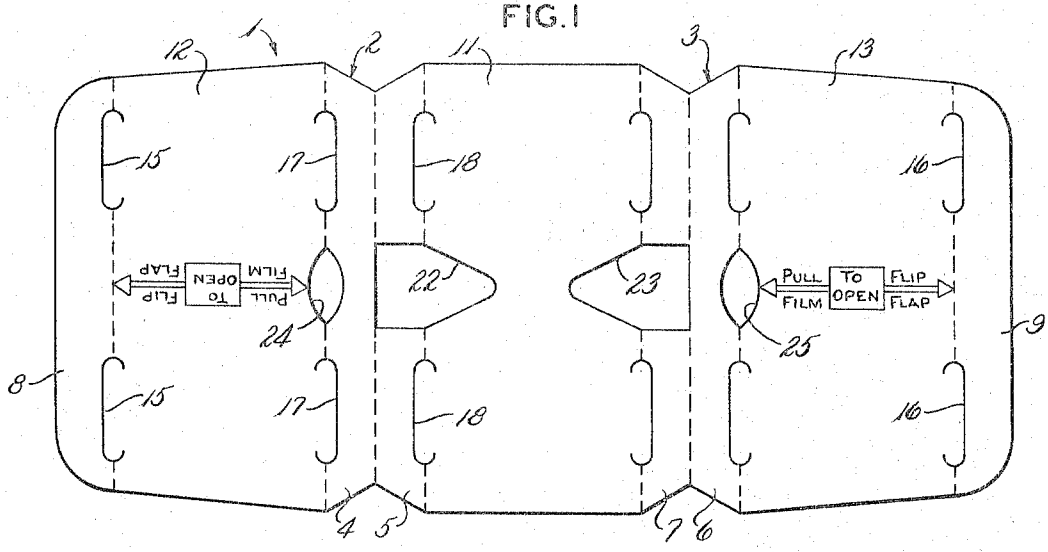
Feb. 7, 1967 B. G. COPPING 3,302,784

PACKAGE ASSEMBLY INCLUDING A TOP MEMBER AND AN ENDLESS HEAT SHRUNK ENCLOSURE BAND

Filed Jan. 12, 1965 2 Sheets-Sheet 1

FIG. 1



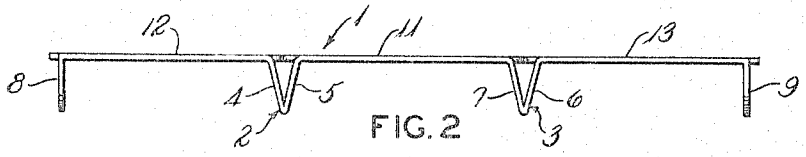
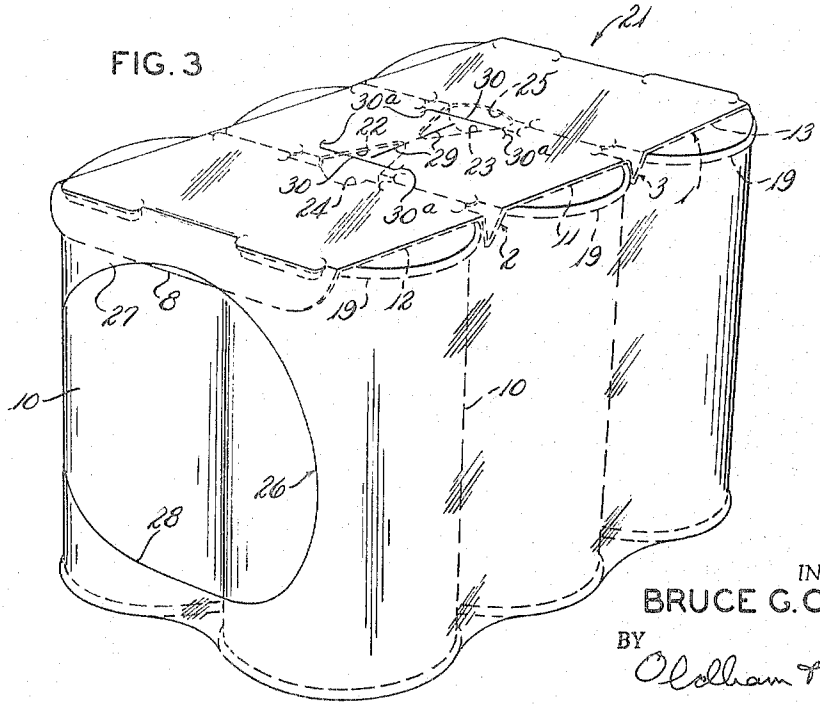


