

March 16, 1943.

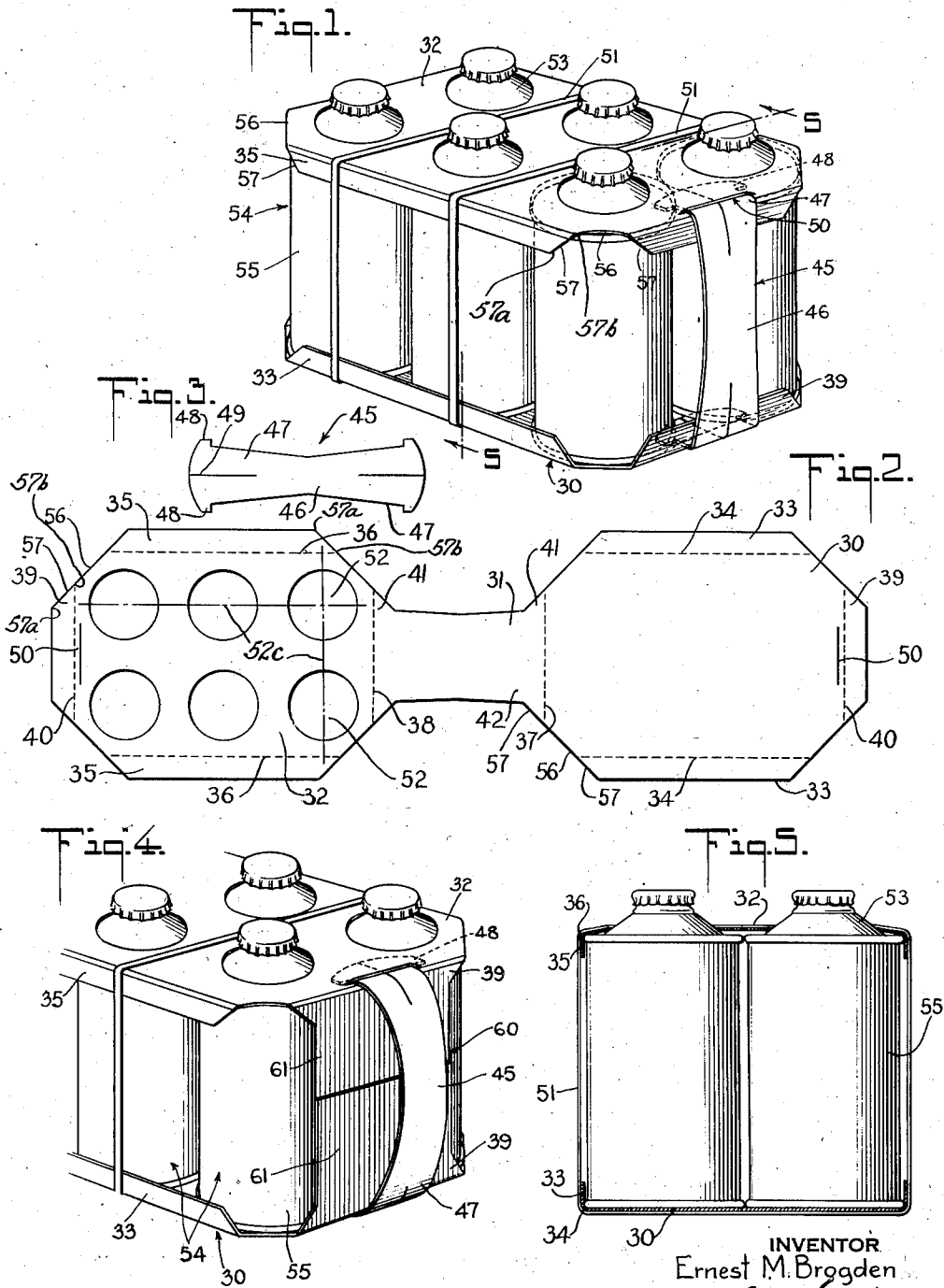
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2,313,731

PACKAGES, PACKAGING CONTAINERS, AND BLANKS THEREFOR

Filed Nov. 12, 1938

3 Sheets-Sheet 1



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PACKAGES, PACKAGING CONTAINERS, AND BLANKS THEREFOR

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3 Sheets-Sheet 2

Fig. 6.

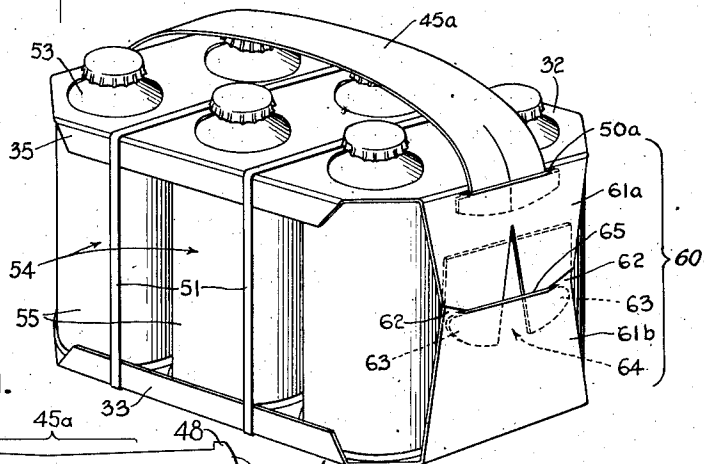


Fig. 8.

