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3,474,949

CONVERTIBLE CONTAINER AND BLANK THEREFOR

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FIG. 1

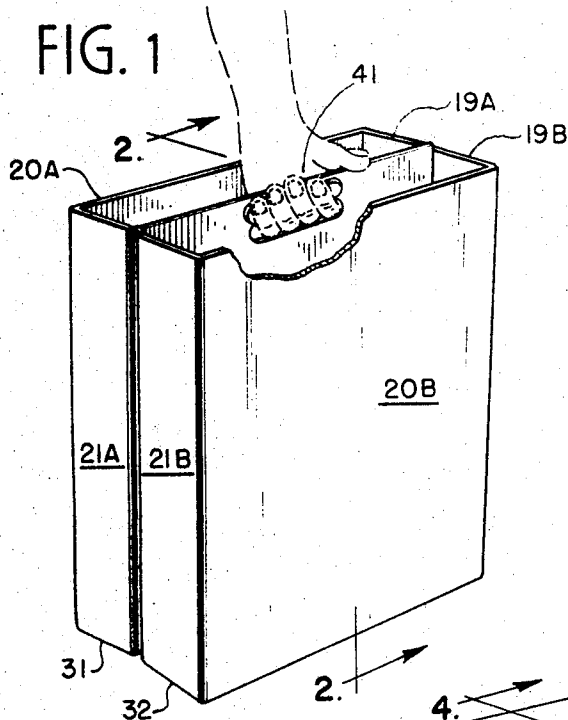


FIG. 2

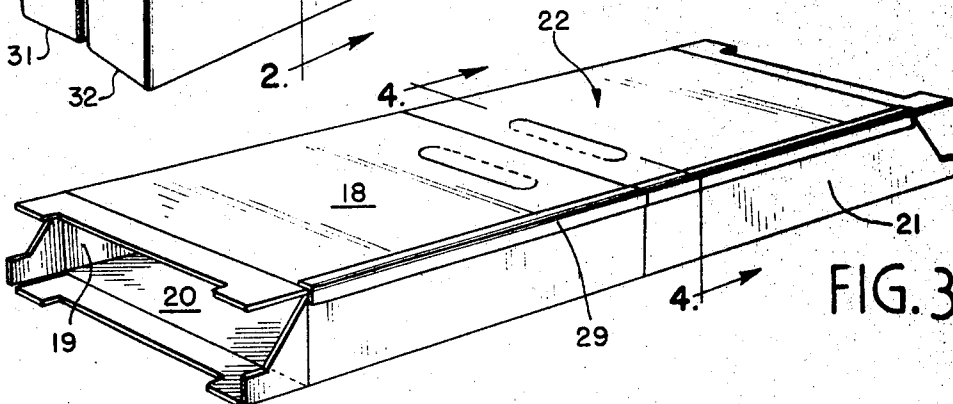
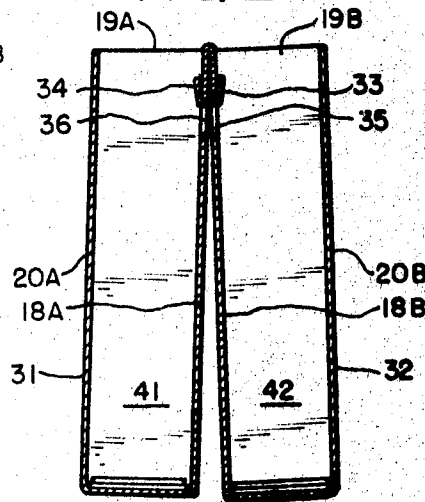