FIG. 2

FIG. 3



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Filed Jan. 12, 1965 2 Sheets-Sheet 2

FIG. 4

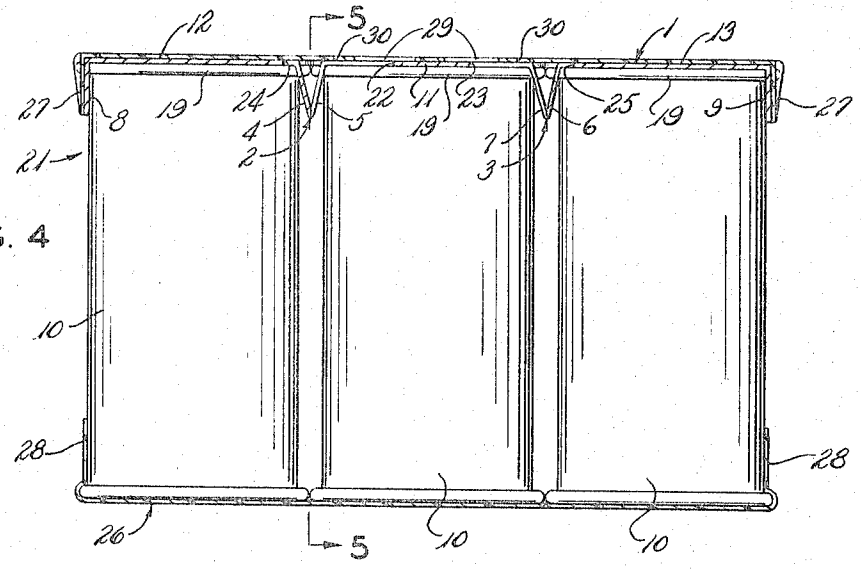
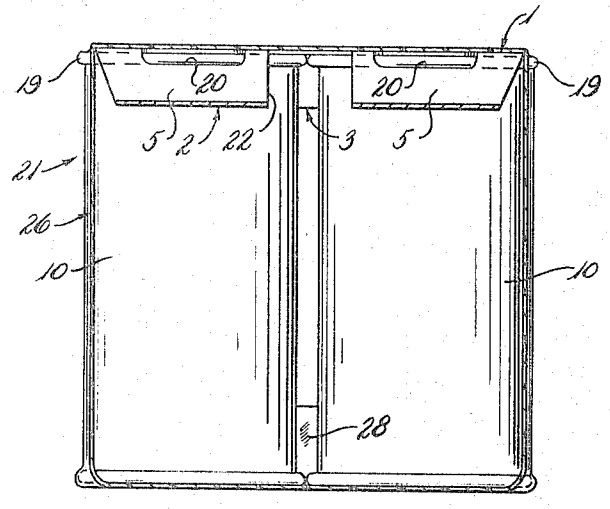


FIG. 5



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PACKAGE ASSEMBLY INCLUDING A TOP MEMBER AND AN ENDLESS HEAT SHRUNK ENCLOSURE BAND

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12 Claims. (Cl. 206—65)

The present invention relates to package assemblies for carrying a plurality of articles, such as cans therein, and where the new and improved package includes an endless heat shrunk enclosure band extending around the packaged articles and a top member positioned thereover.

Heretofore there have been many different types of package assembly means provided for use in the beverage industries. These enclosures, in many instances, have included some type of lightweight cardboard means that are adapted to receive a plurality of cylindrical articles therein. The packages usually have included six articles, or containers, but in other instances, eight articles have been packaged in one enclosure, while it is also possible to package a few number of articles, such as two, three or four articles in some of the previous enclosures.

In view of the extensive use of package assemblies for soft drinks, beer and other beverages, and the great quantity of articles sold in these packages, or assemblies, the cost of the individual package is an important factor in the cost of the packaged assembly as sold. Hence, relatively small changes in the costs of the package assemblies, or in the appearance of the package assemblies, or in the strength thereof are very important. Then too, it is important that the articles be packaged, preferably, so that the contents of the packages are clearly visible and/or that the contents of the package clearly are identified in the package means.