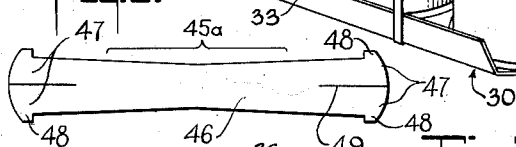


Fig. 7.

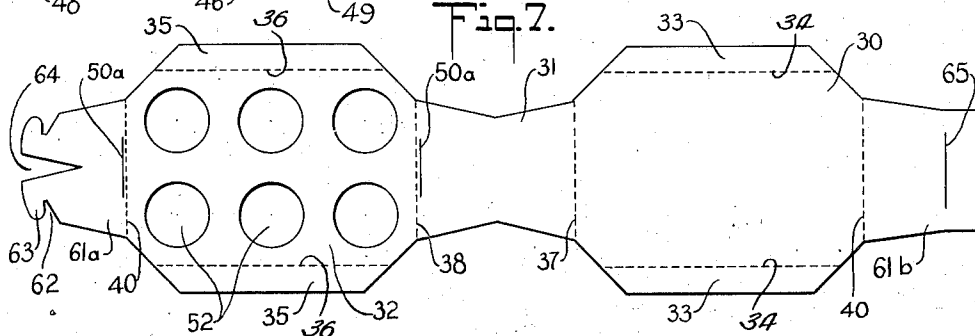
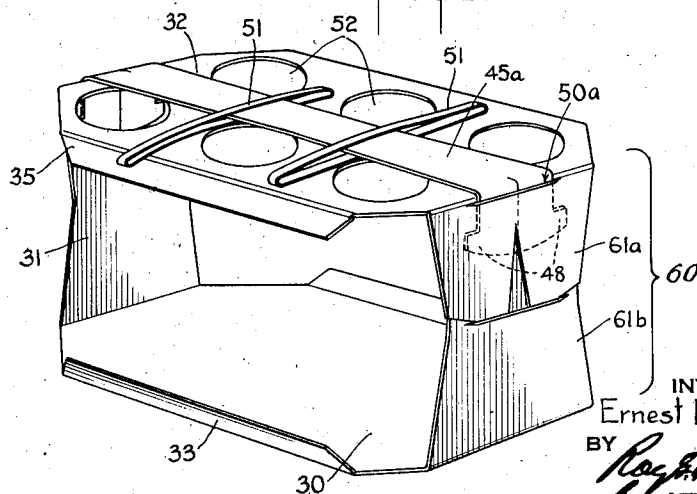


Fig. 5.



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3 Sheets-Sheet 3

Fig. 10.

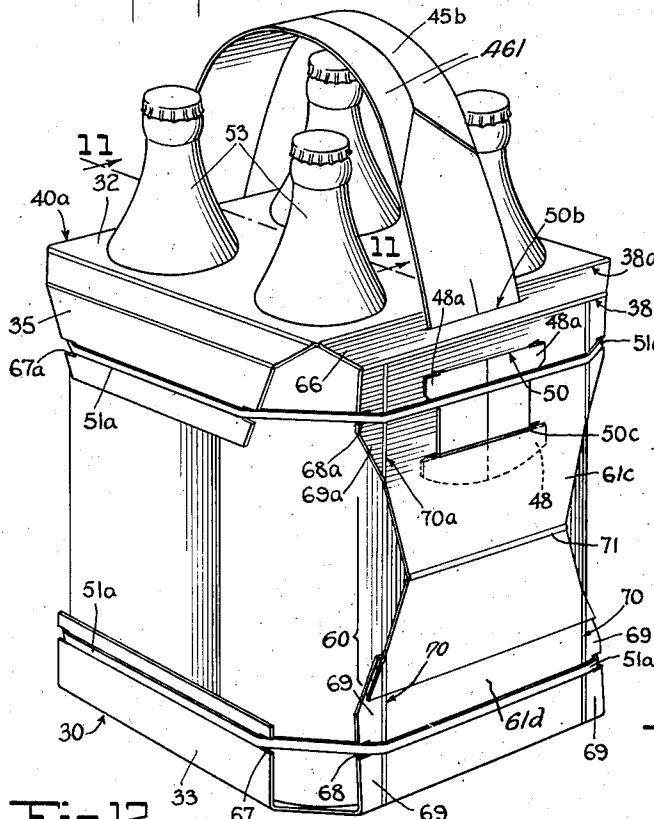


Fig. 11.

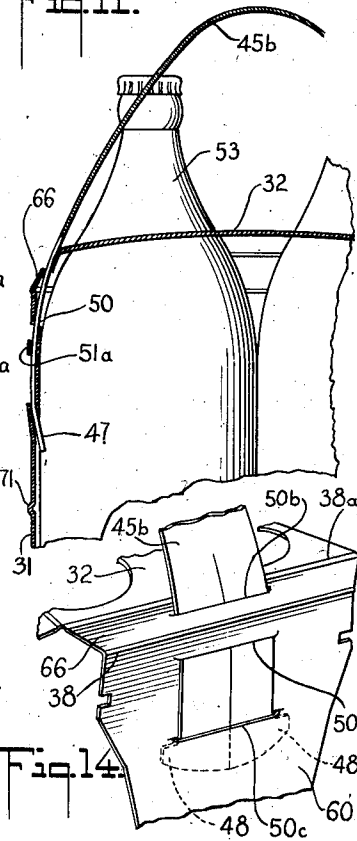


Fig. 12.

