June 2, 1970 J. C. VON GAL 3,515,272

CONTAINER CLUSTER

Filed March 27, 1968

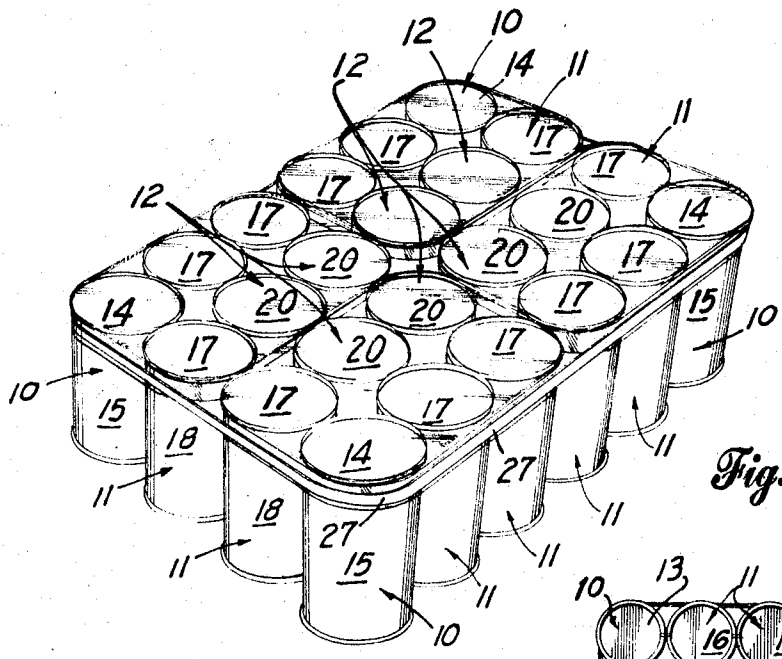


Fig. 1

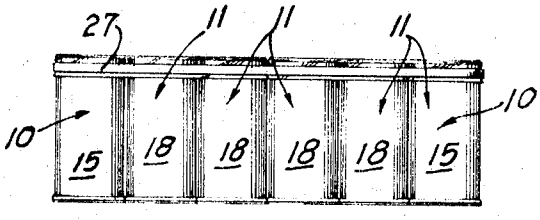


Fig. 3

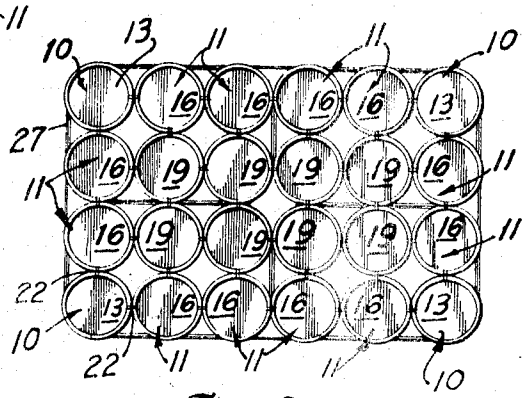


Fig. 2

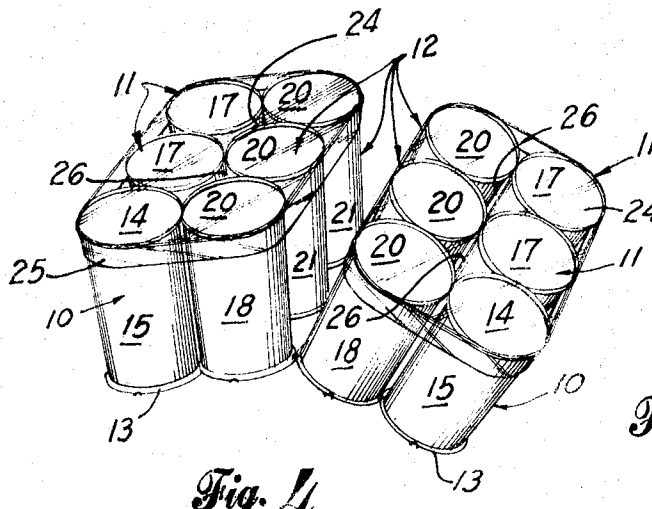


Fig. 4

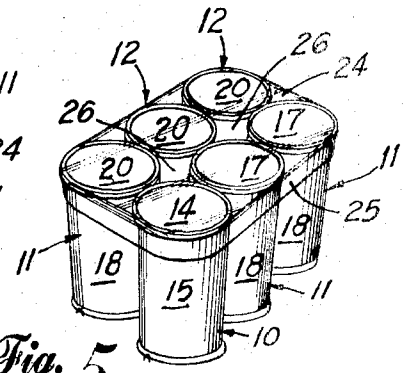


Fig. 5

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United States Patent Office

3,515,272

Patented June 2, 1970

3,515,272

CONTAINER CLUSTER

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Filed Mar. 27, 1968, Ser. No. 716,671
Int. Cl. B65d 71/00
U.S. Cl. 206—65 4 Claims

ABSTRACT OF THE DISCLOSURE

A cluster of juxtaposed equal size containers arranged in longitudinal and transverse rows, the abutting portions of the ends of the cans, in one plane, being secured together by severable bridging members and the end portions of the containers, remote from the bridging members, being held together by an encircling strap. The containers are further sub-divided into conventional six-pack or eight-pack units by having, along the ends of the containers opposite the bridging members, shrink film plastic caps surrounding the end portions of appropriate groups of containers. These caps are suitably apertured for carrying.

This invention relates to container packages and is more particularly concerned with a container cluster in which are a plurality of containers, such as cans, which are temporarily joined together for convenient transportation.

In the past, cans of food and drink have usually been packaged in corrugated boxes, approximately 24, per case. Furthermore, when the cans are displayed for sale, it is usually necessary to open the case and individually remove the cans therefrom. The packing of cans in corrugated boxes is expensive and the automatic handling of cans and cases involves quite complicated machinery.

Recently, a trend has developed to pack cans in what is termed paper trays. The packing of cans in such trays, while being less expensive than the packing of cans in a carton, nevertheless, is relatively expensive when compared to the present invention.

