lower portion to the innermost upper portion of one of said pockets and the other of said panels secured by its lower portion to the innermost upper portion of the other of said pockets, locking means for locking said panels in contiguous relationship to form said container having said pocket openings exposed for ingress into and egress from said pockets of bottles or the like after said container is formed, said wall portions being fluted and defining a plurality of juxtaposed cylindrical members formed together along vertical edges thereof, a planar panel integrally merged tangentially with the tubular wall portions, and gussets extending from said tubular wall portions to the upper and lower edges of said planar panel.

2. The container defined in claim **1** including a plurality of downwardly and outwardly extending gussets joining the lower portions of said panels and the upper ends of said vertical edges.

3. A container for supporting bottles or the like composed of a unitary sheet of plastic and comprising a pair of opposed outwardly deformed pockets, said pockets having wall portions defining chambers for respectively receiving said bottles or the like, a bottom for each of said wall portions, a central hinge portion joining the bottoms of each of said pockets, said pockets being open along their upper portions, a pair of upstanding panels secured by their lower portions respectively to said pockets and locking means for locking said panels in contiguous relationship further including flaps individual to and protruding into said chambers of said wall portions, said flaps being secured by their inner edges to the lower edges of said panels and being adapted to form partitions between bottles or the like in one of said pockets and bottles or the like in the other of said pockets.

4. A container for supporting bottles or the like composed of a unitary sheet of plastic and comprising a pair of opposed outwardly deformed pockets, said pockets having wall portions defining chambers for respectively receiving said bottles or the like, a bottom for each of said wall portions, a central hinge portion joining the bottoms of each of said pockets, said pockets being open along their upper portions, a pair of upstanding panels secured by their lower portions respectively to said pockets and locking means for locking said panels in contiguous relationship wherein said central hinge portion includes a pair of upwardly converging central walls joined at their upper edges by a common edge, the lower edges of said central walls being respectively joined to the inner edges of said bottoms of said pockets.

5. The container defined in claim **4** wherein score lines separate said bottoms from said central walls and wherein said pockets are adapted to pivot about fold lines.

6. The container defined in claim **1** wherein said locking means includes a plurality of locking flanges disposed on opposite sides of said pockets.

7. A container for supporting bottles or the like composed of a unitary sheet of plastic and comprising a pair of opposed outwardly deformed pockets, said pockets having wall portions defining chambers for respectively receiving said bottles or the like, a bottom for each of said wall portions, a central hinge portion joining the bottoms of each of said pockets, said pockets being open along their upper portions, a pair of upstanding panels secured by their lower portions respectively to said pockets and locking means for locking said panels in contiguous relationship wherein said locking means includes a plurality of locking flanges disposed on opposite sides of said pockets and wherein said flanges include on each side of said pockets, an inner reversely bent flange secured to one of said pockets, an outer flange overlying said inner flange and secured to the other of said pockets, and a locking tab joined to the edge of said outer flange and extending between said inner flange and its associate pocket.

References Cited

UNITED STATES PATENTS

D. 145,985	11/1946	Shepard.	
2,616,600	11/1952	Morgan	220—115
2,888,164	5/1959	Corwin.	
2,961,123	11/1960	Boydar et al.	220—102
2,998,899	9/1961	Telesca	220—102
3,282,461	11/1966	Beesley et al.	220—21
3,359,873	12/1967	Carle et al.	220—102 XR
2,284,290	5/1942	Marshall.	
2,630,264	3/1953	Holy.	
3,386,607	6/1968	Keene	229—28 XR

FOREIGN PATENTS

1,492,202	7/1967	France.

DAVIS T. MOORHEAD, Primary Examiner

U.S. Cl. X.R.

206—65; 229—2.5; 220—102, 115