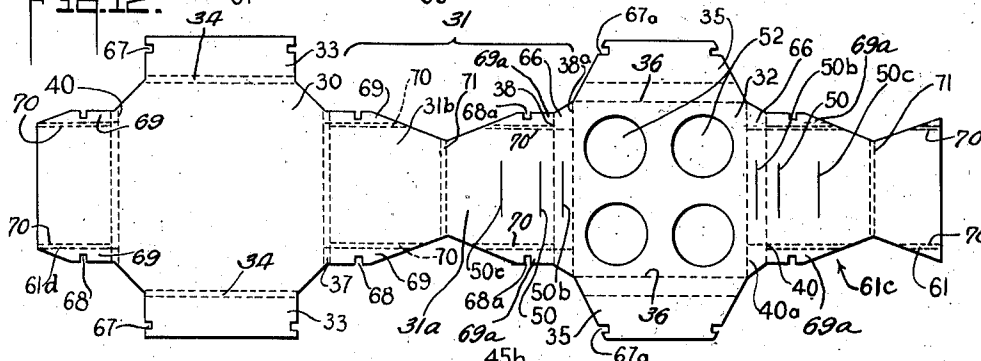
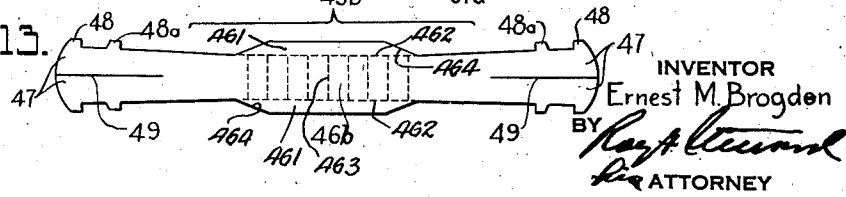


Fig. 13.



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2,313,731

PACKAGE, PACKAGING CONTAINER, AND
BLANK THEREFOR

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Application November 12, 1938, Serial No. 240,166

10 Claims. (Cl. 229—52)

This invention relates to packages, packaging containers and blanks therefor and is directed particularly to a construction of the merchandise display type which may readily be carried by the consumer and which may be constructed from paperboard, boxboard, cardboard or other fibrous relatively stiff foldable sheet material.

The general purpose of the invention is to provide an improved packaging construction which may be conveniently and economically manufactured, packed and handled and which is efficient and attractive in displaying to the consumer a plurality of articles of merchandise, facilitating the purchase and transportation of such merchandise by the consumer.

A primary requirement for containers and packages of this type is low total cost; and in order to provide a commercially successful construction it is necessary to employ a minimum quantity of extremely cheap material, and a construction which may be cheaply manufactured, assembled, packed and handled, while providing adequate strength together with positive and secure retention of the merchandise. Such packages must also be attractive in appearance both with respect to the container and to the contents thereof. The combination of all of these characteristics is an important factor in commercial success.

A principal purpose of the invention is to provide a package, a container and a blank therefor which will conform to all of these requirements.

A serious problem in the development of a packaging construction of this type is the provision of a suitable handle arrangement. The handle must not only be cheap to construct but must be capable of ready, rapid and positive attachment to the body of the container. It must be convenient and comfortable to grasp, and sufficiently strong to withstand excessive strain and abuse. A feature of the invention is the provision of a handle of this type which may be constructed from paperboard or the like, and which may be readily attached to a container body of similar material by a tongue and slot connection.

The provision of a separate handle facilitates the use of different materials for the handle and the container body; and such materials may differ in type, thickness, strength, grain or other appropriate characteristics. Furthermore, the container body blank may be designed in a more compact form, providing economy in cutting and convenience in shipping.

The handle and the body are both preferably constructed from fibrous sheet material having the requisite stiffness, tensile strength and flexibility, such as paperboard, boxboard, pasteboard and the like. Materials of this type generally have a definite grain extending lengthwise of the fibers which are more or less aligned, and have greater tensile strength in a direction parallel to the grain. However, such materials bend more readily and smoothly when the grain extends transversely to the direction of curvature, since flexing in the direction of the grain tends to produce uneven and unsightly seams in the outer surface. An advantage of the invention in its preferred embodiment is the provision of a body structure in which the grain may extend transversely to the engaging edges of the handle-receiving apertures, thereby providing maximum strength at the points most susceptible to rupture, while permitting the use of a handle in which the grain extends transversely, an arrangement that likewise strengthens the engaging portion of the handle and facilitates smooth even bending of such handle even when constructed of relatively thick fibrous material. A specific purpose is to provide a novel handle which projects sufficiently from the package to permit ready grasping thereof, but which may be collapsed to avoid interference with packing or stacking of the package. Another specific purpose is to provide a handle that is suitable for use on a package of bottles or the like having neck portions projecting from the package, with the handle arranged to extend clear of the necks of the bottles when in operative position but readily collapsed into non-projecting position.

Another feature is an improved arrangement of the handle end connection whereby such end is held in operative position and is maintained in flatwise engagement with the container, in position to prevent deflection or collapsing of the handle end, by the engagement of the merchandise with such end during use.

The invention is particularly applicable to packages in which the container includes a series of sections forming a tubular construction embracing the top, bottom and ends of a group of articles of merchandise. In this construction the handle is arranged in longitudinal relation to the series of sections in such manner that when the package is lifted the tension exerted by the ends of the handle will tend to compress the merchandise-engaging sections and to hold the container securely in engagement with the merchandise. In a specific embodiment of the

invention this arrangement is combined with circumferential merchandise-retaining means such as a band or bands extending around the package in a direction transverse to the line of tension exerted by the handle in use, complementing such tension to provide a compact snug package and serving to confine the merchandise at the opposite sides of the container which are not directly engaged by said series of sections.

