Nov. 7, 1944. E. M. BROGDEN 2,361,926

PACKAGE, CONTAINER AND BLANK THEREFOR

Filed Nov. 12, 1938 3 Sheets-Sheet 1

Fig. 1.

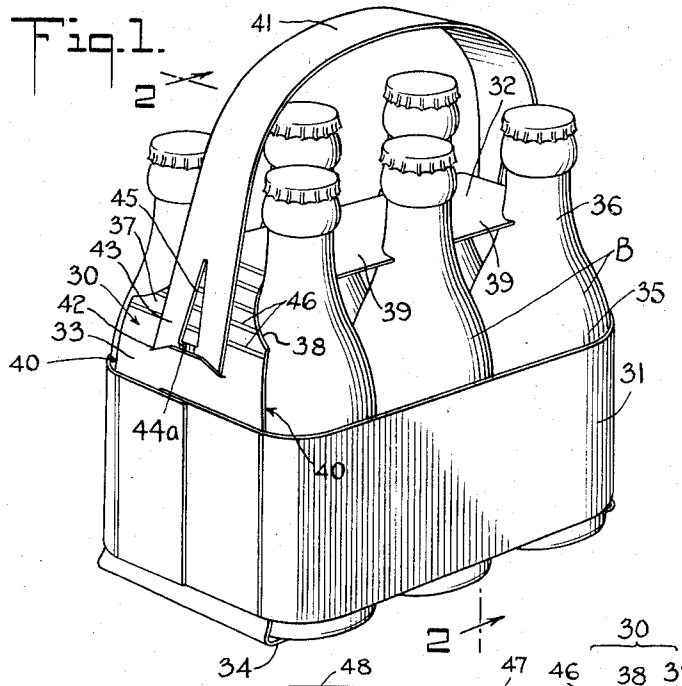


Fig. 2.

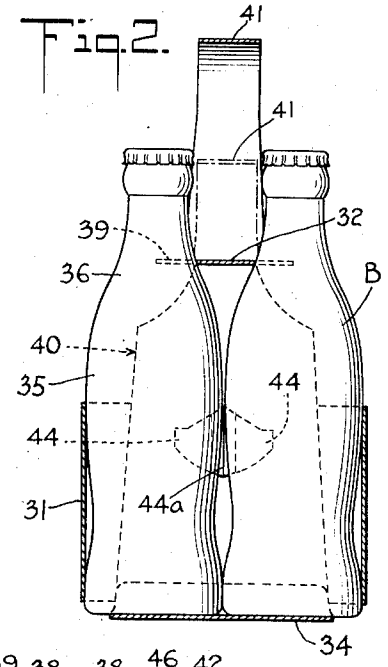


Fig. 3.

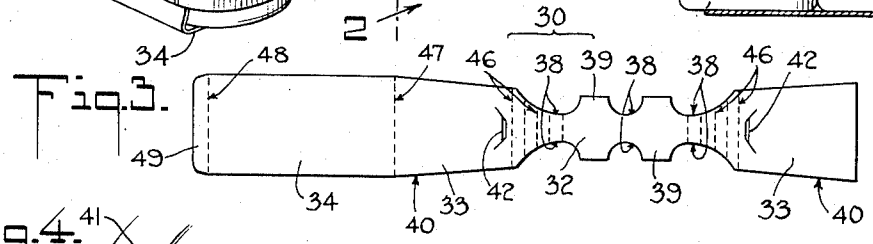


Fig. 4.

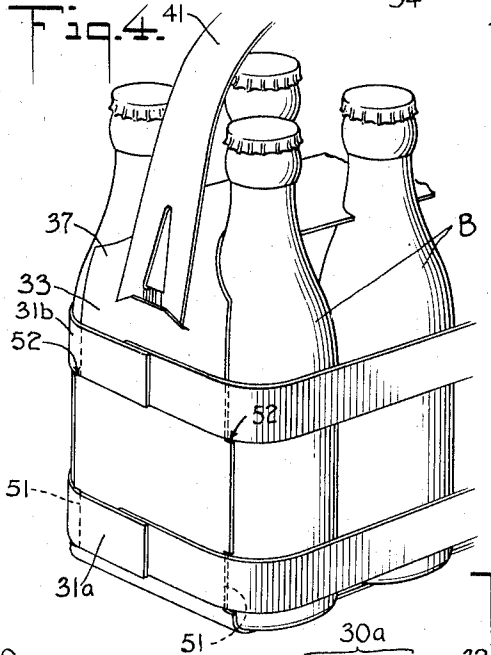


Fig. 5.

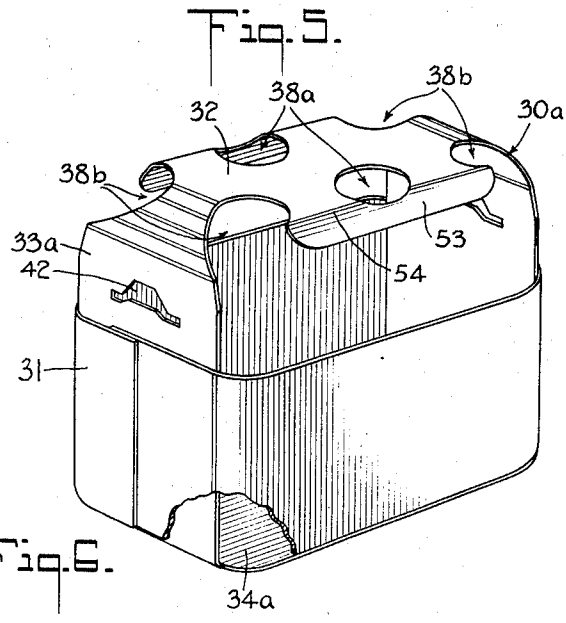
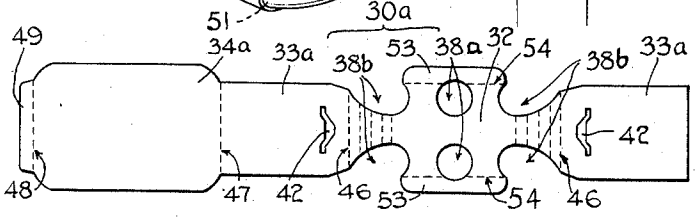


Fig. 6.



INVENTOR
Ernest M. Brogden
BY
ATTORNEY

Nov. 7, 1944. E. M. BROGDEN 2,361,926

PACKAGE, CONTAINER AND BLANK THEREFOR

Filed Nov. 12, 1938 3 Sheets-Sheet 2

Fig. 7.

