United States Patent

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[73] Assignee Illinois Tool Works Inc.
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[54] CONTAINER CARRIER PACKAGE
8 Claims, 7 Drawing Figs.

[52] U.S. Cl. ..... 206/65 C, 220/23.2, 224/45 AA, 294/87.2
[51] Int. Cl. B65d 21/02, B65d 71/00, B65d 85/62
[50] Field of Search ..... 206/65 C, 65 CT, 65 D; 220/23.4, 23.2, 97 B; 294/87.2, 31.2, 33, 99; 224/45.2

[56] References Cited
UNITED STATES PATENTS

R24,333	6/1957	Poupitch	206/65 C
2,822,208	2/1958	Then	206/65 D
3,086,806	4/1963	McAndrew	294/33
3,131,829	5/1964	Masser	220/23.4

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ABSTRACT: A container package unit having an injection molded plastic carrier member including a plurality of integrally or separably interconnected polygonal retainer elements forming an apertured skeleton framework with the sides of the retainer elements, or inward projections thereon, snapped beneath top outward beads of associated containers to retain and support the same for transport as a multiunit container package.

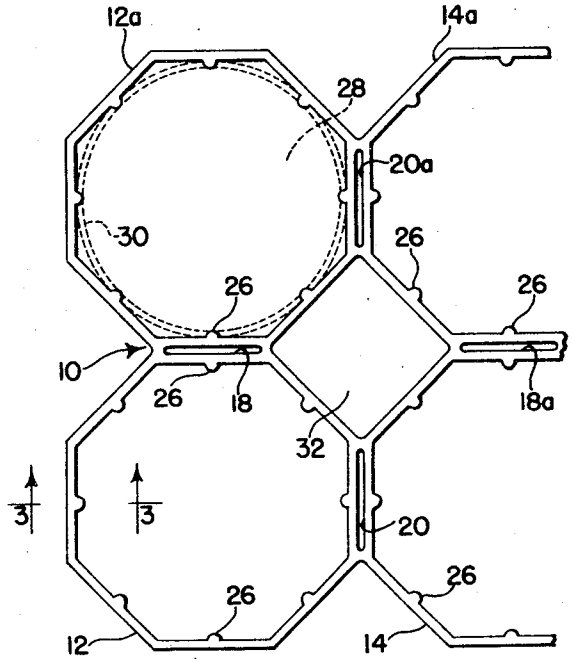


Fig. 1

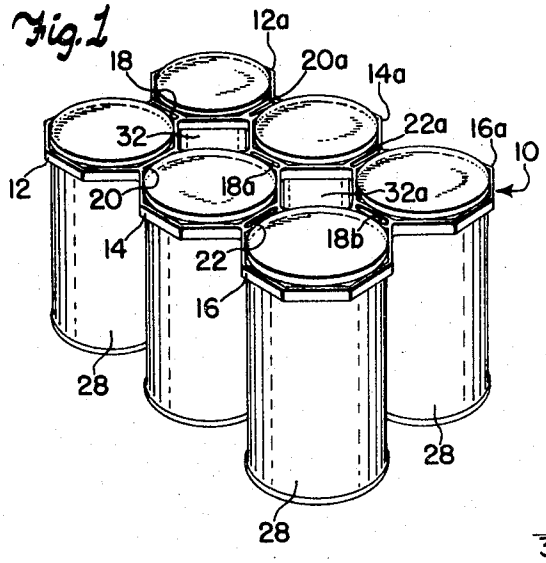


Fig. 2

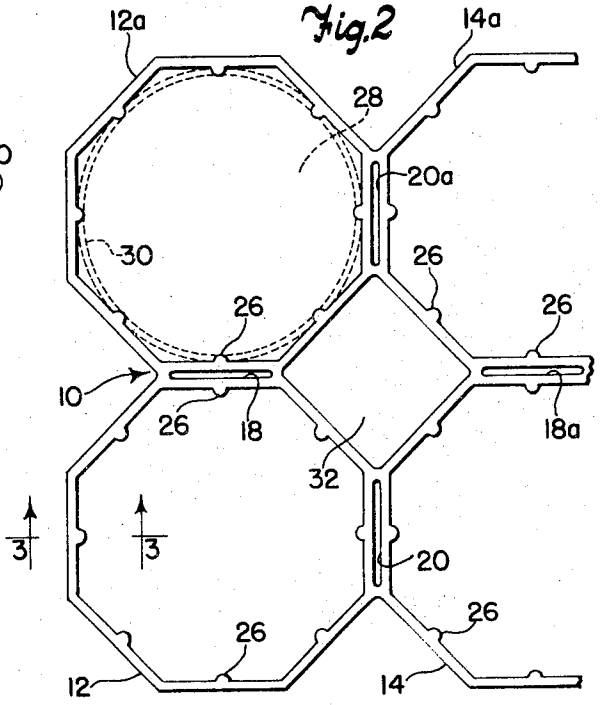


Fig. 3

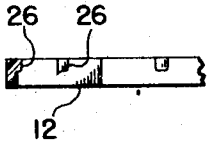


Fig. 4

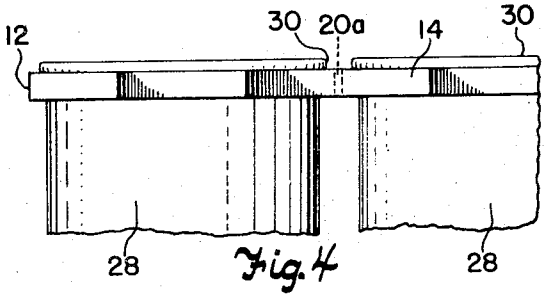


