May 11, 1965 J. T. WALDRON 3,182,884

REFRIGERATING PACKAGE

Filed Oct. 11, 1962 2 Sheets-Sheet 1

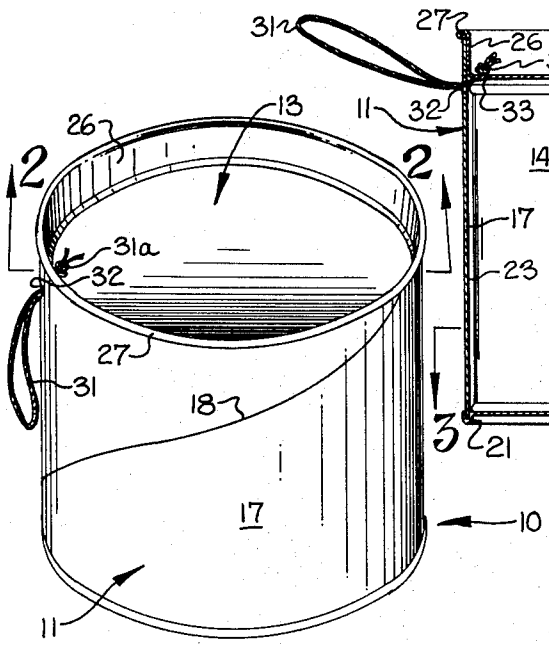


FIG-1

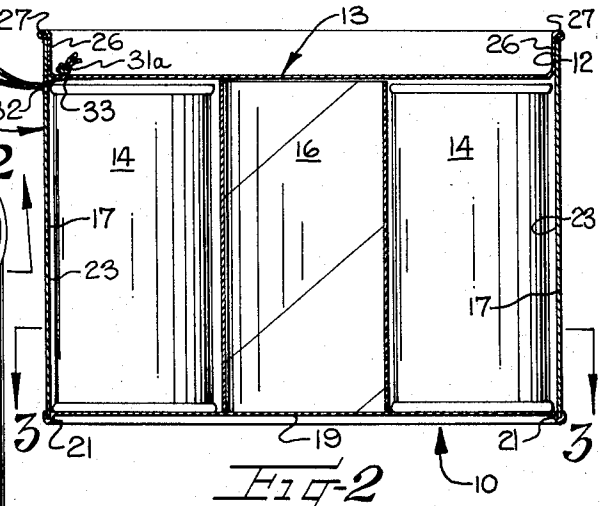


FIG-2

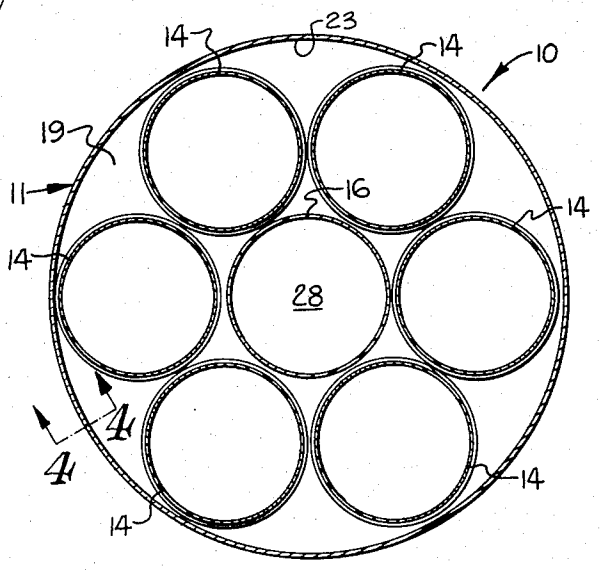


FIG-3

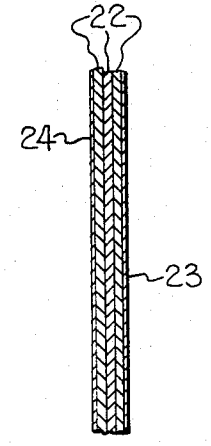


FIG-4

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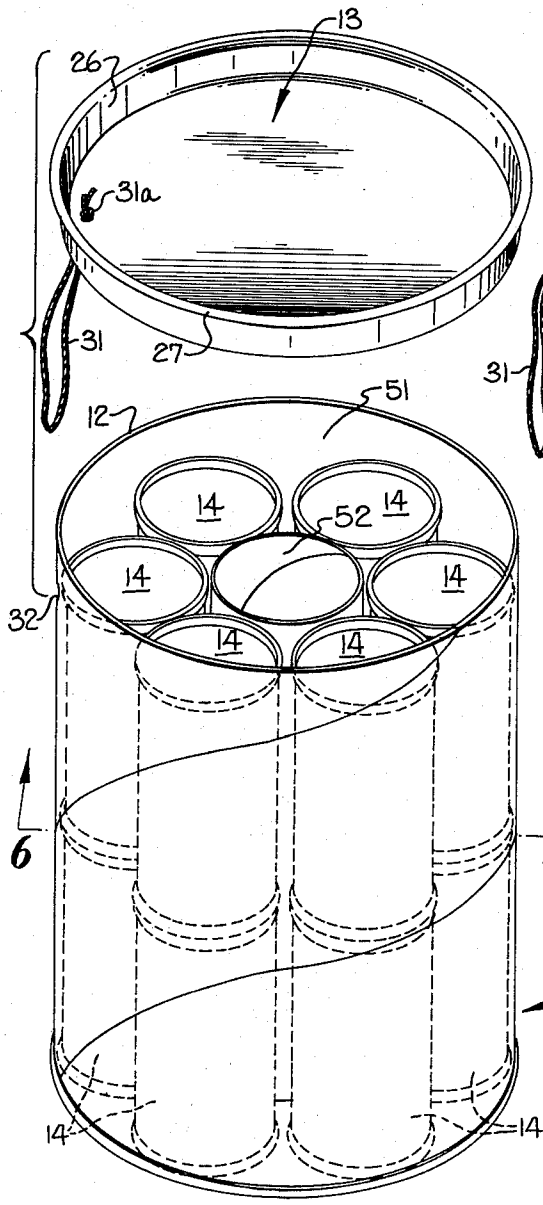


Fig-5

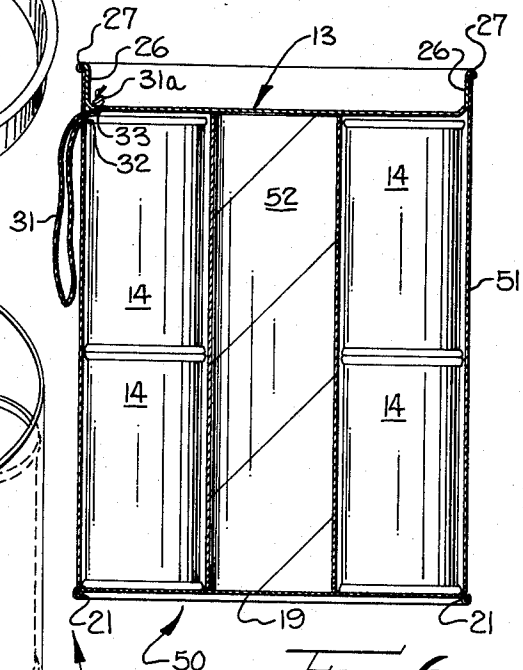


Fig-6

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REFRIGERATING PACKAGE

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3 Claims. (Cl. 229—14)

This invention relates to a refrigerating package and more particularly to a package or carrier for packaging articles such as beverage containers together with a suitable refrigerating medium such as ice for the articles.

The pleasure of outdoor activities such as camping, picnicking, and the like is considerably enhanced by the provision of thirst quenching beverages, particularly those beverages which are most appealing and satisfying when consumed cold. Many beverages available today, such as soft drinks, beer, and the like are packaged in cylindrical cans which are usually packed in ice within an insulated container to be transported to the point of consumption so as to be available for consumption in a cooled condition when desired. These insulated containers or chests are generally of large size making them awkward to handle and are characterized by a relatively high initial cost which, for practical purposes, means that they must be brought back when empty and stored for relatively long periods as a result of their infrequent use, particularly between seasons. These containers, which are generally composed of metal or the like, deteriorate through non-use and neglect and the use to which they are put does not often justify their initial cost. On the other hand, the cartons used today by merchants for merchandising bottled and canned beverages serve only as a means for handling a plurality of such containers as a unit and contribute in no way towards maintaining the beverage containers in a refrigerated condition even when the beverage containers are purchased cold.

Accordingly, a primary object of this invention is to provide a package for a plurality of articles such as beverage containers or the like which additionally serves as a refrigerating package for these articles.