One patent in this field is my own prior Patent No. 3,118,537 which discloses an improved carrier and package assembly and the present invention relates to package assemblies of the same general type as disclosed therein.

The general object of the present invention is to provide a novel and improved package assembly, and particularly a package assembly including a heat shrunk endless plastic film enclosure extending around the packaged articles and a top means provided thereover, which assembly is characterized by the provision of a pair of transversely directed, downwardly extending center sections in the top means of the assembly to provide improved stability and strength in the package produced.

Another object of the invention is to provide an improved inexpensive package assembly wherein grasping means are provided in longitudinally spaced portions of a top means, or member in the package assembly, but wherein the strength of the top member and the engagement action thereof with a number of packaged articles is not seriously impaired by the provision of the grasping means in the package assembly.

Another object of the invention is to provide a new and improved assembly for a plurality of cylindrical articles, such as cans, that have top chimes or chime rings thereon and wherein the articles being packaged are arranged in the number of rows in the packaged article and with all of the adjacent articles in the package having the top chimes rings thereof abutted against each other and with the top means in the assembly and the cans packaged all being held in tight engagement against axial or transverse displacement of the packaged articles in the package assembly.

A further object of the invention is to provide a novel and improved package assembly for a number of cylindrical articles, which assembly is competitive in cost, attractive in appearance, and which can be readily and inexpensively applied to a number of packaged articles by automatic apparatus.

The foregoing and other objects and advantages of the invention will be made more apparent as the specification proceeds.

Attention now is particularly directed to the accompanying drawings, wherein:

FIG. 1 is a top plan of a packaging blank from which the top means or member in the packaging assembly of the invention is made;

FIG. 2 is a side elevation of the packaging blank of FIG. 1 in its operative position, or shape;

FIG. 3 is a perspective view of one novel package assembly of the invention in its completed form;

FIG. 4 is a longitudinal vertical section taken on the longitudinal center line of the package assembly of FIG. 3; and

FIG. 5 is a vertical section taken on line 5—5 of FIG. 4.

When referring to corresponding members shown in the drawings and referred to in the specification, corresponding numerals are used to facilitate comparison therebetween.

The present invention is shown and described in relation to the conventional, or most widely used type of package assembly of the invention. Thus the package assembly of the invention is shown designed for and in association with six cylindrical articles or containers such as those as can be used in the beer or soft drink industry and the invention will be so described. However, as indicated hereinbefore, the packaging assembly of the invention can be used for enclosing other numbers of articles, as desired.

The present invention, generally speaking, relates to a carrier and package assembly, or the like, for a plurality of cylindrical articles, such as cans that have laterally protruding chime rings at their upper ends and where the novel package assembly comprises a top means having a pair of downwardly extending center sections each having a double wall and a pair of parallel downwardly directed walls forming edge sections for the top means, one of the walls of each of the center sections being an outer wall and being spaced from an edge section about the distance of a diameter of the cans for receiving a row of cans therebetween, and with the remaining walls of the center sections being inner walls spaced for receiving a row of cans therebetween, a plurality of cans are positioned below the top means in a plurality of transversely extending rows to provide an assembly of the cans, at least one wall of each of the double wall center sections of the top means being continuous from margin to margin of the top means to provide increased stability in the package assembly, chime engaging means on each wall of the center and edge sections in opposed relation for engaging the chime rings of the cans, an open ended heat shrunk endless band means that tightly engage the cans in the top means and extend fully around the sides, tops and bottoms of the cans in the assembly to retain the cans grouped together in compact assembly in fixed association with the top means.

Reference now is directed to the details of the structure as shown in the accompanying drawings, and a top means, or top member or sheet is indicated as a whole by the numeral **1**. This top means **1** is preferably made from some light weight, inexpensive but relatively sturdy material, such as paperboard, cardboard or the like, and the top member **1** has a pair of center sections **2** and **3** provided therein in spaced and parallel relationship with each of such center sections extending what may be considered the width of the elongate top member **1**. Each of the center sections **2** and **3** has a pair of walls **4** and **5**,