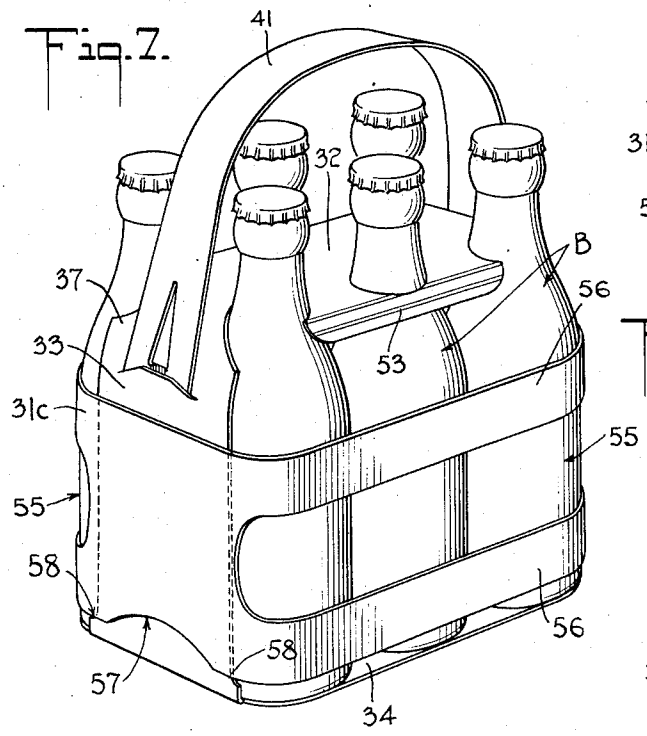


Fig. 8.

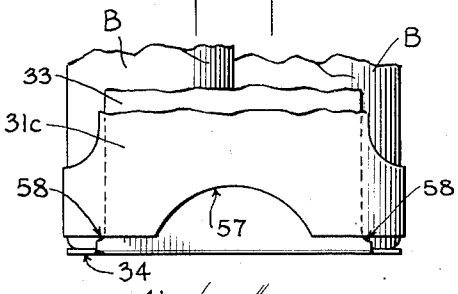


Fig. 9.

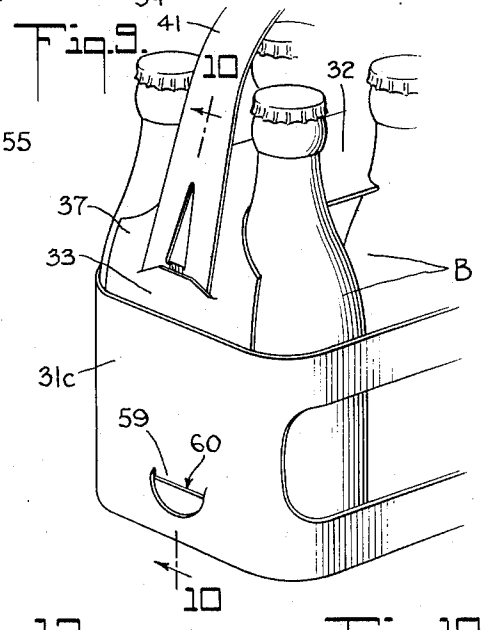


Fig. 11.

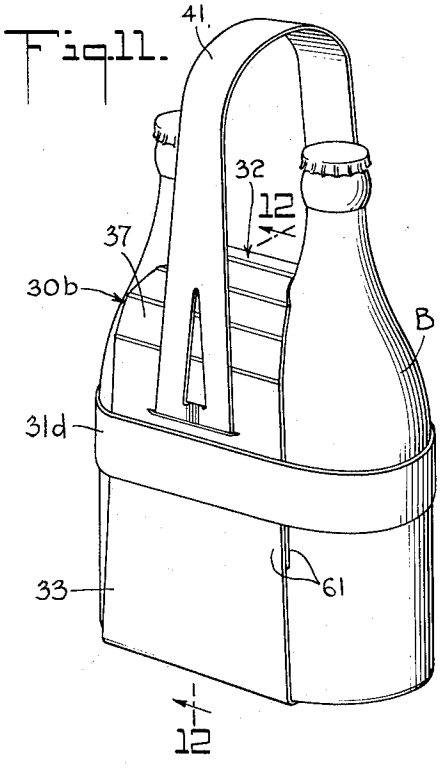


Fig. 12.

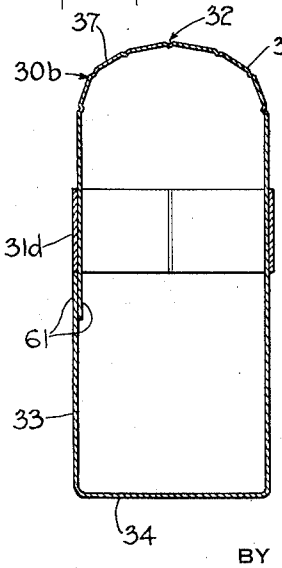
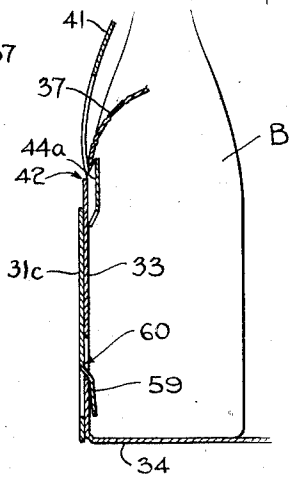


Fig. 10.



INVENTOR
Ernest M. Brogden
BY Roy G. Steinand
His ATTORNEY

Nov. 7, 1944. E. M. BROGDEN 2,361,926

PACKAGE, CONTAINER AND BLANK THEREFOR

Filed Nov. 12, 1938 3 Sheets-Sheet 3

Fig. 13.

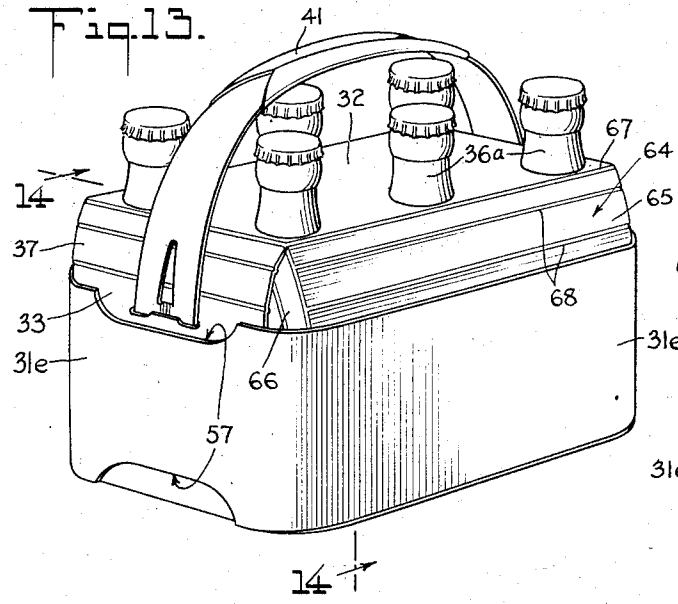


Fig. 14.