When it was desired to join the cases into units, for convenient handling, the cans were packaged as "six-pack cartons" or "eight-pack cartons." Various types of cartons have been employed for receiving the cans. The recent trend has been the wrap around cartons which are packaged four to a case. While automatic machinery has been employed for enclosing the six containers in the wrap around cartons and for depositing these cartons in a corrugated box, nevertheless, this is quite expensive and time-consuming, even if performed at a rapid rate.

The six-pack cartons or eight-pack cartons have other disadvantages in that when stored by the customer in a refrigerator, the carton occupies the same amount of space, regardless of whether it contains the full number of cans or a lesser number of cans. Another disadvantage of the wrap around six-pack carton or the eight-pack carton is that the first one or two cans removed therefrom are quite difficult to remove.

In establishments, such as grocery stores and the like, which unpack the cases and, in some instances, unpack the cartons, disposing of the waste paper becomes quite a problem and is expensive and time-consuming.

Briefly described, the present invention, which obviated or reduced to a minimum the problems described above, includes a cluster of containers arranged in juxtaposition with their centers along longitudinal and transverse parallel rows. The abutting peripheries or perimeters, as the

case may be (collectively referred to hereinafter as peripheries) of the ends of the cans in the lower plane, are secured together by bridging members, i.e., solder, quick-dry glue, adhesive, or the like. These bridging members are between both transversely and longitudinally abutting portions and, therefore, are disposed in the same transverse plane and in the lines of centers transversely and longitudinally. More specifically, the outer cans, along the perimeter of the cluster, are provided with either two or three shared bridging members arranged circumferentially 90° apart. Of course, each can or container shares with an adjacent can or container a bridging member. These bridging members must be readily severable when one can is pivoted with respect to its joined can.

In addition to the bridging members, which secure, for example, the bottom ends of all cans or containers together, the cluster of such cans or containers receives, around the perimeter defined thereby, a strap. This strap is preferably a fiberglass reinforced tape which firmly holds the cans from inadvertently pivoting outwardly about a bridging member.