and 6 and 7, respectively, provided therein, which walls are downwardly directed when the top member is in its operative form or shape. One wall, the wall 4 and the wall 6, respectively, of the center sections, may be termed the outer walls of such sections and these walls are spaced from edge sections 8 and 9 that are provided on the top member 1 so as to be spaced from the walls 4 and 6 substantially the diameter of the articles to be packaged for receiving a row of such articles, such as cans 10, as hereinafter described, therebetween. The other walls 5 and 7 of the center sections are considered to be the axially inner walls of the top member, and these walls are spaced from each other a distance substantially equal to the diameter of the cans 10 for again receiving a can, or a row of cans therebetween. The inner walls 5 and 7 also define therebetween a center section or panel 11 in the top member 1. When the edge sections 8 and 9 are operatively positioned, they extend downwardly, and end sections or panels 12 and 13 are formed in the top means, or top member 1 intermediate the outer walls 4 and 6 and the adjacent edge sections 8 and 9, respectively.

It will be realized that the top member of means 10 is formed from a single blank of material, and that in forming this blank, a plurality of interrupted score lines indicated in dotted line in the drawing are formed at the portions of the blank as shown whereby the blank can be readily and easily formed, or folded, to the operative shape shown in side elevation in FIG. 2. As a part of the formation for the blank, a plurality of cuts 15, 15 are formed in spaced relationship at the score line defining the connection between the edge section 8 and the end panel 12, and a pair of similar cuts 16, 16 are formed in the score line at the connection of the end panel 13 with the edge section or panel 9. Other cuts indicated by the numerals 17, 17 are formed at the opposite margin of the end panel 12 where it connects to the outer wall of the center section 2, and similar cuts 18, 18 are provided in an adjacent wall 5 of the center section 2 which cuts partially extend into the center panel or section and also extend a short distance into the wall 5. Likewise, cuts corresponding to those 17, 17 and 18, 18 are provided in the center section 3 at the score lines provided therefor. These cuts are all spaced from each other the proper distance so that two articles, such as the cans 10, can be positioned below each of the panels in the top member 1 in the shape illustrated in the drawings and have a portion of a top chime 19 of each of the cans engage with slots that thus are produced in the vertically extending walls of the top member 1 when operatively positioned. The cuts provided in this paperboard blank form short flaps or edge portions on the associated panel to extend out in the normal horizontal plane of the remainder of the panel when the top member is operatively shaped so that such top flaps or edge portions will extend outwardly over the can chime when the cans and top member are operatively associated. These cuts provide in the blank form slots 20 in the associated walls of the top member and with the lower margin of the can chime 19 normally being engaged by the associated edge of one of the slots 20. When the cans and package means of the invention are fully assembled, the adjacent cans 10 will usually have portions of their chimes 19 abutting against each other, as best shown in FIGS. 4 and 5 of the drawings, and this facilitates forming a tightly packed assembly for effective, convenient storage, transportation and use of the package assembly of the invention.

Usually it is desirable to provide some type of a handle or grasping means in the package assembly of the invention, and the package assembly, indicated as a whole by the numeral 21, in FIG. 3, thus has some special cuts provided in the top member 1 when such member is formed by a blanking or other cutting action. FIG. 1 clearly shows that thumb and finger receiving slots, or holes 22 and 23 are formed in the top member 1 with such holes extending the entire depth, usually, of the

walls 5 and 7 and extending inwardly of the center panel 11 towards each other a short distance. These holes, as extended into the top panel 11 or center panel 11 may be of semi-cylindrical shape, or of elongate V-shape, as desired. It is a feature of the invention that the walls 4 and 6 of the center sections 2 and 3 each extend continuously the entire dimension of the top member and in this instance, these walls extend transversely so as to provide an effective reenforced center portion in the package assembly 21 to provide for effective positioning and/or support, partially, at least, of the various packaged articles from and by the top member 1.

It is a further feature of the invention that elongate holes or apertures 24 and 25 are formed at the fold line connecting the walls 4 and 6, respectively, to their associated end panels and with such elongate apertures 24 and 25 being of substantially the same length as the base width of the thumb and finger receiving holes 22 and 23 but with such holes only extending a fraction, usually less than half of the depth of the walls 4 and 6. These apertures 24 and 25, when the top member 1 is operatively positioned, provide clearance areas or openings to facilitate a person inserting his thumb and finger into engagement with the holes 22 and 23 for convenient grasping and carrying of the packaged articles. When the top member 1 is operatively positioned, it will be noted that the apertures 24 and 25 are immediately adjacent the holes 22 and 23.