Fig. 5

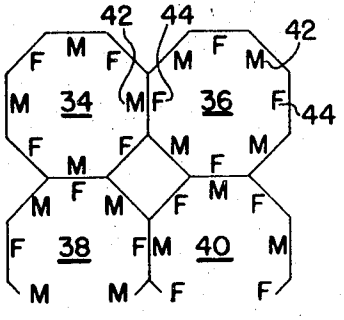


Fig. 6

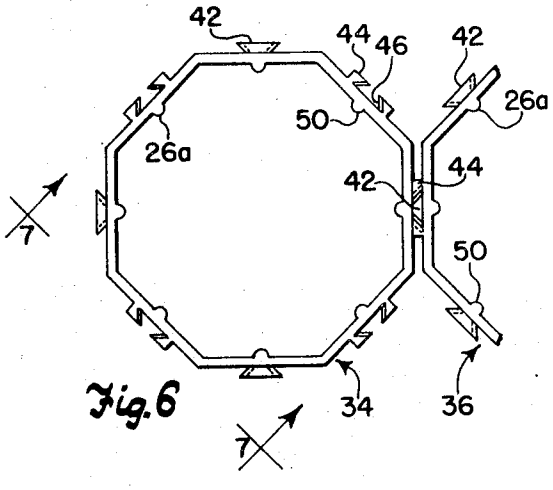
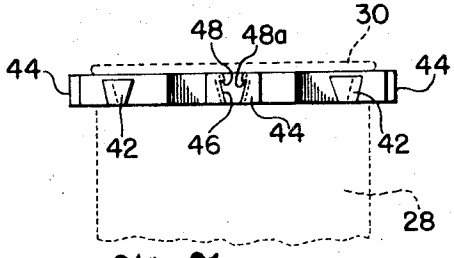


Fig. 7



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CONTAINER CARRIER PACKAGE

This invention is concerned with a multiunit package of containers, such as cans with outward peripheral end beads, arranged, for example, as a six-pack, and a carrier therefor in the nature of a skeleton framework with multiple polygonal retainer elements having the sides thereof engaging beneath the container beads at peripherally spaced locations for confining the packaged containers and for transport thereof.

An object of the invention is to provide a carrier for a package of containers, which carrier may be conveniently injection molded from suitable plastic materials for economy and to facilitate the use of mass production techniques.

Another object of the invention is to provide a carrier in the form of such a skeleton framework wherein the several retainer elements may be molded integral with one another between adjacent container receiving positions, or the retainer elements may be molded separately with mating interconnections along the sides thereof permitting the individual retainer elements to be assembled and interlocked to make up the skeleton container supporting framework.