Other objects and advantages will appear from the following description considered in connection with the accompanying drawings in which:

Fig. 1 is a perspective view of an assembled package embodying the invention with the handle in collapsed position;

Fig. 2 is a plan view of a blank for the body of the container employed in said package;

Fig. 3 is a similar view of a handle or end section blank for use with said body blank;

Fig. 4 is a perspective view of an end of a similar package showing an integral end section and a separable end handle in carrying position;

Fig. 5 is a vertical cross-section on line 5-5 of Fig. 1;

Fig. 6 is a perspective view of a modified form of package with a locking end section and a top handle;

Fig. 7 is a plan view of a blank for the body of the container shown in Fig. 6;

Fig. 8 is a plan view of a handle blank for use with said latter container;

Fig. 9 is a perspective view of the container shown in Fig. 6 in assembled condition, showing the handle and rubber bands in collapsed position;

Fig. 10 is a perspective view of another form of package provided with a circumferential retaining band construction and a modified handle connection;

Fig. 11 is a fragmentary vertical section on line 11-11 of Fig. 10 showing the handle connection in cross-section;

Fig. 12 is a plan view of a blank for forming the container shown in Fig. 10;

Fig. 13 is a plan view of a handle blank for use with the construction shown in Figs. 10-12; and

Fig. 14 is a fragmentary perspective view showing a modified handle connection.

The package consists in general of a container confining a plurality of articles of merchandise which preferably are of columnar form, such as bottles, cans or a plurality of pieces stacked in columnar form and constituting a composite article for packaging purposes. The articles are preferably arranged compactly in one or more rectilinear series with the axes of the articles parallel to each other and the ends of the articles in general alignment, forming a rectangular prismatic merchandise group.

The container comprises in general a series of four consecutive sections connected to form a continuous tubular body adapted to engage four consecutive sides of the merchandise prism. These sides will be referred to herein as the top, bottom and ends of the prism or merchandise group for convenience of description; but although these terms have definite significance in connection with certain embodiments of the invention, they are employed only for descriptive purposes in connection with the broader phases thereof.

The body is provided with a handle preferably formed of sheet material and separably connected at its ends to the body by a tongue and slot con-

struction. The handle is arranged in alignment with the series of sections so that it tends to compress the tube when the package is lifted by the handle. Said handle may constitute one of the sections of the body, or it may be additional to said sections.

In the illustrated embodiments the container comprises a body including a bottom section 30, an end section 31 and a top section 32 preferably formed integrally from a single sheet of material. These sections are provided with means for engaging and retaining the merchandise at the side faces of the merchandise group located between the side margins of the sections 30 and 32. Such means preferably comprises flaps 33, 35, connected to the side margins of said sections 30, 32, together with means for maintaining the flaps in merchandise-engaging position. In the forms illustrated side flaps 33 are connected to the bottom section 30 by parallel bending lines 34, and side flaps 35 are connected to top section 32 by parallel bending lines 36.

The end section 31 is connected by a bending line 37 to the bottom section 30, and by parallel bending line 38 to the top section 32. The depth of flaps 33, 35, in a direction parallel to lines 37, 38, is restricted to provide an opening between said flaps at the sides of the package for exposure of the merchandise at said sides. For this purpose the depth of each of flaps 33, 35, is substantially less than half the distance between lines 37, 38, and preferably less than a quarter of said distance. In merchandise packages of the usual type the depth of said flaps may advantageously be between one-half inch and one inch.

Flaps 33, 35, are preferably arranged with free ends unconnected to or out of contact with other portions of the container. For this purpose each of said flaps is substantially shorter than the section 30 or 32, to which it is attached.

The bottom and top sections 30, 32, are likewise provided at their ends with means for engaging marginal portions of the merchandise group at the ends of the package. Such means preferably consists of flaps 39 connected by parallel bending lines 40 to the free ends of sections 30, 32. End section 31 may be provided, as shown in Fig. 2, with more or less well defined end flap portions 41 corresponding to flaps 39 in arrangement and location and serving likewise to confine marginal portions of the merchandise group. The intermediate portion 42 of section 31 may be substantially narrower than end flap portions 41. Flaps 39 and flap portions 41 of section 31 are likewise free from contact at their ends with other parts of the container and preferably are substantially shorter in the direction of lines 37, 38, than the width of sections 30, 32 in the direction of said latter lines.

A separate handle having detachable connection with the body of the container is provided, and may be arranged and connected in various ways. In the embodiment illustrated in Figs. 1-3, the handle extends between the free ends of sections 30, 32 and in effect forms a second end section. In this arrangement the handle 45 comprises a central shank or grasping portion 46 and end portions 47, provided with slot-engaging means, such as aligned barbs 48 at opposite sides and a longitudinal central slit 49 extending a sufficient distance from the end of the handle to permit overlapping of the portions of the handle at either side of the slit to the extent necessary for insertion of the barbs through the slot,

without bending the handle sufficiently to injure the material of which it is composed.

The bottom and top sections 30, 32 are each provided with a cooperating slot 50 preferably located adjacent a score line 40 and having a width corresponding to the width of handle end portion 47 at the engaging side of barbs 48.