In order to complete the package assembly 21, a conventional type of an endless open ended heat shrinkable plastic band 26 is provided. This band 26 is made from any known heat shrinkable plastic film, which may be made from rubber hydrochlorides, vinyls, polypropylenes, and the like. The films usually are quite thin, such as about .001 inch in thickness and they can be formed around the assembly of the top member 1 and the articles, such ash the cans 10, to be associated therewith, after which the band 26 can be engaged with the assembly by any conventional means. After the band is once formed around and engages the top member 1 and the cans or other articles associated therewith, then the assembly is suitably processed by the application of heat thereto whereby the heat shrunk band 26 will be in tight engagement with the top member 1 and all of the cans 10.

FIGURE 3 of the drawings best shows that the band 26 has edge portions 27 that extend over the edge flap or section 8 of the top member for the full length thereto and firmly and tightly draw such edge flap or section into engagement with the associated cans to retain longitudinally applied contracting forces to the top member 1 and the associated articles. Usually a lower section of the band, indicated at 28, extends up over the lower end portions of the cans 10 in the package assembly 21 to again draw the cans longitudinally inwardly towards each other and form a tight unitary package. The drawing clearly brings out that the endless band 26 extends around the assembly of the top member and cans from top to bottom thereof to cover the exposed end or side portions of all of the cans and with such band 26, in general, having a longitudinal axis extending along the longitudinal axes of the assembly of the cans. This endless band also further engages the laterally outer corners of the top member 1 where the edge sections or panels 8 and 9 are folded over into engagement with end portions of the can assembly and this effectively reenforces the top member and assembly of the invention to secure all of the articles in tightly packed association. The top member is shorter in width than the rows of two cans received thereunder so that the band 26 also engages a top edge of each can and extends thereover down an exposed portion of the side of each can.

Yet a further feature of the package assembly 21 of the invention is that the endless band 26 has pairs of slits provided therein adjacent the grasping means, specifically the holes 22 and 23 in the package assembly. Thus a longitudinally extending slit 29 is provided in the band

26 immediately above the hole 22 and it extends axially of the package assembly. A transversely extending slit 30 is formed spaced axially outwardly a short distance from the slit 29 and extending normal thereto, which slit 30 is substantially above an edge of the center section 2 of the top member. Ends 30*a* of the slit 30 extend axially outwardly to facilitate tearing the band axially for package opening action. Corresponding slits are formed in association with the finger receiving hole 23 in the package assembly whereby when one wants to carry the package assembly, one can readily insert one's thumb and/or finger through the endless band 26 at the slits 30 and 31 therein, which band will readily be torn by the pressures applied thereto. However, up until such time, the slits 29 and 30 stay at least substantially closed so that the band 26 will remain in tight, substantially sealed engagement with the packaged articles to keep them clean and there is no possibility of any dirt or other foreign material collecting on any of the top surfaces of the packaged articles.

FIGURE 1 of the drawings also indicates that certain indicia can be printed upon the top member 1 when it is still in blank form from either of the slits 30 axially outwardly and start the opening of the package assembly. Thereafter, one can lift the edge flap 8 or 9 and complete the opening of the package assembly for access to the end cans thereof. Even after, for example, the two cans at one end of the package assembly have been removed, the endless band 26 and the associated portions of the top member 1 will retain the remaining four cans in a relatively neatly packaged, stable unit. The film in the band 26 is shown of exaggerated thickness in the drawings.

From the foregoing, it is believed that it will be seen that a novel and improved package assembly has been provided by the invention. This assembly provides good lateral and longitudinal stability in the package assembly and maintains the packaged articles in tightly grouped association for storage, transport and sale. Normally, the endless band 26 are formed from transparent materials whereby any advertising data appearing on the packaged articles is readily visible and sale and display of the package assembly 21 is facilitated. Thus, it is believed that the objects of the invention have been achieved.

While one complete embodiment of the invention has been disclosed herein, it will be appreciated that modification of this particular embodiment of the invention may be resorted to without departing from the scope of the invention as defined in the appended claims.