The invention also contemplates the provision of projections or lugs extending inwardly from the central portions of the sides of the retainer elements permitting snap engagement of these lugs or projections beneath the container beads associated therewith for support purposes, and material of the retainer elements between oppositely extending adjacent lugs may be removed to form slots to enhance the flexibility of those adjacent sides and facilitate application and removal of containers relative to the carrier.

The above and other objects of the invention will in part be obvious and will be hereinafter more fully pointed out in the more detail description of the drawings in which:

FIG. 1 is a perspective view of a six container package unit;

FIG. 2 is an enlarged fragmentary plan view of an integral form of carrier framework with one container shown in dotted lines;

FIG. 3 is a sectional view along the line 3—3 of FIG. 2 showing the inward projections;

FIG. 4 is a fragmentary side elevation showing the carrier of FIGS. 1 and 2 with containers included;

FIG. 5 is a fragmentary schematic plan view showing locations of male M and female F interconnections between separate retainer elements making up a skeleton framework carrier;

FIG. 6 is a fragmentary plan view showing an adjacent pair of separate retainer elements interlocked; and

FIG. 7 is a side elevation in the direction of the arrows 7—7 of FIG. 6 showing a single retainer element with an included container shown in dotted lines.

Referring to the accompanying drawing, and particularly to FIGS. 1 through 4, a molded plastic one piece carrier is generally designated by the numeral **10**. This carrier is made up of two rows of three retainer elements **12**, **14**, **16** and **12***a*, **14***a*, **16***a*, each of which is illustrated as being octagonal with the several sides making up the internally apertured skeleton framework such that the inner adjacent sides of each pair of elements are aligned along the center of the package. Adjacent sides between the retainer elements **12** and **12***a*, **14** and **14***a*, and **16** and **16***a* are connected along integral longitudinally aligned portions each of which is provided with a slot therethrough, as at **18**, **18***a*, **18***b*. Likewise, slots **20**, **20***a* are provided in the connecting portions between the retainer elements **12** and **14**, and the retainer elements **12***a* and **14***a*, respectively. In similar manner, there is a slot **22** in the connecting portion between the retainer elements **14** and **16**, and a similar slot **22***a* between the retainer elements **14***a* and **16***a*. These several slots lend flexibility to the connecting portions between adjacent retainer elements for insertion and removal of containers.

Inwardly extending lugs or protuberances, generally designated by the numerals **26**, may be provided at the center of each of the sides of each retainer element. Thus, in assembling containers **28** with each retainer element, the lugs **26** and their respective sides will be flexed outwardly to ride over the container beads **30** and snap therebeneath in container supporting position. The several slots between adjacent oppositely extending lugs **26** provide relief therebetween for this flexing during assembly of the containers with the carrier and removal of individual containers from the container package. The skeleton framework of the carrier provides openings **32**, **32***a* between adjacent containers for finger grip or handle attachment for transport of the packaged containers. The degree of inward extent of the lugs will determine extent to which part of the top surfaces of the sides of the retainer elements will underlie the container beads **30**, or the entire top surfaces of the several sides, or a substantial part thereof, of the retainer elements may underlie the container beads **30** if the lugs are omitted.

A modified form of carrier is shown in FIGS. **5**, **6** and **7** wherein each retainer element **34**, **36**, **38**, **40** is a separately formed unit which may be injection molded and interconnected at adjacent sides of the octagonal shape thereof to make up the container package, such as a six pack of cans. For this purpose, the sides of each octagonal retainer element are provided with alternate male and female wedge shaped lugs **42** and slotted or recessed parts **44** as schematically illustrated in FIG. **5** as part of a six pack or similar package. For further detail, reference is made to FIGS. **6** and **7**. A lug **42** projects outwardly from alternate sides of each retainer and is in the form of a downwardly tapered and side undercut wedge. A slotted element **44** projects outwardly from the remaining sides of each retainer element and is in the form of a projection with a downwardly tapered opening and side undercut slot **46** generally complementing a lug **42** but with slight inward shoulder formations **48**, **48***a* at the top of each side of the slot **46**. Thus, in connecting adjacent retainer elements **34**, **36** (see FIG. **6**), a male lug **42** on element **34** is threaded into the adjacent slot **46** on the female part **44** on element **36** and a final seating pressure effects the slight snap passage of the upper edge of the lug **42** beneath the shoulder formations **48**, **48***a*. The same interconnection is provided between adjacent mating parts **42**, **44** of other retainer elements making up the container package. As described in connection with FIGS. **1** through **4**, the sides of each retainer element may also be provided with lugs **50** projecting inwardly for snap supporting engagement beneath the container beads **30** of associated containers.