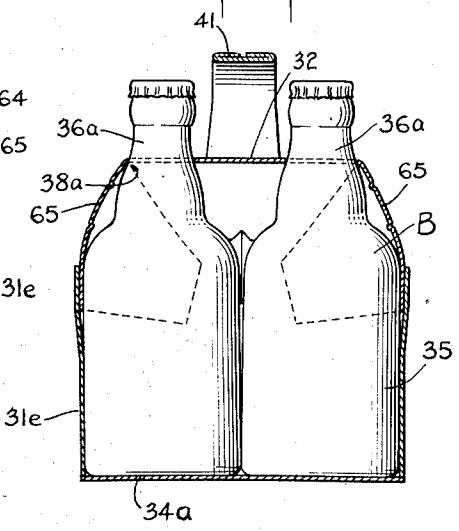


Fig. 15.

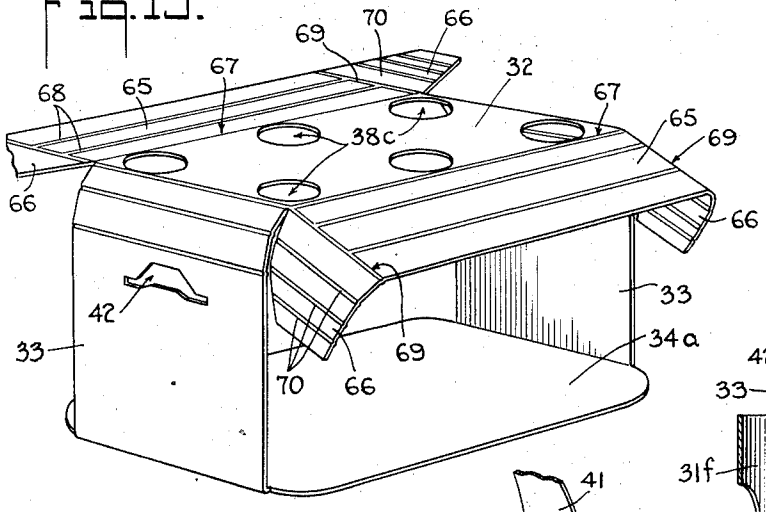


Fig. 17.

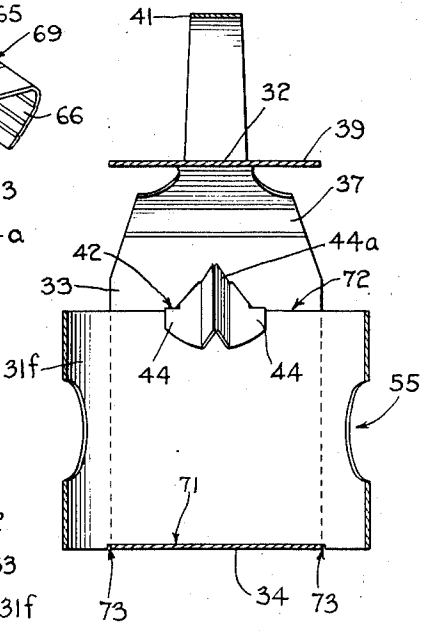
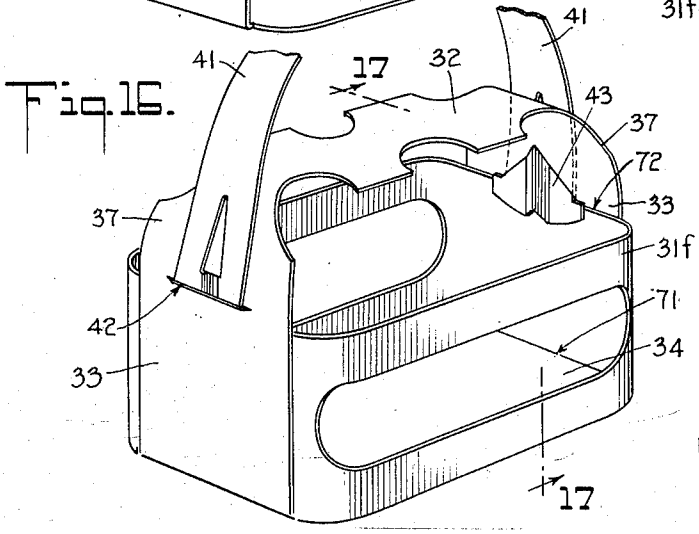


Fig. 16.



INVENTOR
Ernest M. Brogden
BY Roy F. Steward
His ATTORNEY

Patented Nov. 7, 1944

2,361,926

UNITED STATES PATENT OFFICE

2,361,926

PACKAGE, CONTAINER, AND BLANK THEREFOR

Ernest M. Brogden, Orlando, Fla., assignor to President and Directors of the Manhattan Company (sometimes known as Bank of the Manhattan Company), trustee, New York, N. Y., a corporation of New York

Application November 12, 1938, Serial No. 240,169

13 Claims. (Cl. 229—52)

This invention relates to improvements in packages, containers and blanks therefor, in which the container is adapted for construction principally from fibrous sheet material such as paperboard and the like.

The invention is especially applicable to arrangements for packing a number of articles of merchandise in a single package suitable for purchase as a unit by the consumer, and is effective in promoting the simultaneous sale of a group of articles, such as filled bottles or cans. With merchandise of this type the packaging cost must be held to a very low figure, as the market is highly competitive; and this requirement involves not only the use of inexpensive materials but also the reduction to a minimum of the total amount of such materials employed in the package. A feature of the invention is the provision of a container and package structure which conforms to these requirements, while providing adequate strength and security of packing. Another feature is the arrangement and construction of the container parts to facilitate rapid and economical cutting of the blank and assembling, packing and handling of the container.

A purpose of the invention is to produce a packaging construction of the indicated type which may be arranged to expose a substantial part of the merchandise for display or other purposes, the location and extent of such exposure being capable of substantial variation to conform to different conditions, various types of merchandise and a wide range of advertising designs.

The invention likewise includes the provision of a package provided with an improved handle arrangement enabling it to be stacked conveniently and without waste space in series and tiers of packages, the handle being capable of being collapsed or telescoped into non-projecting position.

The container according to this invention is of the single tube type, in which four sections are connected in series to form a generally rectangular prismatic tube with open sides. A separate handle is provided on the tube or body, and extends in general parallel to the open sides, that is, circumferentially of the tube, so that the handle in use tends to constrict the tube against the merchandise therein. Such merchandise is confined in snugly packed position by band means extending across the sides of the tube, desirably in the form of a continuous band encircling the package and extending across said sides and the end sections of the tube. By appropriately designing and arranging the tube or tubular body of the container and the confining or retaining band means it is possible to employ a relatively small amount of material for each of these container elements while retaining their effective merchandise-confining functions. This arrangement likewise facilitates extensive exposure of the merchandise where desired.