The length of handle 45 between barbs 48 at opposite ends may advantageously be selected so that when handle 45 is in operative position as indicated in Fig. 1 it will hold adjacent ends of sections 30, 32, in substantially the same spaced relationship as the opposite ends of said sections 30, 32 connected by end section 31. This arrangement is illustrated in Fig. 1, and is especially suitable for the packaging of generally cylindrical units, since the depression between adjacent units may be arranged directly beneath the handle to provide knuckle space even when the handle is sufficiently taut to maintain the necessary spacing of the top and bottom sections 32, 30, when the handle is not in use.

As already set forth, the container is provided with means for confining the merchandise at the open sides of the package, such means preferably including flaps 33, 35, and means for yieldably maintaining said flaps in merchandise-engaging position. In the preferred form such maintaining means consists of one or more resilient and preferably elastic bands such as rubber bands 51 extending across bottom and top sections 30, 32, and flaps 33, 35, the bands preferably being arranged at the sides of the container at right angles to the lines 34, 36, defining the side edges of sections 30, 32.

The container is adapted for the packaging of a variety of merchandise articles or units, but is particularly suitable for use with units of substantially columnar contour such as bottles, cans or stacks of symmetrical articles. In Figs. 1-9 the container is employed for packaging cap-sealed cans of standard type. For use with such cans, or with other articles having tapered or reduced neck portions such as bottles as illustrated in Figs. 10-14, the top section 32 is provided with apertures 52 each arranged to fit snugly around a tapered portion of the neck 53 of a can 54, a bottle or the like. The body portions 55 of said cans or bottles, which ordinarily are of generally cylindrical contour, are snugly held between bottom and top sections 30, 32, and are arranged in juxtaposition to each other, preferably in direct contact, to form a compact group.

The bottoms of the cans 54 or the like, as well as their shoulders (upper rims at the base of their tapered portion), extend to bending lines 34-40-34-37 and 36-40-36-38, respectively; the side portions adjacent said bottoms being firmly engaged by flaps 33 and 39 and lower flap portion 41, while the side portions adjacent said shoulders are similarly engaged by flaps 35 and 39 and upper flap portion 41. The apertures 52 are so proportioned and arranged that the top sections 32 bears on said shoulders, with both upper and lower flaps bent over in retaining position. Cutting off the corners of the top and bottom sections and the adjacent flap ends at an angle, say 45°, to the margins of said sections, as indicated at 56, 57 is advantageous for several reasons. In the first place it improves the appearance of the container, providing a neat corner structure in which each corner edge proper, 56, is substantially flush with the outer face of the article (e. g., can 55) at that corner of the

package and contributing to maximum exposure of the contained articles. Moreover, by thus spacing apart the ends 57 of the retaining flaps, the flaps can be bent into operative position without the possibility of their ends interfering, while at the same time providing strong and positive retention of the corner articles laterally. The slanting end 57 of each flap is a continuation of the corner edge or line 56, the point 57a where line 56 intersects the outer or free edge of said flap being, most desirably, near the center line 52c of the series of units extending across that end, or side, of the package; while the point 57b where line 56 intersects the inner or attached edge of the flap is beyond said center line, nearer the end (or side) of the package. This arrangement also supplements the action exerted by the retaining flaps in maintaining the margins of the top and bottom sections 30, 32, in longitudinally flat condition when the flaps are bent over into retaining position, thereby making for increased compactness and greater effective strength of the package structure as a whole.

A further desirable effect of cutting off the corners of the top sections especially is that the narrowed strip of sheet material thus left between corner edge 56 and the adjacent corner aperture 52, free of the stiffening effect of the flaps, renders the container sufficiently flexible at the corners to permit ready insertion or removal of the cans (e. g.) without damage to the container.

In the forms illustrated in Figs. 4 and 6-12, the container is provided with a second end section 60, which preferably is formed from integral continuations of flaps 39 and which may be similar in form and arrangement to end section 31. In this embodiment the top, bottom and end sections form a continuous tube, separate from the handle, which tube may be constructed from a single sheet of material in the form of a strip and assembled by connecting the ends of the strip. Such connection may be provided at any of various points in the tubular body. In the form illustrated the second end section 60 is composed of overlapping portions connected in any suitable manner either detachably (Figs. 6-9), or permanently (Figs. 4, and 10-12), as by stapling or gluing. Referring to Fig. 4, each portion 61 of end section 60 is formed as a continuation of a flap 39 and preferably is narrower than said flap. A preferred arrangement of the end sections for use with columnar units employs end sections 31, 60, having side edges which do not extend substantially beyond the center of the merchandise units engaged by said end sections except in the flap zones adjacent the ends of said sections.

In this embodiment the handle 45 may be sufficiently long to provide the clearance between the handle and end section 60 necessary for ready grasping of the handle. When not in use the handle may be collapsed by sliding one or both end portions 47 inwardly through slots 50 so that the shank 46 of the handle rests in flat position against end section 60, facilitating compact stacking of the packages. When the container is used with cans or other articles of merchandise which have flat surfaces bearing against the top and bottom of the container, the ends 47 of the handle are designed and arranged so that the merchandise bears against such ends, maintaining them in flat position against the top and bottom sections 32, 30, and thereby preventing a type of rupture which readily occurs with barbed handles

made of boxboard or the like when the latter are deflected from flatwise position. More specifically, when the container is applied to cans, the handle end portions 47 and slots 50 are designed and arranged so that the end portions 47 extend across the rims of adjacent cans and are held between such rims and the top and bottom sections 32, 30. The pressure of the merchandise on the end portions of the handle is greatly increased when the package is lifted by the handle due to the constricting effect of the handle pull on the tubular container body; and this construction therefore is most effective at the time when flatwise retention of the handle ends is most necessary.