FIG. 3

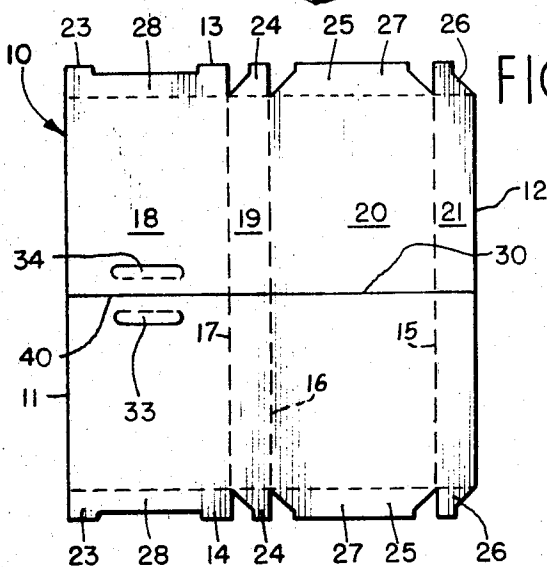


FIG. 5

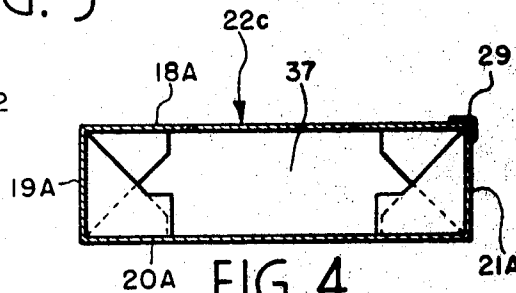


FIG. 4

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3,474,949 CONVERTIBLE CONTAINER AND BLANK THEREFOR

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3 Claims

ABSTRACT OF THE DISCLOSURE

A sheet bendable into a tubular container is convertible into a pair of discrete smaller containers defined by a pair of adjoining walls. The latter, connected together at their tops and separate at their bottoms, have registered openings adjacent the wall tops to form a single handle for said smaller containers.

The present invention relates to packaging. Particularly the invention relates to a convertible container. Specifically the invention relates to a tubular container, a blank from which the tubular container is formed and a therefrom formed pair of smaller containers having a common handle.

A large container which may be well suited for shipping and storing a plurality of articles frequently may be poorly suited for article handling between a place of storage and a place of use. Nevertheless, for one reason or another it may be undesirable to remove such articles from a container before they have been transported to a place of use.

The problem is readily understood when related to solution bags of a character conventionally employed in hospitals. Frequently more than one such bag may be required for servicing a patient. While it is therefore desirable to package a plurality of solution bags in a container which is efficient for shipping and storage and also facilitates economical transportation from storage to a place of use, heretofore, a container adequate for the first purpose has been unsuited for inexpensively moving a plurality of bags. The inadequacy in the latter regard results from package bulkiness which makes manual management difficult, especially for a female attendant. Notwithstanding the difficulty, a solution bag which has a non-rigid form, is held in its container until after delivery to place of use to enable its temporary storage there until it is required for use.

The foregoing problems are solved by the present invention, an object of which is to facilitate storage and carrying of articles from a storage place to a place of use.

It is another object of the invention to enable economical storage of a plurality of articles in a container of one form and hand carrying of said articles following storage in smaller containers.

A further object of the invention is to convert a container formed from a blank from a first form in which articles are readily stored to a second form in which said articles are easily carried.

To effect the foregoing objects a blank comprising a flat sheet has a plurality of adjoining rigid sections for forming a first pair of parallel sides and a second pair of parallel sides disposed normally to said first pair of parallel sides. Each of the sections has a pair of opposed ends and the sheet has first parallel lines of weakness for bending the sections into said sides to form a rectangular tubular container. A container closure is carried on each of a pair of the opposed ends and is arranged for folding to close the opposed ends of the tubular container. A sec-

ond line of weakness, which is disposed manually to the first lines of weakness, enables separating three of the sections into pairs of walls and bending a fourth of said sections upon itself for forming a pair of smaller containers from the tubular container. A pair of spaced apart means associated with said fourth section are arranged for alignment, one with another, to form a single handle for the pair of smaller containers when said fourth section is bent.

The foregoing and other objects, features and advantages of the invention will become more apparent upon consideration of the following description and appended claims, when considered in conjunction with the accompanying drawings wherein the same reference character or numeral refers to like or corresponding parts throughout the several views.

On the drawings:

FIG. 1 is a perspective view of a carrier embodying the invention and comprised of a pair of smaller containers, a hand being shown in phantom for purpose of illustration.

FIG. 2 is a view according to the line 2—2 of FIG. 1.

FIG. 3 is a perspective view of a tubular container convertible into said smaller containers.

FIG. 4 is a view according to the line 4—4 of FIG. 3.

FIG. 5 is a plan view of a blank embodying the invention and for forming the tubular container.

Referring now more particularly to FIG. 5, a container forming blank is shown as comprising a roughly rectangular flat sheet 10 which is of relatively rigid construction. Sheet 10 has opposed parallel sides 11 and 12 and a pair of opposed end portions 13 and 14.