The invention is particularly advantageous for packaging columnar articles that are reduced in diameter toward one end, such as bottles and cap-sealed cans. Such articles present special problems due to their contour and the danger of chipping and breaking the bottles. A purpose of the invention is to provide a container of the type indicated which is particularly adapted to hold one or more pairs of bottles, cap-sealed cans or the like in a snugly packed group while utilizing the reduced end portions of the articles to simplify the container structure and decrease the amount of material required, as well as to provide a firm and attractive arrangement. This purpose is accomplished in general by locating the top section of the container body between the necks of the bottles in position to provide transverse support in a zone located entirely below the bottle mouths, thereby shortening the end sections of the tube and providing an attractive exposure of the bottle necks without sacrificing the firm retention of the bottles in the package.

In this embodiment an additional feature is the provision of a handle connected at its ends to the tubular body at or adjacent to the end sections and aligned with the space between the necks of the bottles, arranged for collapse of the handle between such necks.

Certain specific features have been provided for properly locating and maintaining the confining or retaining band in desired position, and facilitating its application and removal. These include band stops or locking means arranged on registering portions of the container body and the band. A further desirable specific feature is the provision of a tapered or wedging structure on the body, serving to increase tension on the band as it is slid downwardly over the packed container, thereby facilitating application and removal of the band and compensating for variations in band length or merchandise proportions.

It is sometimes considered desirable to protect merchandise such as bottled beer against light; and the invention can be embodied in a light-excluding container where this is desirable.

Other objects, advantages and desirable features of the invention will appear from the following description considered in connection with the accompanying drawings in which

Fig. 1 is a perspective view of a desirable practical form of package embodying the invention, comprising a container packed with six bottles;

Fig. 2 is a vertical transverse section on line 2—2 of Fig. 1;

Fig. 3 is a plan view of a blank for forming the tubular body of the container shown in Figs. 1 and 2;

Fig. 4 is a fragmentary perspective view of a similar package showing a modified band arrangement and a narrowed body construction;

Fig. 5 is a perspective view of a modified form of container in which the band engages the margin of the bottom section and closed apertures for the intermediate bottle necks are provided;

Fig. 6 is a plan view of a blank for the tubular body of the container shown in Fig. 5;

Fig. 7 is a perspective view of a modified form of package showing another type of band and body end construction;

Fig. 8 is a fragmentary elevation of the lower part of one end of the package shown in Fig. 7;

Fig. 9 is a fragmentary perspective view of another modified package showing a different type of band connection;

Fig. 10 is a fragmentary vertical longitudinal section on line 10—10 of Fig. 9;

Fig. 11 is a perspective view of another form of package showing a different type of band stop and a container suitable for two large bottles;

Fig. 12 is a vertical transverse section on line 12—12 of Fig. 11;

Fig. 13 is a perspective view of still another modified form of package arranged to exclude light from the bottles;

Fig. 14 is a vertical transverse section on line 14—14 of Fig. 13;

Fig. 15 is a perspective view of the tubular body portion of the container shown in Fig. 13 with the light-excluding flaps in raised position;

Fig. 16 is a perspective view of another modification of the container structure including a band positioned within the tubular body member; and

Fig. 17 is a vertical transverse section on line 17—17 of Fig. 16.

While certain features of the invention are applicable to the packaging of various types of merchandise, the invention is particularly advantageous when employed for packing columnar articles, that is, articles more or less elongated and having substantial symmetry about a longitudinal axis. Such articles include particularly cans (the flat end type as well as the cap-sealed type with projecting necks) and bottles, the various specific embodiments illustrated and described herein being applied to the packaging of the latter. The package is applicable to merchandise arranged to form a prismatic group, preferably generally rectangular in contour, which may be made up of columnar articles compactly arranged side by side in parallel alignment. In the preferred form such articles are arranged in one or more pairs, forming two parallel series of articles constituting the group.

In the embodiment illustrated in Figs. 1–3 the container consists of a normally upright tubular body member 30 of sheet material and a retaining band or tube 31 encircling said body member horizontally and likewise formed of the same or some different sheet material. Said body member comprises generally a top section 32, end sections 33 and bottom section 34 connected in series. Bottom section 34 is arranged in supporting engagement with the bottom face of the merchandise group, in this case the bottoms of bottles B; end sections 33 are in confining engagement with the ends of said group, in this instance the side faces of the bodies 35 of the end bottles B; and top section 32 is in confining engagement with the upper side of said group, in this instance the upper portions or necks 36 of bottles B.

While contiguous body sections may be connected along sharp bends normally approximating right angles, they may advantageously be contoured in the connecting zones to conform to the subadjacent surfaces of the merchandise group. Where the container is employed with bottles having the usual sloping necks 36, the top section 32 and end sections 33 may be joined by a connecting portion 37 curved to conform to the merchandise and preferably merging with the generally flat central areas of said sections 32 and 33. While connecting portion 37 may in certain instances be considered part of the end section 33, it is preferably taken as part of top section 32 in the embodiments illustrated herein, since its functions are substantially those of said top section. Each connecting portion 37 may be provided with transverse bending lines suitable for facilitating the smooth and ready bending of said portion to the contour of the merchandise.

In the form shown in Fig. 1 the top section 32 is provided at each margin with a series of apertures 38 (recesses in this instance, i. e., apertures which are laterally open) registering with the necks 36 of bottles B and having margins formed and arranged to so engage the necks as to prevent transverse movement thereof towards each other, as well as upward movement of any bottle in the direction of its axis. Preferably such engagement is provided at both the inner and side faces of said necks to prevent movement thereof in any direction except substantially outward parallel to end sections 33. For this purpose recesses 38 are arranged to form marginal tongues 39 each projecting between a pair of bottles substantially to a line joining the central axes of the bottles. The tongues may terminate at this point leaving recesses 38 open along the lateral margins of the top section 32 for free lateral introduction and removal of the bottle necks 36, as in the embodiment shown in Fig. 1. However, where the material is sufficiently strong, stiff and flexible, tongues 39 may project outwardly beyond such center and the margins of recesses 38 forming the sides of such tongues may be curved for a short distance beyond such center about the bottle necks 36 to provide yieldable retention of such necks as indicated in the end recesesses 38b of Fig. 5, the bottles being nevertheless readily removable by an outward pull which will flex slightly the projecting lateral margins of tongues 39 at the outer ends of the tongues.