In the modified embodiment illustrated in Figs. 6-9, a separable connection between the overlapping portions 61a and 61b of the blank which form end section 60 is provided. While this connection in the form shown is of the double barb and slot type, the substantial width and relatively short length of such portions present difficulties in contracting the barbed end of a portion to permit insertion in a slot in the other portion without permanently distorting or rupturing the material. An improved construction to avoid this difficulty has been provided. In the form illustrated, the upper portion 61a of end section 60 is provided with lateral notches 62 forming barbs 63 at opposite sides of said portion. A compressing notch 64 extends from the outer end of portion 61a for a substantial distance longitudinally along said portion and is sufficiently wide at its outer end so that when the edges of the notch are brought together the barb 63 may be inserted in a slot 65 formed in the lower portion 61b of the end section 60. With this construction the portion 61a is not substantially distorted at any point when the edges of notch 64 are brought together, which may be accomplished by a gradual bending of the material at either side of notch 64 in a direction extending in general diagonally from the upper outer corners of said portion 61a to the notch. Notch 64 preferably is V-shaped, though other contours may be employed.

The outer margins of portions 61a and 61b preferably are arranged and aligned to form continuous margins of the end section 60 when said portions are in engagement with each other. Where the container is applied to columnar articles the width of end section 60 (and of end section 31) may be designed so that the edges of the portion midway between top and bottom sections 32, 30, is in alignment with the centers of the articles engaged by said end section, and the side edges of the section may extend outwardly from such central portion to the points of junction with said top and bottom sections, which points are preferably beyond the center lines of said articles.

In the embodiment illustrated in Figs. 6-9, the handle 45a, which is similar in construction to handle 45, extends across the top of the package and its ends engage slots 50a in end sections 31, 60, adjacent lines 38, 40, at the ends of top section 32. Handle 45a is sufficiently long to provide the necessary knuckle space between the handle and adjacent portions of the package, such as the top section 32 or the neck portions 53 of merchandise articles, to permit convenient grasping of the handle when in outer or carrying position. The handle may be collapsed between such neck portions or against the top section 32 by sliding the ends of the handle downwardly in slots 50a,

the shank portion of the handle being suitably contoured for location between the necks 53 when the container is used with bottles, cap-sealed cans or the like. The ends of handle 45a preferably are likewise arranged for engagement by the merchandise to hold said ends in flat position against the ends of the container in the manner and for the purposes already set forth.

In the embodiment shown in Figs. 10-13, wherein the end section 60 is formed by the overlapped ends of sections 61c and 61d suitably secured together as by gluing, the merchandise is retained by circumferential band means passing across the end sections and bearing against the merchandise at the sides of the container. The band means may be made of various materials and arranged in different ways. In the form illustrated, one or more rubber bands 51a are employed. The lower band extends across the end sections 31, 60, and lengthwise along the flaps 33 to hold the latter in merchandise-engaging position. The ends of flaps 33 may be provided with notches 67 holding the band in registered position, or with other band-engaging or registering means. The side edges of end sections 31, 60, may be similarly provided with notches 68 or other means for holding the band; and the marginal portions of the end sections adjacent the latter notches may project a sufficient distance beyond the contacting portion of such sections with the contiguous merchandise to provide wings 69 which may be deflected inwardly by the band to provide a neat rounded appearance and improved retention of the merchandise. If desired, wings 69 may be defined by generally vertical bending lines 70.

While a single band, and particularly a band confining the lower portions of the merchandise group, will be adequate for many types of package, said group may be constricted in similar manner by a band structure adjacent the upper portion of the package body. The method of construction and arrangement will be apparent, including notches 67a or other band-retaining means in flaps 35, and notches 68a or the like in the side margins of end sections 31, 60, which margins may likewise be deflected inwardly by the band and may be defined by generally vertical score lines 70a (Fig. 10) to form upper wings 69a.

In this embodiment the handle 45b is somewhat similar in construction and arrangement to handle 45a but is provided at each end with two additional transversely aligned barbs 48a engaging the upper wall of slot 50, barbs 48 engaging the upper wall of a second slot 50c located substantially below slot 50 in end wall 60. The container is preferably provided likewise with a third slot 50b located above slot 50 and the handle end may be inserted inwardly through slot 50b, thence outwardly through slot 50 and then inwardly through slot 50c, as indicated in Fig. 11. In this arrangement the marginal end portions of the top section 32 which are deflected downwardly in use may be separated from the central portion of said section by score lines 38a, 40a, to provide downwardly sloping segments 66 in which the upper slot 50b may be located. This construction is especially adapted for use with bottles or other merchandise units having sloping portions adjacent the margins of the top section 32. Where the units have square edges adjacent the margins of the top section, the marginal portion of the top will not ordinarily be defined by score lines, and the upper slot 50b may be posi-

tioned either in the top section or in the end section.

It is preferable to proportion the width of the handle at slot 50b relative to the position of adjacent portions of merchandise units so that such handle may be deflected inwardly to some extent when in use without exposure to a rupturing stress by engagement with marginal portions of the merchandise units. Specifically, when the units are generally round in horizontal section in the neighborhood of said slot 50b, it is desirable to design the inward slope of the handle and its width at this point with relation to the contour of the adjacent merchandise units so that it will not bear excessively against the upper edges of such units.