Ususally 24 cans are provided for each main cluster of cans. These cans, however, are sub-divided within the main cluster into minor clusters which constitute the "six-pack" or "eight-pack." For accomplishing this, each group of six (or eight as the case may be) of the cans or containers receives over the ends, opposite the secured or joined end of the cans, a shrink film top or cap. Each shrink film top includes a top panel or sheet extending over the ends of the containers in the unit and a depending perimetral wall which extends, as a strap, around the upper end portion of the unit.

Accordingly, it is an object of the present invention to provide a container cluster which is inexpensive to manufacture, durable in structure, and which can be readily and easily selectively disassembled into smaller units, for example, six-packs, and then further separated into individual containers.

Another object of the present invention is to provide a container cluster which will render the packaging of a number of containers less expensive and the resulting cluster more durable.

Another object of the present invention is to provide a means by which a plurality of containers may be transported as a unit without the necessity of wrapping the containers or inserting them into cases and with a minimum of material which must be discarded when the containers are separated from the cluster.

Another object of the present invention is to provide a container cluster which, when in a condition for shipping, is quite firmly held together but which, when ready for disassembly, may be readily and easily disassembled.

Another object of the present invention is to provide a container cluster which lends itself readily to being handled by automatic machines.

Other objects, features, and advantages of the present invention will become apparent from the following description when taken in conjunction with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views and wherein:

FIG. 1 is a perspective view of a container cluster constructed in accordance with the present invention;

FIG. 2 is a bottom plane view of the container cluster illustrated in FIG. 1;

FIG. 3 is a side elevational view of the container cluster illustrated in FIG. 1;

FIG. 4 is a perspective view of two six-pack units of

the container cluster illustrated in FIG. 1, these six-pack units being separated from each other; and

FIG. 5 is a perspective view of the six-pack unit after having been separated from the container cluster of FIG. 1.

Referring now in detail to the embodiment chosen for the purpose of illustrating the present invention, it being understood that, in its broader aspects, the present invention is not limited to the exact details herein depicted, I have disclosed a container cluster with 24 individual containers therein. This container cluster, however, may consist of any number of containers joined together and retained together in the fashion hereinafter to be described.

In the drawings, so that the containers may be more readily identified, I have designated the corner containers by the numeral **10**, the other perimeter containers by the numeral **11**, and the interior containers by the numeral **12**. In more detail, the container cluster of FIG. 1 includes a plurality of containers **10**, **11** and **12** arranged in six spaced transverse parallel rows and four spaced longitudinal parallel rows which intersect the transverse rows. The arrangement is such that the centers of the containers **10**, **11** and **12** are all within prescribed transverse rows and also within prescribed longitudinal rows.

By such an arrangement, as described above, the abutting peripheries of each pair of adjacent cans lie in a longitudinal line containing the centers of the cans or in a transverse line containing the centers of the cans. Each of the cans or containers **10**, **11** or **12** in the present embodiment is identical, being the usual right cylindrical metal closure; however, other shaped containers, both metal and non-metal, can be joined in the manner hereinafter described. Thus, it is seen that each of the cans or containers **10** has a bottom end **13**, a top end **14** and a vertical cylindrical side wall or body **15**. Each can **11**, in identical fashion, is provided with a bottom end **16**, a top end **17**, and a body **18** while container **12** has a bottom end **19**, a top end **20**, and a body **21**. The bottoms **13**, **16** and **19** are arranged in a common transverse plane and the tops **14**, **17** and **20** are arranged in a common transverse plane spaced from and parallel to the plane of the bottoms.

It is therefore seen that the containers **10**, **11** and **12** of the present invention are arranged in much the same manner as they would be arranged if they were packed in a conventional case formed of corrugated fiberboard.

According to the present invention, bridging members **22** are provided for connecting the abutting or adjacent portions of the peripheries of all bottom ends **13**, **16** and **19**, or more particularly the rims of such ends together.

In FIG. 2 it is seen that each of the inner portions of each end **13** of the corner containers **10** is provided with two shared bridging members **22** and, in like fashion, each end **16** is provided with three shared bridging members **22** and each end **19** is provided with four shared bridging members **22**. Each bridging member **22** is a drop of solder, a drop of quick drying glue, or the like.