The portions of the container body interposed between the bottle necks may be proportioned to hold said necks at a sufficient distance from each other so that the upper portions of adjacent bottles will be spaced apart and the bottles will be in contact only at or near their bottoms where they are held firmly by the end body sections and the retaining band. In this arrangement the bottles are appropriately spaced transversely by the central portion of the top section 32 between the rows of apertures 38 and are longitudinally spaced at each side of the package by tongues 39. This

is highly desirable as tending to minimize breakage.

The end recesses **38** extend into the connecting portions **37** of the top section **32** and have margins in said portions which should be suitably contoured to maintain adequate engagement with the bottle necks **36** when connecting portions **37** are curved downwardly to merge with end sections **33**.

The retaining band **31** may vary considerably in height or width, contour and location, depending upon the characteristics of the merchandise and the preference of the manufacturer or packer regarding package appearance and merchandise exposure. In the form shown the band extends vertically across a substantial portion of the bottle bodies **35**, engaging bottles B adjacent the top and bottom portions of said bodies. This type of band is especially useful with bottles of the hour glass type such as those illustrated in Fig. 2, since it engages the bottle bodies above and below the constricted portion thereof and serves to cover the sides, which ordinarily do not carry labels and are not especially sightly. Band **31** extends across the outer faces of end sections **33** and is sufficiently tight to hold said end sections in firm engagement with the bottles B while simultaneously pressing bottles at opposite sides of the container inwardly into rigid relationship to each other and the necks **36** into firm engagement with the margins of recesses **38** in top section **32**.

Band **31** may consist of an integral or one-piece strip of material with substantially parallel top and bottom edges and with ends connected to each other, as by overlapping said ends and securing them together by glue or the like.

In the embodiment illustrated in Figs. 1–3 the band **31** may advantageously be constructed of relatively stiff fibrous material, such as paperboard, and is applied by sliding the band downwardly over the container and merchandise. Means for arresting the downward movement of the band when constructed and applied in this manner is preferably provided so that the band is accurately located in desired position and cannot be forced below bottom section **34**. In the form shown in said figures, end sections **33** taper inwardly from their junctions with the bottom section **34**, the angle of taper being selected relative to the circumferential length of the band **31** so that the band will readily slide downwardly over the upper portions of end sections **33** and bottle bodies **35**, but will be gradually pressed outwardly by the side margins **40** of end sections **33**, increasing the tension on the band and its constricting effect on the package.

The width of end sections **33** adjacent their junctions with bottom section **34** is sufficient to prevent forcing the lower edge of band **31** downwardly to the level of bottom section **34**, the stiffness of the material and the reinforcement thereof provided by the angular intersections between end sections **33** and bottom section **34** providing a stiffening effect on the marginal portions of end sections **33** adjacent the bottom section sufficient to retain the lower ends of margins **40** in position projecting outwardly from the adjacent faces of the bottle bodies **35** to serve as stops preventing further progress of the band **31**.

To produce this construction it is necessary that the margins **40** of end sections **33** and the connecting margins of bottom section **34** shall extend toward the sides of the packages a substantial distance beyond the lines of contact between end sections **33** and the bottle bodies **35**, which lines will be opposite the vertical centers or axes of the bottles when the bodies **35** are approximately cylindrical. In this embodiment therefore the width of the lowermost portion of each end section **33** is substantially greater than the distance between the axes of the bottles engaged by the section, while the width of the upper portion of said section is substantially less, and may advantageously be approximately the distance between said axes. With this arrangement bottom section **34** preferably has a width throughout substantially equal to the width of the lower ends of the end sections **33**.

The container is provided with a suitable handle extending in a circumferential direction transversely to the axis of the tubular body member **30** and generally parallel to the open sides of said member, so that the tension exerted by the handle in use will tend to draw end sections **33** and bottom section **34** inwardly against the merchandise. In the preferred form illustrated the handle **41** is adapted to be made from sheet material of the type indicated and is connected at its ends preferably to the upper portions of the end sections **33**.

The handle **41** is arranged for collapsing into a position in which it will not interfere with the stacking of the packages or their insertion in a narrow space. For this purpose the handle is arranged so that it may be forced inwardly toward the container body. Where the package is of the type illustrated in which the bottle necks or other article projections extend above the top section **32** the handle **41** is arranged in alignment with the space between parallel series of bottle necks and is constructed so that it may be forced downwardly between such necks into a position in which it will not project beyond the outer faces of the package.

While this may be accomplished by providing a sufficiently flexible handle, in the preferred form at least one end of the handle is slidably mounted on the container body in such manner that by sliding the handle end into the body said handle may be depressed between the bottle necks or other projections, as indicated in dotted lines in Fig. 2, or may even be forced inwardly until it lies flat along the outer surface of the body, the latter arrangement being particularly appropriate for packages in which the merchandise does not project through the top section.

This result may be obtained by providing a suitable tongue and slot connection between one or both of the handle ends and the container body. In the form illustrated each side section **33** is provided adjacent its upper end with a transverse slot **42** through which an end or tongue portion **43** of handle **41** extends and is held in suitable manner against retraction as by barbs **44** and laterally bent web **44a** engaging the upper wall of slot **42**, the handle end being provided with a longitudinal slit **45** to permit transverse contraction of said end for insertion in slot **42**. While a special form of connecting structure is illustrated, its characteristics are not set forth in detail nor claimed herein, since they are disclosed in detail and claimed in the copending application of Ernest M. Brogden, Ser. No. 240,167, filed November 12, 1938, now Patent No. 2,289,824.

The body member **30** may be cut from a single blank of sheet material, and the latter may desirably be positioned so that the grain or principal direction of the fibers in said material runs

transversely across the member generally parallel to the lines defining or separating the sections. The connected ends of the blank may be located at various points of the tube, the arrangement disclosed providing a lap joint at the intersection between an end section **33** and the bottom section **34**, thus giving a certain amount of reinforcement along said line. The blank illustrated in said figure is provided with bending lines **46** between end sections **33** and top section **32**, lines **46** in the connecting portions **37** between the side and top sections being parallel to line **47**, and preferably being located approximately at the top of the bodies **35** of bottles B.

It will be understood, however, that bending lines **46** are for the purpose of providing a smooth curvature to the connecting portions **37** and may be dispensed with where the contour of said portions and the flexibility of the material permit the material to curve smoothly between the top and end sections. Bending line **47** is provided at the intersection of one end section **33** and the bottom section **34**, the opposite end of the latter being defined by bending line **48** at the intersection with flap **49**, which is suitable for attachment as by gluing to the lower portion of the end section at the opposite end of the blank, whereby to form the body member **30** as a permanently continuous tube.