The grip 46b of the handle 45b embodies provision for reinforcing the handle and more comfortably accommodating the hand of the user. This provision includes integral flanges 461 which may be folded inwardly along bending lines 462 to lie flat over the top of the handle when in use. Each of these flanges may desirably have a transverse width approximately equal to half the width of the handle, so that the outer margins thereof abut each other and form a neat upper facing for the handle shank, as shown in Fig. 10. Transverse bending lines 463 may be provided between said bending lines 462 in order to ensure uniform bending of the handle and a smooth slightly surface appearance thereof. The end portions 464 of the flanges may be tapered to provide a gradual change in stiffness of the handle at these points.

A container of the type shown in Figs. 10-13 may be completely assembled and shipped in knockdown form by providing transverse bending lines 71 located centrally between the ends of the end sections 31, 60, permitting shipment with the top and bottom sections resting against each other. This arrangement likewise facilitates movement of the handle 45b between collapsed and carrying positions, since the handle ends can be slid downwardly in their respective slots until barbs 48a contact slot 50a, the distance between slots 50 and 50a being designed with relation to the depth of barbs 48a to provide sufficient movement of handle 45b so that the handle may be located beneath the upper ends of the necks 53 of bottles or other merchandise units, or adjacent the face of top section 32 when the package is not employed for projecting units, to permit stacking of the packages.

A modification of the handle end construction of Figs. 10-13 is indicated in Fig. 14, and is characterized by the omission of barbs 48a. It includes a handle structure substantially the same as that shown in Fig. 8 in combination with the plurality of slits shown in Figs. 10-12. This arrangement substantially facilitates the insertion of the handle end and does not limit the extent to which such end may be pushed downwardly through the slots to collapse the handle. At the same time it has been found in practice that the frictional engagement of the handle with the container body in this construction, as well as the elimination of sidewise movement that would throw the strain on a single barb, provides a separable connection that is substantially stronger than the arrangement disclosed in Figs. 1-9.

The arrangements described and illustrated are suitable for rapid and convenient formation of the blanks from sheet material by stamping, and the containers are readily assembled and packed. The forms illustrated in Fig. 1 may be packed

by placing the merchandise on the bottom section, folding the end and top sections around the merchandise and inserting the handle in apertures 50, though one end of the handle may be inserted in the blank before packing. The bands 51 are then snapped around the package. A similar procedure may be employed with the construction illustrated in Fig. 6, the handle being preferably inserted in the container before packing. In the remaining arrangements, and if desired in the constructions of Figs. 1 and 6, the container may be assembled before packing, and is arranged so that the merchandise may be rapidly inserted through the open sides. Where the container is employed for packaging articles having projecting portions such as cap-sealed cans or bottles, such projecting or neck portions may readily be inserted through apertures 52 in top section 32 by inclining the tops of the cans or bottles inwardly. The flaps 33, 35, are automatically pulled into place by the application of bands 51. The packing operation may conveniently be carried out in a suitable jig and has been shown to be exceptionally rapid under operating conditions.

The blanks and handles are arranged so that they may be readily stacked and shipped in flat condition to the packaging plant either with the handle separate or inserted and collapsed against the body sections in the manner already indicated. The handles are readily stamped from fibrous sheet material as set forth herein, and because of their arrangement relative to the body sections in the assembled container, as well as the positioning and construction of the engagements between the handle ends and the body, the handle constructions disclosed herein have been shown to be amply strong for any use to which they will be subjected in practice. All of the handle end constructions are capable of rapid and ready insertion in the body apertures, and provide a positive strong engagement, particularly when the handle ends are maintained in flat position by the merchandise.

The packages illustrated and described herein are compact and may readily be packed in contact with each other with a minimum increase in the space required for the merchandise itself. The packages likewise may readily be stacked in tiers to any desired reasonable height without unduly due to the container structure. This is particularly desirable where bottles or cap-sealed cans are packaged, since it is difficult to provide for stacking such merchandise unless it is substantially enclosed in rectangular prismatic packages. The open sides of the types of container disclosed herein permit exceptional economy of material combined with a highly attractive display of the merchandise, and likewise facilitate the access of air around the articles for refrigeration, the maintenance of dry or moist conditions or the like. Moreover, the articles are rapidly and readily accessible to the consumer and may be removed and replaced without destroying or even materially affecting the efficiency of the container in confining the remaining articles. This is particularly advantageous where the container is employed for bottles sold on deposit and which can conveniently be replaced in the container and returned as a unit without the usual difficulty in handling a number of loose bottles.

While the invention has been illustrated in its preferred embodiment together with a number of modifications thereof, it will be understood

that many features may be further modified without departing from the invention as set forth in the claims. For instance, while the specific embodiments have included bottles or cap-sealed cans, it is obvious that the invention is not restricted to merchandise of this type having portions which project through the top. Other types of cans or other merchandise can not only be packaged, but can be inserted through the open sides of the container even more rapidly and conveniently than bottles and the like.

The invention is particularly suitable for use with containers made of relatively stiff flexible foldable sheet material, as already indicated, and has been designed so that such material may be of relatively cheap grades without sacrificing the mechanical efficiency of the container. This is due partly to the fact that except at the points of handle engagement the stresses on the material are uniformly tensile, with a substantial absence of bending or distorting stresses except those which are adequately supported by the merchandise itself, the body and handle structure being designed with relation to the prismatic merchandise group to produce such distribution and type of stresses. Since the stresses on various parts of the container structure will vary with different types of merchandise having varying contours, weights and degrees of yield or variation in shape, the material selected for the container must obviously be selected for each particular type of use. The structure is particularly designed, however, to facilitate the construction of the container body and of the handle from one of the wide variety of fiber sheet materials on the market, including not only those known as paperboard, boxboard, pasteboard, cardboard and even certain grades known as paper, but also composite sheets made up of a series of superposed sheets, such for instance as paperboard having a surface of kraft to provide the requisite toughness, or sheets having a surfacing of finer pulp suitable for printing and the like.