Said sheet is scored with a plurality of lines of weakness 15, 16 and 17 which are parallel to sides 11 and 12 and which extend from end portion 13 to end portion 14. Said lines of weakness define from sheet 10 a plurality of adjoining rigid sections 18, 19, 20 and 21 and enable bending of: sections 18 and 20 into a first pair of parallel sides and sections 19 and 21 into a second pair of parallel sides extending normally to the first pair thereof. Bending of sheet 10 carries side 11 adjacent side 12 for secureance by proper fastening means such as a length of binding tape 29 to form a tubular structure 22 (FIG. 3).

A plurality of container closure elements 23, 24, 25 and 26 comprise a closure mechanism 37 (FIG. 4) at each of opposite end portions 13 and 14; and said elements are carried from opposed ends of sections 18, 19, 20 and 21, respectively. Thereby, it can be considered that a container closure is carried on each of a pair of said opposed ends. The container closure elements 23, 24, 25 and 26 comprising each end portion are arranged to be folded and interlocked for closing a corresponding end of tubular structure 22 to form a tubular container 22C (FIG. 4) of rectangular cross section. This is done in the illustrated embodiment by first folding each element 23 inwardly then folding therewith associated elements 24 and 26 inwardly and over element 23 and thereafter folding associated element 25 inwardly to engage its interlock extension 27 beneath the anchoring portion 28 of corresponding element 23. While the described closure mechanism 37 is preferred because of its economy, the invention is not limited thereto and comprehends other closure forms.

Another line of weakness 30, which is disposed equidistant from opposite portions 13 and 14 and thereby transversely of an normally to lines of weakness 15, 16 and 17, is fashioned, preferably with perforations, to facilitate separating three sections, namely sections 19, 20 and 21, into pairs of walls 19A and 19B, 20A and 20B and 21A and 21B. Line of weakness 30 has a section

40 which is preferably not perforated but is fashioned to facilitate bending the fourth section, namely section 18, back upon itself to form a pair of inner walls 18A and 18B. Thereby, as illustrated in FIGS. 1 and 2, from tubular container 22C there is formable a carrier comprising a pair of smaller adjoining containers 31 and 32.

In consequence of the foregoing, containers 31 and 32 will be of equal size and have a pair of chambers 41 and 42 which are open at their tops and closed at their bottoms. Their adjoining inner walls 18A and 18B will be connected together at their tops and separated at their bottoms.

Spaced apart means herein shown as punch out members 33 and 34 are fashioned in the fourth section equidistant from opposite sides of line section 40 and in alignment one with another for forming a single handle for containers 31 and 32 when section 18 is bent. That is to say, upon at least partial punching through of members 33 and 34, a pair of openings 35 and 36 are formed which are spaced from the top of the containers 31 and 32 for accommodating the hand 41 (FIG. 1) of a user.

By reason of the invention a single blank may be formed into a first convertible container which is adapted for shipping and storing a plurality of articles. Thereafter the convertible container may be formed into a carrier having a plurality of smaller containers to facilitate carrying such plurality of articles by a single handle.

As many substitutions or changes could be made in the above described construction, and as many apparently widely different embodiments within the scope of the invention could be constructed without departing from the scope and spirit thereof, it is intended that all matter contained in the accompanying specification shall be interpreted as being illustrative and not in a limiting sense.

What is claimed is:

1. A blank for a container convertible from a first to a second form and comprising: a flat sheet having a plurality of adjoining rigid sections; lines of weakness arranged on said sheet for bending said sections into a generally rectangular, six-sided, hollow container; a first, straight line of fracture running medially across three of said adjoining rigid sections and connecting in collinear

relation to a straight fold line in a fourth adjoining section to permit partial breaking of the carton made from the folded blank into half portions and folding of said fourth section into back-to-back relation along said fold line, and second lines of fracture in said fourth section, positioned to provide a pair of hand openings therein on fracturing said second lines, each said hand opening being positioned on an opposite side of said fold line to be in registration with each other when said fourth section is folded into back-to-back relation.

2. The blank according to claim 1 in which said first line of fracture and said fold line are positioned perpendicular to a pair of edges of each of said sections upon which they are defined, and said line of fracture and fold line divide each of said sections upon which they are defined into two equal parts.

3. A generally rectangular, six-sided, hollow container made from a folded, unitary sheet, said container having, in a transverse medial plane perpendicular to four sides of said container, a U-shaped line of fracture defined in three of said four sides, and a fold line in said fourth side connected between the ends of said line of fracture to permit partial breaking of the container into half portions and folding of said fourth side into back-to-back relation along said fold line, and lines of fracture in said fourth side, positioned to provide a pair of openings therein on fracturing, each said opening being positioned on an opposite side of said fold line to be in registration with each other when said fourth side is folded in back-to-back relation.

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