As already indicated, the width of band **31** may be varied and it may be located at various distances from the bottom of the package. For certain types of merchandise it may be positioned near the bottom, while for others, and particularly where side labels are to be exposed, it may extend across the upper portions of the bottle bodies **35** in position to expose labels normally located on said bodies. While packages may be provided with a single band in either location, the form illustrated in Fig. 4 shows for convenience a band in each position, with the lower band **31***a* registered and held in place by notches **51** in the side margins of end sections **33**, and the upper band **31***b* held against downward movement by shoulders **52** on said margins. The width, stiffness and tension of the bands preferably is such that when the upper band **31***b* is removed the bottles B can readily be extracted from the package by lateral deflection of a bottle neck to clear the top section **32**, followed by upward withdrawal of the bottle. The bottles may be replaced in a similar manner.

Another method of arresting the downward movement of band **31** is illustrated in Figs. 5 and 6, in which the bottom section **34***a* is extended at the sides to a position beneath band **31**, serving as a stop and support therefor. This arrangement provides a complete coverage of the bottom of the package, which is advantageous for certain types of merchandise and conditions of use.

While recesses **38** in top section **32** may be proportioned to permit easy and rapid lateral insertion of the bottle necks **36**, a construction which, incidentally, facilitates machine packing, it may be desirable under certain conditions to provide more positive retention of the bottle necks or other projecting portions of articles in the package. For this purpose said recesses may be either partially or wholly closed, since said necks can readily be inserted upwardly into closed apertures before the base of the bottle is swung inwardly onto bottom section **34**. A container of this type is illustrated in Fig. 5, designed for packaging six bottles and including completely closed apertures **38***a* for the intermediate or central bottle necks. The marginal portion or flap **53** extending beyond apertures **38***a* at each side is integral with the tongues **39** and may be deflected downwardly into contact with the bottle necks **36**. The end recesses **38***b* have lateral margins curved around the bottle necks **36** beyond the center, as already described, said margins terminating at the ends of flaps **53**, which may be inclined or curved relative to the straight outer edges of said flaps.

This form of construction has been found to be especially advantageous in providing strong retention of the upper portions of the bottles when it is desired to use a relatively loose, weak or narrow band **31**, since it largely eliminates any strain on the bottle necks due to outward pressure on the bottle necks. Moreover, it will be understood that the package is not limited to three bottles or similar articles at each side; and when three or more articles are thus packaged, bottles intermediate the ends of the container may have a greater tendency toward lateral deflection than the end bottles. This tendency is substantially eliminated by the aperture arrangement indicated, in which the apertures engaging such intermediate articles are closed at least to an extent sufficient substantially to prevent outward deflection of the necks or projections during use, while the end apertures may or may not be arranged to produce this result, depending upon conditions and the characteristics of the bottles or other articles in the package.

A blank for the tubular body member **30***a* illustrated in Fig. 5 is shown in Fig. 6, and in general is formed and arranged similarly to the blank shown in Fig. 3. If desired, bending lines **54** may be provided at the junctions of flaps **53** with the central portion of top section **32**, lines **54** preferably being located along the outer margins of aperture **38***a*, or slightly inward from said margins, and in the form illustrated in Fig. 5 they extend to the junctions between the margins of recesses **38***b* and the ends of flaps **53**.

In the arrangement shown in Figs. 7 and 8, other modifications of the band structure and support are illustrated. In this embodiment the band **31***c* is relatively wide, preferably of the type shown in Figs. 1 and 5, but is provided with horizontal openings or cut-away portions **55** arranged to provide adequate exposure and display of side portions of the merchandise, while upper and lower webs **56** of the band provide the necessary confining engagement with the merchandise. Obviously the contour and proportions of openings **55**, and the number of openings employed, may be varied within wide limits according to the type of merchandise packaged and the portion thereof which is to be exposed. The illustrated arrangement, in which the openings **55** are positioned to expose the principal portion of labels or the like on the bottles B, includes openings which may extend at their ends substantially to the lateral margins of end sections **33** to provide adequate exposure of the labels on the corner bottles.

Band **31***c* may be provided at its ends with suitable means engageable by the fingers of the user to facilitate upward withdrawal of the band from the package. In the form shown in Figs. 7 and 8, particularly the latter, this is accomplished by providing upwardly curved or recessed lower marginal portions **57** of band **31***c* at each end of the package arranged to provide sufficient clearance

above the surface on which the package is placed to permit the fingers to press inwardly on the subjacent portions of the end sections **33** and obtain a firm grip on the lower edges of the band.

These figures also illustrate another form of band stop comprising shoulders **58** on the lateral margins of end sections **33**, positioned for engagement by the lower edge of the band when the latter has been slipped downwardly into desired position. A positive stop arrangement such as the one just described is of particular value when the band is designed to register with or expose predetermined portions of the packaged articles.

In some cases, the retaining band may desirably be connected to end sections **33** of the container body in appropriate manner to maintain said band and end sections in the desired relationship. The connecting structure, when employed, preferably is readily separable for application and removal of the band, and may be of a type which can be engaged during band application and which will serve as a stop arresting the downward movement of the band. A structure of this type is illustrated in Figs. 9 and 10 and includes a locking tongue **59** excised from the portion of band **31***c* overlying an end section **33** of the body member, said tongue sliding into a transverse slot **60** in said end member, the engagement of the lower slot wall with the base of tongue **59** serving to arrest the downward movement of the band **31***c* in the desired position. This arrangement permits the location of the band around the package with the lower margin of the band flush with the lower face of bottom section **34**, and the use of a relatively narrow bottom section whose width need not be greater than the transverse distance between the axes of the outermost bottles or other articles engaging each end section **33**.

Another type of band stop and support is illustrated in Figs. 11 and 12. In this arrangement the tubular body member **30***b* is arranged with overlapping end portions **61** located intermediate the ends of a side section **33** and constituting a part of said section, the portion **61** extending upwardly from the bottom section **34** being on the outside and having an upper edge forming a stop and support for the band **31***d*. While this arrangement is illustrated at only one side of the container body, a construction which permits the formation of the body member **30***b* from a single strip of sheet material, it will be apparent that the arrangement is not necessarily limited to location at one side only.

Figs. 11 and 12 also illustrate the application of the invention to a two-bottle package which is particularly suitable for handling relatively large bottles, whose weight and size make them generally awkward to carry. In this arrangement the top section **32** may be completely curved to merge smoothly with the side sections **33**, the top section consisting in effect solely of the connecting portions **37**. Where the bottles B have substantially cylindrical bodies **35**, or at least are of equal diameter adjacent the upper and lower portions of said bodies, the bottles can be held with exceptional firmness even when band **31***d* encircling the upper portions of said bodies is relatively narrow, since the bottle necks **36** are firmly held against inward movement by the margins of the curved top section **32**, and are restrained against outward movement because of the firm contact between the bottle bases which prevents such movement without rupture of band **31***d*. A generally similar principle applies to the various types of banded packages containing multiples of two bottles or other similar articles, as will be apparent from Fig. 2.