What is claimed is:

1. A carrier and package assembly for a plurality of cylindrical articles, such as cans, having laterally protruding chime rings at their upper ends and comprising

a top means having a pair of downwardly extending center sections, each having a double wall and a pair of parallel downwardly directed walls forming edge sections, one of said walls of each of said center sections being an outer wall and being spaced from an edge section about the distance of a diameter of said cans for receiving a row of cans therebetween, and the remaining walls of said center sections being spaced for receiving a row of cans therebetween,

a plurality of cans positioned below said top means in a plurality of transversely extending rows to provide an assembly of cans,

at least one wall of each of said double wall center sections being continuous from margin to margin of said top means to provide stability thereto,

chime engaging means on each wall of said center and edge sections in opposed relation and engaging the chime rings of said cans, and

open ended heat shrunk endless band means tightly engaging said cans and top means and extending fully around the sides, tops and bottoms of said cans in said assembly to retain said cans grouped together into a compact unitary assembly with said top means and to further hold said chime engaging means and cans in engagement.

2. A carrier and package assembly for a plurality of cylindrical articles, such as cans, having laterally protruding chime rings at their upper ends and comprising

a top means having a pair of downwardly extending center sections, each having a double wall and a pair of parallel downwardly directed walls forming edge sections, one of said walls of each of said center sections being an outer wall spaced from an edge section about the diameter of said cans for receiving a can therebetween, and the remaining walls of said center sections being spaced for receiving a can therebetween,

a plurality of cans positioned below said top means,

at least one wall of each of said double wall center sections being continuous from margin to margin of said top means to provide stability thereto,

chime engaging slots in each wall of said center and edge sections in opposed relation and engaging the chime rings of said cans, and

open ended heat shrunk endless band means tightly engaging said cans and top means and extending fully around the sides, tops and bottoms of said cans in said asembly to retain said cans grouped together into a compact unitary assembly with said top means and to further hold said chime engaging slots and cans in engagement.

3. A carrier and package assembly for a plurality of cylindrical articles, such as cans, having laterally protruding chime rings at their upper ends and comprising

a top means having a pair of downwardly extending transversely directed center sections each having a double wall and a pair of parallel downwardly directed walls forming edge sections, one said wall of each of said center sections being an outer wall spaced from an edge section about the diameter of said cans for receiving a row of cans therebetween, and the other walls of said center sections being inner walls similarly spaced from each other for receiving a row of cans therebetween, said center sections defining therebetween a center panel and edge panels being formed between each of said center sections and the adjacent edge section, portions of said center panel and center sections inner walls being removed to provide grasping means for said assembly but the outer walls of each of said center sections being continuous from edge to edge of said top means, an upper section of each of said center walls and an adjacent area of each of said edge panels being removed to provide convenient access to said grasping means,

a plurality of cans positioned below said top means in three rows of cans to provide an assembly thereof,

chime engaging means operatively formed by each wall of said center and edge sections in opposed relation and engaging the chime rings of said cans, and

open ended heat shrunk endless band means tightly engaging said cans and top means and extending around the sides, tops and bottoms of said cans in said assembly to retain said cans grouped together into a compact unitary assembly with said top means and to retain said edge section walls in engagement with the adjacent portions of said cans.

4. A carrier and package assembly for a plurality of cylindrical articles, such as cans, having laterally protruding chime rings at their upper ends and comprising

a top means having a pair of downwardly extending transversely directed center sections each having a double wall and a pair of parallel downwardly directed walls forming edge sections, one said wall of each of said center sections being spaced from an edge section about the diameter of said cans for receiving a row of cans therebetween, and the other walls of said center sections being similarly spaced from each other for receiving another row of cans therebetween, said center sections defining therebetween a center panel, portions of said center panel and center sections being removed to provide grasp-

ing means for said assembly but at least one wall of each of said center sections being continuous from edge to edge of said top means,

a plurality of cans positioned below said top means in three transversely extending rows of cans to provide an assembly thereof,

chime engaging means operatively formed by each wall of said center and edge sections in opposed relation and engaging the chime rings of said cans, and

open ended heat shrunk endless plastic film band means tightly engaging said cans and top means and extending around the sides, tops and bottoms of said cans in said assembly to retain said cans grouped together into a compact unitary assembly with said top means and to retain said edge section walls in engagement with the adjacent portions of said cans, each of said cans being tightly held in engagement with associated portions of two of said walls.

5. An assembly as in claim 4 where said band means is provided with two adjacent but separate slits positioned at right angles to each other at said grasping means to facilitate rupture of said band means and insertion of thumb and fingers into engagement with said grasping means when the assembly is to be carried.