In the illustrated and described forms of the invention, the assembled carrier and containers may be lifted and transported by finger grip or handle insertion in the openings **32**, **32***a* of FIG. **1** or in similarly located openings in the package of FIGS. **5** to **7** between adjacent separately connected retainer elements. Lifting force is transmitted throughout the integrally joined framework of the carrier of FIGS. **1** to **4**, and through the mating interconnections between the separately attached retainer elements of FIGS. **5** to **7**, and in each case, the containers are supported by engagement of the lugs **26** or **50** beneath the container beads or by central portions of the sides making up the octagonal retainer elements. In the embodiment of FIGS. **5** to **7**, the retainer elements may be initially assembled together as the carrier framework to receive the containers, or each retainer element may be assembled to a container and then this unit assembled with others to make up the multicontainer package.

I claim:

1. A container package unit comprising a plurality of containers each with a top peripheral outward bead; and a carrier in the form of a skeleton framework including a plurality of polygonal retainer elements corresponding to the number of included containers and each retainer element presenting an internal polygonal container receiving opening with pairs of adjacent retainer elements joined to one another at adjacent sides to make up the carrier framework with the sides of each retainer element dimensioned to be flexed outwardly upon association therewith of a container and to snap beneath an associated container bead in supporting relationship therewith,

and lifting grip means on the carrier for transporting the package unit, said framework being injection molded from plastic material with the pairs of retainer elements integral with one another along the joined adjacent sides thereof, and wherein the carrier material joining adjacent sides of the retainer elements is vertically slotted for increased flexibility therealong facilitating insertion and removal of containers.

2. A container package unit comprising a plurality of containers each with a top peripheral outward bead; and a carrier in the form of a skeleton framework including a plurality of polygonal retainer elements corresponding to the number of included containers and each retainer element presenting an internal polygonal container receiving opening with pairs of adjacent retainer elements joined to one another at adjacent sides to make up the carrier framework with the sides of each retainer element dimensioned to be flexed outwardly upon association therewith of a container and to snap beneath an associated container bead in supporting relationship therewith, and lifting grip means on the carrier for transporting the package unit, each retainer element being octagonal with lugs projecting inwardly from the central portion of each side for supporting engagement beneath the beads of associated containers, and wherein the carrier material joining adjacent sides of the retainer elements is vertically slotted between adjacent oppositely extending lugs for increased flexibility thereof facilitating insertion and removal of containers.

3. A skeleton carrier framework for retaining a plurality of containers having outwardly projecting top peripheral beads in side-by-side substantially parallel relationship as a multiunit package, and comprising a plurality of octagonal sided hollow retainer elements corresponding to the number of containers in the package with pairs of adjacent retainer elements joined to one another at adjacent sides to make up the skeleton carrier framework with the sides of each retainer element dimensioned for outward flexing upon association of a container therewith and inward snap engagement beneath an associated container bead to support the containers as a package.

4. A skeleton carrier framework as claim in claim 3, wherein the framework is molded from plastic material with adjacent retainer elements integrally joined to one another.

6. A skeleton carrier framework as claimed in claim 4, wherein the sides of each retainer element are provided with centrally disposed inward lugs to engage beneath associated container beads with the carrier material between adjacent oppositely facing lugs being slotted to increase flexibility thereof in this region.

6. A skeleton carrier framework as claimed in claim 3, wherein the retainer elements are separately molded from plastic material and include interlocking male and female wedge means projecting outwardly from alternate sides of each retainer element with adjacent sides interlocked by said wedge means to make up the skeleton carrier framework.

7. A skeleton carrier framework as claimed in claim 6, wherein each male wedge means comprises a downwardly tapered wedge and wherein each female wedge means comprises a projection with a similarly tapered recess to receive an adjacent tapered wedge.

8. A skeleton carrier framework as claimed in claim 7, wherein the upper edges of the sides of each recess are slightly inwardly offset as shoulders to receive an associated wedge in underlying interlocked engagement therewith.

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