The invention is likewise applicable to containers and packages constructed to exclude light from the contents, a characteristic sometimes considered desirable in connection with bottled beer. An embodiment of the invention which provides protection of this type to beer bottles and the like is illustrated in Figs. 13–15. In this arrangement, in which the bottles illustrated are of the so-called steinie type, all of the apertures **38***c* in the top section **32** are closed, the lateral margins of said section being connected to flaps **64**, preferably integral therewith, which extend downwardly around the merchandise and at least to the adjacent margins of the end sections **33** and the band **31***e*.

In the preferred embodiment shown, each flap **64** consists of a side section **65** extending downwardly over the sides of the merchandise and beneath the side portion of band **31***e* which serves to hold said flap firmly in position against the subjacent bottles B or the like. The corner spaces between the ends of the side sections **65** of the flaps **64** and the end sections **33** of the body member are similarly spanned by corner flaps **66**, which preferably are integral with side sections **65** at the ends thereof and are arranged to extend beneath end sections **33** and the adjacent portions of band **31***e* when the package is in closed position. For convenience in shaping and arranging flaps **64** the side section **65** of each flap may be connected to a lateral margin of the top section **32** of the body member along a bending line **67**, and may be provided with a plurality of bending lines **68** parallel to line **67** and arranged to facilitate the flexing of said side section to follow the contour of the bottles. Corner flaps **66** may be connected to side sections **65** along bending lines **69**, and may be provided with crease lines **70** suitably arranged to facilitate curvature of said corner flaps for insertion beneath the end sections **33**, the connecting portions **37** of the top section **22**, and the adjacent parts of the band **31***e*. With a construction of the type illustrated it has been found that lines **70** will be effective if arranged parallel to bending lines **69**, the material of which these parts are constructed being sufficiently flexible to permit reasonably close conformity to the general bottle contour when arranged in the manner described, and providing a particularly neat and attractive package when assembled and packed.

This construction is also designed to facilitate rapid packing, since the bottles may easily be inserted while flaps **64** are in alignment with top section **32** of the body member (see the rear flap in Fig. 15), the flaps **64** being then readily curved downwardly and the corner flaps **66** inserted simultaneously beneath end sections **33** of the body (see front flap **64** in Fig. 15). By sliding band **31***e* downwardly over the package the flaps **64** are forced inwardly into final position without further manipulation.

In this arrangement there are certain advantages in employing a bottom section **34***a* of the type already described (see Figs. 5 and 6), provided with margins registering with the lower margins of the band **31***e* to provide a stop and support therefor, completing the enclosure of all the merchandise except the upper portions of the necks of the bottles. Such upper portions are of

such slight extent that their exposure cannot have any appreciable effect upon the contents; whereas the arrangement permits the purchaser to note from the caps the nature of the contents. The apertures **38c** may be designed to fit the bottle necks **35a** close to the upper ends thereof to reduce the amount of exposure of said necks. This structure is particularly applicable to bottles of the steinie type provided with bulges or the like adjacent the upper ends of the necks suitable for firm engagement by the margins of apertures **38a** (Fig. 14).

Band **31e** is provided with recessed marginal portions **57** at both the upper and lower edges of the band, an arrangement that not only facilitates the application of the band with either edge downward, but also permits the use of a deeper band without covering the connections between the ends of handle **41** and end sections **33**.

While it is generally preferable and in some instances particularly advantageous to locate the retaining band outside of end sections **33**, the invention is not limited to such a construction. An arrangement in which the band is located inside of the body member is illustrated in Figs. 16 and 17. While the band in this position may be held in place to a substantial extent by frictional engagement with the merchandise and the body member, means preferably is provided for holding the band in proper position, and should include means for preventing substantial vertical shifting of the band as well as material lateral movement relative to the body member. In the arrangement illustrated, the band **31f**, which in general is of the relatively deep type similar to bands **31** and **31c**, has lower edge portions **71** resting on the ends of the bottom section **34**, and an upper edge portion **72** at each end located substantially in alignment with slot **42** so that when the tongue portion **43** of the handle is inserted inwardly through said slot the lower end of the tongue portion will be located within and against the inner face of the band, the upper edge portion of which bears against the outer face of the tongue portion at slot **42** and is held against upward movement thereby. The lower edge portion **71** of the band **31f** at each end of the container is provided with shoulders **73** engaging the lateral margins of the bottom section **34** and preventing lateral movement of the band.

The various arrangements illustrated and described, together with other variations falling within the scope of the invention, are suitable for construction from relatively inexpensive fibrous sheet material. It has been found that paperboard or boxboard posssesses the requisite combination of tensile strength, stiffness, bending and folding capability and low cost which render them suitable for use in containers used for packaging merchandise such as bottles, cans and similar articles of the sizes ordinarily sold in retail stores; but various other types of fibrous sheet material, such as those known as pasteboard, cardboard and the like, and even certain types of particularly stiff and strong paper, may be employed for certain types of merchandise and conditions of use. The handle **41**, the body member **30** and the band **31** may be made of the same or different materials, or of different weights or qualities thereof. Specifically, since in most instances the strain on band **31** is exclusively tensile, said band may be made of lighter material than the body member **30** and in particular need not have the same stiffness for many types of package. For instance, band **31** may be made of kraft paper or other flexible material having substantial tensile strength.

The container is especially adapted to be cut economically from sheet material, and the blanks may be rapidly and readily assembled, the body member **30** being assembled by folding the blank into tubular form and attaching the ends, while the blank for band **31** is assembled in the same rapid and efficient manner, an operation easily performed at the packing plant; though said body member and band are likewise adapted to be assembled, folded flat by bending at opposite points, and packed for shipment in knocked-down form.

The container is likewise designed for rapid and efficient packing. In the preferred forms, the articles may be simultaneously inserted in the body member from opposite sides in the manner already indicated, and band **31**, when made of relatively stiff material, may be slid downwardly over the body member and contents to complete the package, without requiring the manipulation of any flaps, locks or other devices which tend to delay the closure of ordinary containers. The handle **41** may be applied rapidly by inserting its ends in the slots in the body member, either before or after packing, and is adapted to be inserted in the body member at the box factory and folded flat with said member for shipment. To unload the packed container, it is only necessary to move the band upwardly out of the way and remove the bottles or other articles laterally, a combined outward tilting of the bottle base and downward movement of the bottle as a whole being employed where the neck aperture is completely closed. Where the container is in the form of a bottle carrier, therefore, the consumer can readily re-load it with the empty bottles for convenient return to the store and refund of the bottle deposit which is customary in the distribution of bottled soft drinks.