6. An assembly as in claim 5 where said slits facilitate tearing said band longitudinally from said slits to the adjacent end of said top means, the end cans in the assembly being exposed for removal by flipping up the edge section wall after said band is torn from said slits to such edge section wall.

7. An assembly as in claim 4 where said band means tightly engages said edge walls and the corners thereof with said top means to retain said cans tightly associated.

8. A carrier and package assembly for a plurality of cylindrical articles, such as cans, having laterally protruding chime rings at their upper ends and comprising

an elongate top means having a pair of parallel spaced transversely directed downwardly extending center sections, each having a double wall and a pair of parallel downwardly directed walls forming edge sections, one of said walls of each of said center sections being an outer wall spaced from an edge section about the diameter of said cans for receiving a row of two cans therebetween, and the remaining walls of said center sections being inner walls spaced for receiving a row of two cans therebetween and defining a transversely extending center panel in said top means,

six cans positioned below said top means in three transversely extending rows to provide an assembly thereof, all of the cans in said rows being abutted against adjacent cans at said chime rings,

at least one wall of each of said double wall center sections being continuous from margin to margin of said top means to provide stability therein, said top means shorter in width than the length of said rows,

chime engaging slots on each wall of said center and edge sections in opposed relation and engaging the chime rings of said cans, and

open ended heat shrunk endless band means tightly engaging said cans and top means and extending fully around the sides, tops and bottoms of said cans in said assembly to retain said cans grouped together into a compact unitary assembly with said top means, said band means engaging parts of the outer upper edges of all of said cans and the entire lengths of said edge sections to further hold said top means and cans in tight engagement.

9. An assembly as in claim 8 where said band means is provided with two sets of two adjacent but separate slits positioned at right angles to each other at opposed portions of said center panel, one slit of each of said sets extending parallel to said center panel and the other slit of each of said sets extending axially from said first slit to facilitate rupture of said band means and insertion of a thumb and a finger into engagement with said center panel and cans thereunder when the assembly is to be carried.

10. An assembly as in claim 9 where said first-named slit of each of said sets of slits has axially outwardly extending ends to facilitate tearing said band longitudinally and said other slit of each of said sets is positioned axially inwardly of said first-named slit.

11. A carrier and package assembly for a plurality of cylindrical articles, such as cans, having laterally protruding chime rings at their upper ends and comprising

an elongate paperboard top means having a pair of downwardly extending center sections, each having a double wall and a pair of parallel downwardly directed walls forming edge sections, one of said walls of each of said center sections being an outer wall spaced from an edge section about the diameter of said cans for receiving a can therebetween, and the remaining walls of said center sections being spaced for receiving a can therebetween, said walls forming transversely extending center and two end panels in said top means,

a plurality of cans positioned below said top means,

at least one wall of each of said double wall center sections being continuous from margin to margin of said top means to provide stability thereto,

chime engaging slots in each wall of said center and edge sections in opposed relation and engaging the chime rings of said cans, and

open ended heat shrunk endless band means tightly engaging said cans and top means and extending fully around the sides, tops and bottoms of said cans in said assembly to retain said cans grouped together into a compact unitary assembly with said top means and to further hold said chime engaging slots and cans in engagement.

12. A carrier and package assembly for a plurality of cylindrical articles, such as cans, having laterally protruding chime rings at their upper ends and comprising

a elongate top means having at least one downwardly extending center section having a double wall and having a pair of parallel downwardly directed walls forming edge sections, one of said walls said center section being an outer wall spaced from an edge section about the diameter of said cans for receiving a row of cans therebetween,

cans positioned below said top means in rows to provide an assembly thereof, all of the cans in said rows being abutted against adjacent cans at said chime rings,

chime engaging slots on each wall of said center and edge sections in opposed relation and engaging the chime rings of said cans, and

open ended heat shrunk endless band means tightly engaging said cans and top means and extending fully around the sides, tops and bottoms of each of said cans in said assembly to retain said cans grouped together into a compact unitary assembly with said top means,

said band means being provided with two sets of two adjacent but separate slits positioned at right angles to each other at opposed portions of said top means, one slit of each of said sets extending transversely of said top means and the other slit of each of said sets extending axially inwardly from said first slit to facilitate rupture of said band means and insertion of a thumb and a finger into engagement with said top means and cans thereunder when the assembly is to be carried.

No references cited.

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