The bridging members **22** are provided for joining the rims of the bottoms **13**, **16** and **19**, wherever one rim of a bottom end abuts another. Therefore, the bridging members are also arranged in parallel transverse rows and in longitudinal transverse rows which intersect each other.

By pivoting one row of containers **10**, **11** and/or **12**, with respect to its adjacent row, as for example, as illustrated in FIG. 4, the bridging members **22** between those two rows are readily severed. Therefore, it is contemplated that the bridging members **22** should not be used as a sole means for holding the cans together. Nor should the bridging members **22** be used for securing both top and bottom rims of adjacent cans together since this would render it difficult to separate the two by pivotal movement outwardly, as illustrated in FIG. 4. Therefore, it is important, when a firm cluster is needed for transportation without danger of disassembly, in addition to the individual securing means, i.e., the bridging members **22**, a quick release means for securing the other ends **14**, **17** and **20** together be employed. This quick release means enables the simultaneous release of the top portions of all cans or containers **10**, **11** and **12** from each other. For this purpose in the preferred embodiment, I employ two different quick release means, to be described hereinafter.

The first quick release means serves the additional function of sub-dividing the cluster of containers into the conventional six-pack or eight-pack, as desired. This first quick release means includes a shrink film plastic cap or top for each six (or eight) containers. The cap or top is put on in a loose condition over the upper end portions of the containers **10**, **11** and/or **12** and is shrunk so as to encompass snugly the end portions of the containers.

In more detail, each cap or top includes a rectangular thin film sheet or panel **24** extending over the top ends **14**, **17**, and **20** and a downwardly projecting flange **25** depending from the edges of film **24**. Since flange **25** is continuous, it encompasses the upper end portions of the cans or containers **10**, **11**, and **12**, holding them together; however, when flange **25** is ruptured or severed, it will simultaneously release all its containers. In other words, the flange **25** acts as a strap around the containers.

Spaced finger holes **26** in the film **24** provide a convenient means for carrying the sub-divided or minor unit of containers, shown in FIG. 5.

The major unit of containers is provided with a second quick release means, as seen in FIGS. 1, 2, and 3. This quick release means is a fiberglass reinforced tape **27** which extends over the outer portions of flanges **25** around the upper end portions of all containers **10**, **11** and **12**. The tape **27** may be used to replace the tops or caps or vice-versa; however, in the preferred embodiment, both means are used.

The container cluster thus described requires no case for shipping, and can be easily carried by one of the corner containers **10**.

The individual bridging member **22** enables the containers to be handled as a cluster using automatic stacking machines and the like.

When it is desired to disassemble into the six-pack units, the strap **27** is severed and the cluster bent along its longitudinal or transverse center axis, i.e., along either of the axes at which the flanges **25** abut. This separates the cluster into two halves. Thereafter, the halves are bent away from each other as illustrated in FIG. 4, thereby providing four six-pack units as indicated in FIG. 5.

The individual cans or containers **10**, **11**, and **12** can then be made available by rupturing and discarding the cap or top, i.e., the film **24** and flange **25**. By bending along longitudinal axes or along transverse axes, the individual cans or containers may be separated from the unit.

It will be obvious to those skilled in the art that many variations may be made in the embodiment chosen for the purpose of illustrating the present invention without departing from the scope of the present invention as defined by the appended claims.

I claim:

1. A container cluster comprising:

(a) a plurality of containers disposed in juxtaposition in longitudinal and transverse rows with respect to each other;

(b) individually rupturable bridging members for joining the adjacent portions of said first ends of said containers; and

(c) rupturable securing means for securing the end portions of said containers adjacent the second ends together for simultaneous release of all of the end portions adjacent the second ends when said securing means is ruptured, said securing means includes a first securing means surrounding all of said containers adjacent said second end only and a plurality of second securing means surrounding selected

groups of said containers adjacent said second end only for subdividing said containers into units.

2. The cluster defined in claim 1 wherein said first securing means includes a panel extending over the second ends of the containers, encircled by said second securing means.

3. The cluster defined in claim 1 wherein said containers are metal and said bridging members are drops of solder on the rims of said containers.

4. The cluster defined in claim 1 wherein said bridging members are each glue.

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U.S. Cl. X.R.

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