It will be noted that in the preferred forms illustrated the tongue ends **43** of handle **41** extend into a space between the adjacent faces of articles at opposite sides of the package, facilitating the downward movement of said ends and collapse of the handle **41** toward or against the top section **32**.

While the invention has certain special advantages for the packaging of bottles and has been illustrated and described in connection therewith, it will be apparent that it is applicable likewise to various other types of merchandise. The features set forth herein are largely applicable to the packaging of various types of columnar articles such as cans, the cap-sealed type being packaged substantially the same as bottles, while the ordinary flat-end cans require simply that top section **32** be suitably contoured to engage and restrain the upper ends of the cans, the apertures **38** naturally being unnecessary for this use. Moreover, while reference is made in the specification and claims to articles of merchandise, it will be understood that in its broadest significance, this term is intended to describe not simply unitary articles such as bottles or cans, but also composite articles made up of a plurality of individual pieces of merchandise of generally similar contour piled one on the other for packaging, providing a columnar unit to which certain features of this invention are applicable. For instance, containers embodying the invention may be employed for packaging some kinds of fruit arranged in the manner indicated.

For convenience of description reference has been made to top, bottom, end and side sections or

faces; and while these terms have specific significance in connection with packages and containers which inherently must be maintained in a certain vertical position, it will be understood that for the broader phases of the invention these terms are employed primarily for convenience and clearness of description.

The bending lines described herein may be of various types. They preferably include a construction facilitating the accurate bending of the material at the desired point, and such a line may consist of a crease in which the material is deflected to form a trough on one side and a ridge on the opposite side extending along the desired line; a score, in which the material is cut partially through along said line, usually on the outer or convex side of the bend; or perforated lines in which closely spaced short cuts or perforations extending through the material are provided along the line.

While certain preferred embodiments of the invention have been shown and described, and various modifications thereof have been indicated, it will be understood that this disclosure is intended to be illustrative rather than restrictive, and that the invention includes other arrangements and constructions embodying the underlying principles thereof and falling within the scope of the claims.

What is claimed is:

1. A display and carrying package for consumer units of merchandise comprising a prismatic merchandise group of columnar articles compactly arranged with their axes substantially parallel and a sheet material container snugly conforming to and confining the group comprising a body formed as a permanently continuous tube from one piece of stiff flexible sheet material and having an integral top section and a bottom section extending transversely of the longitudinal axes of said columnar articles and in such restraining engagement with opposite faces of the merchandise group as to prevent substantial movement of any such columnar article parallel to its axis, together with end sections connecting the ends of the top and bottom sections and in restraining engagement with opposite ends of the merchandise group, the body having open opposite sides; and band means extending across portions of said sides in confining engagement with the merchandise at said sides and engaging said end sections, the band means being spaced at said sides from the top section and movable to permit removal of articles without injuring the container.

2. A package as set forth in claim 1 in which the merchandise comprises articles having portions projecting in parallel series beyond the top of the container.

3. A display and carrying package for consumer units of merchandise comprising a rectangular prismatic merchandise group and a container confining the group including a tubular body of stiff flexible sheet material having opposed top and bottom sections, opposed end sections and open sides, a continuous band of relatively stiff sheet material extending across the end sections and open sides of the package in confining engagement with the merchandise, said band being axially slidable over the merchandise group and end sections; and means for restraining downward movement of the band over said sides and end sections, comprising lateral marginal portions of said end sections diverging downwardly to portions projecting laterally from the merchandise and into wedging engagement with the band.

4. A display and carrying package for consumer units comprising a container having a body formed as a permanently continuous tube from one piece of stiff flexible sheet material and including opposed top and bottom sections and opposed end sections; a plurality of columnar articles arranged compactly in parallel rows with their bottoms resting on the bottom section and the end articles of the rows engaged by the end sections, each article being reduced in diameter toward an end to form a neck, said top section being provided with parallel rows of apertures adapted and arranged to receive said necks and permit them to project beyond said top section while preventing substantial movement of said articles axially away from said bottom section; and a band extending across the sides and the end sections of the container body in confining engagement with said articles, thereby holding said necks in firm edgewise engagement with said top section.

5. A package as set forth in claim 4 in which the top section includes a portion substantially parallel to the bottom section and in transverse bracing engagement with the article necks.

6. A package as set forth in claim 4 in which the top section includes portions extending between and spacing adjacent article necks, and maintaining the upper portions of adjacent articles out of contact with each other by engagement with said necks.

7. A display and carrying container for consumer units of merchandise including articles each reduced in diameter toward an end to form a neck, which comprises a body formed as a permanently continuous tube from one piece of stiff flexible sheet material and having opposed top and bottom sections, opposed end sections and open sides; merchandise-confining band means engaging the body end sections and extending across the open sides; and a handle connected at its ends to the body at circumferentially spaced points; the top section of the body being provided along opposite margins with apertures arranged to receive the necks of said articles.

8. A container as set forth in claim 7 in which some of said apertures are laterally open for lateral insertion of necks of the articles.

9. A container as set forth in claim 7 in which some of the apertures are laterally open for lateral insertion of the necks of the articles, and have margins which include flexible neck-retaining projections yieldable for insertion and removal of said necks.

10. A container as set forth in claim 7 in which the apertures are arranged in a rectilinear row along each side margin of the top section of the body, and each row includes end apertures laterally open to form neck-receiving recesses, and an intermediate aperture with margins arranged to restrain an article neck in said aperture against outward lateral movement.

11. A display and carrying package comprising a container having a body formed as a permanently continuous tube from one piece of stiff flexible sheet material, such tubular body including opposed top and bottom sections, the top section being provided with neck-receiving apertures and opposed upright sections both slotted for connection of a handle thereto, all said sections being formed integrally from a sheet of relatively stiff flexible fibrous material, a plurality of columnar articles each reduced in diameter

toward an end to form a tapering neck, said articles resting on the bottom section and extending above said top section with their necks held within said apertures in the top section, said articles being firmly confined by said top and bottom sections.

12. A display and carrying container for consumer units of merchandise comprising a body formed as a permanently continuous tube from one piece of stiff flexible sheet material and having opposed top and bottom sections, opposed end sections and open sides; a continuous merchandise-confining band extending across the end sections and the open sides of the body; and a handle connected at its ends to the body at circumferentially spaced points; the upper margin of said band being spaced from the lateral margins of the top section, and flaps being provided which extend across the space between said margins of the band and the top section.

13. A display and carrying container for consumer units of merchandise comprising a body formed as a permanently continuous tube from one piece of stiff flexible sheet material and having opposed top and bottom sections, opposed end sections and open sides, together with a continuous band formed of stiff sheet material slidable downwardly over the body into merchandise-confining position extending across the open sides and end sections of the body; the lateral margins of at least one of said end sections diverging downwardly in wedging engagement with the band to limit downward movement thereof.

ERNEST M. BROGDEN.