The illustrated embodiments moreover include packages containing two rows of articles; but the invention is not intended to be restricted thereby, since features set forth in the claims are equally applicable to packages containing a smaller or a greater number of rows of such articles, though in general the container is primarily adapted for confining a plurality of articles. Likewise, while the bottles and cans which constitute the articles shown and described herein are unitary or monolithic, the invention is not restricted thereto, though the container has certain special advantages when applied to merchandise of this type. Such articles obviously may be formed of a plurality of similar pieces of merchandise stacked on each other; and in its broader aspects the invention is not necessarily restricted to columnar articles.

The bending lines referred to herein may be of any desired type adapted to facilitate accurate bending along the desired lines. They may include creases in which the material is depressed at one side usually with a corresponding ridge on the other side, or scores in which the material is partially cut along the line, including cut scores in which the cut extends partially through the material at one side, and perforated scores in which short spaced cuts extend through the material along the line.

I claim:

1. A merchandise display and carrying container for consumer packages comprising a body

of sheet material having substantially rectangular top and bottom sections and opposite end sections connected in series to form a tube having parallel open opposite sides, the body being provided with a handle extending substantially parallel to the sides and separably connected at each end to the body; each of said top and bottom sections having merchandise-retaining portions extending from the side margins thereof and over said opposite sides for a distance substantially less than one-half the height of said sides, each of said portions being unconnected to any part of the container other than the side margin from which it extends.

2. A merchandise display and carrying container for consumer packages comprising a body of sheet material having substantially rectangular integral parallel top and bottom sections and opposite end sections connected in series to form a rectangular prismatic tube with open opposite sides; an article-retaining flap means extending from the side edges of the top and bottom sections and over said opposite sides for a distance substantially less than one-half the height of said sides, each of said flap means being unconnected to any part of the container other than the side edge from which it extends; a handle of sheet material extending substantially parallel to the sides and slidably engaging apertures in opposite sections, said handle being movable through at least one of said apertures between collapsed position adjacent the subjacent section and carrying position substantially spaced from said latter section.

3. A container as set forth in claim 2 in which the top section is provided with apertures for projecting portions of merchandise units, the handle extending across the top into apertures in the opposite end sections and being located between the apertures in the top section when in collapsed position.

4. A merchandise display and carrying container for consumer packages comprising a tubular body of sheet material having open opposite sides; a circumferentially extending handle mounted on the body and an elastic band threaded on the handle and arranged to encircle the body beneath the handle when the body is packed with merchandise.

5. A merchandise display and carrying package comprising a generally rectangular prismatic group of articles of merchandise and a container confining said group, the container including substantially rectangular parallel top and bottom sections engaging the top and bottom of the group and opposite end sections engaging the ends of the group, said sections being connected in series to form a tube with parallel open opposite sides, said top and bottom sections having merchandise-retaining portions extending from the side margins thereof and over said opposite sides for a distance substantially less than one-half the height of said sides, each of said portions being unconnected to any part of the container other than the side margin from which it extends.

6. A merchandise display and carrying package comprising a rectangular prismatic group of articles of merchandise, and a container confining said group, the container including substantially rectangular parallel top and bottom sections engaging the top and bottom of the group and opposite end sections engaging the ends of the group, said sections being connected in series to form a tube with parallel open opposite sides, and

retaining means confining and simultaneously exposing the merchandise at said sides, one of said end sections constituting a handle, and the articles of merchandise adjacent the handle being of rounded columnar form with the depression between adjacent units located beneath the handle and providing space for knuckles of a hand grasping the handle.

7. A package as set forth in claim 5 in which the top section is provided with a series of apertures and the merchandise comprises a plurality of columnar articles having portions projecting through said apertures, and a handle extends in alignment with a space between adjacent series of said projecting portions and is collapsible into position between said projecting portions.

8. A package as set forth in claim 6 in which the retaining means at the sides of the package comprises flaps extending partially across said sides from opposite margins of one of the top and bottom sections and a circumferential retaining band extending across the ends of the body and longitudinally across said flaps.

9. A blank for a merchandise display and carrying container formed integrally from relatively stiff foldable fibrous sheet material, and comprising a substantially rectangular bottom section, a substantially rectangular top section and

an intermediate end section connected to the top and bottom sections along parallel bending lines, the end section being narrower transversely of the blank than the top and bottom sections, said top and bottom sections each being provided with a handle-engaging aperture adjacent the margin opposite to the end section.

10. A merchandise display and carrying package comprising a generally rectangular prismatic group of articles of merchandise and a container confining said group, the container including substantially rectangular parallel top and bottom sections engaging the top and bottom of the group and opposite end sections engaging the ends of the group, said sections being connected in series to form a tube with parallel open opposite sides, said top and bottom sections having merchandise-retaining portions extending from the side margins thereof and over said opposite sides for a distance substantially less than one-half the height of said sides, each of said portions being unconnected to any part of the container other than the side margin from which it extends; one of said sections being arranged to separably connect the top and bottom sections and being formed to provide handle means by which the package may be carried.

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