Another object of this invention is to provide a new and novel refrigerating package for beverage containers and the like which is characterized by a low initial cost so that the package can be discarded when the containers have been emptied.

A further object of this invention is to provide a new and novel refrigerating package for beverage containers and the like which serves as both a carrier for the containers and a refrigerating package, is simple in construction, and attractive in outer appearance, which may be constructed in a wide range of sizes so as to accommodate a selected number of articles of various shapes, and which lends itself readily as a means for advertising the manufacturer of the packaged articles.

Still another object of this invention is to provide a new and novel refrigerating package for beverage containers and the like which may be maintained under refrigeration in display counters and which may be easily filled with ice or other refrigerating medium by the vendor or by the purchaser without disturbing the containers in the package and then readily transported with the containers in a refrigerated condition to the point of consumption using, if desired, novel carrying means provided with the package.

Other objects and advantages of the invention will become apparent from the following description taken in connection with the accompanying drawings.

The objects stated above and other related objects in this invention are accomplished by providing a refrigerating package which includes a tubular body member arranged to receive articles such as beverage containers and

the like which are to be refrigerated. The body member is preferably formed of a multi-ply spirally wound paper tube which is closed at one end with a rigid substantially waterproof bottom wall. The inner wall of the tubular body member is composed of a substantially waterproof material and a removable tubular spacer is centrally positioned within the body member for positioning the articles to be refrigerated in the annular space between the spacer and the body member inner wall. This tubular spacer can be removed and the central cavity remaining filled with a refrigerating medium such as ice to refrigerate the articles within the body member. A removable closure formed from substantially waterproof material is also provided for the open end of the body member so that a unitary package containing articles under refrigeration is provided. The package of the invention is also provided with novel carrying means which, when used, additionally maintain the closure in the end closing position.

The novel features which are believed to be characteristic of the invention are set forth with particularity in the appended claims. The invention itself, however, both as to its organization and method of operation may be best understood by reference to the following description taken in conjunction with the accompanying drawings in which:

FIGURE 1 is an isometric view of a refrigerating package constructed in accordance with the invention;

FIGURE 2 is a sectional view taken along line 2—2 of FIGURE 1 in the direction of the arrows;

FIGURE 3 is a sectional view taken along line 3—3 of FIGURE 2 in the direction of the arrows;

FIGURE 4 is an enlarged partial sectional view taken along line 4—4 of FIGURE 3 in the direction of the arrows;

FIGURE 5 is an isometric exploded view of a modification of the refrigerating package of the invention filled with articles to be refrigerated; and

FIGURE 6 is a sectional view taken substantially along line 6—6 of FIGURE 5 in the direction of the arrows.

Referring now to the drawings and in particular to FIGURES 1 through 4, there is shown a refrigerating package constructed in accordance with the invention which is designated generally by the numeral **10**.

As generally illustrative of the invention, the package **10** comprises a tubular body member designated generally by the numeral **11** having an open end **12** which is arranged to be closed by a closure **13**. The package **10** is arranged to receive through its open end **12** articles such as cylindrical beverage containers **14** positioned therein as shown in FIGURE 3 which are to be maintained in a refrigerated condition until consumption of their contents at the point of use. These containers **14** are maintained in the illustrated packaged condition within the package by means of a removable tubular spacer **16**.

As specifically illustrative of the invention, the tubular body member **11** includes a wound paper tube **17** which is preferably formed by spirally winding a plurality of paper plies with a suitable adhesive therebetween to thereby produce a helical seam **18**. One end of the paper tube **17** is closed by means of a bottom wall **19** which is seamed at **21** to the end edge of the paper tube **17** as shown best in FIGURE 2. The bottom wall **19** is formed from substantially waterproof material and, in the preferred embodiment, the bottom wall **19** is formed from sheet metal.

Referring now to FIGURE 4, the spirally wound paper tube **17**, which may be formed utilizing conventional spiral tube winding apparatus, is of a multi-ply construction and, in the illustrated embodiment, includes three overlying paper plies **22**. It should be understood

that any number and type of paper plies **22** may be employed within the scope of the invention.

In order to prevent or substantially eliminate the transmission of water and other liquids from the interior of the package **10** through the wall of the paper tube **17**, the paper tube **17** is provided with an inner wall or ply of substantially waterproof material. More specifically, as shown in the illustrated embodiment, the inner wall of the tube **17** comprises a ply **23** of a relatively thin aluminum foil which substantially prevents the transmission of water from the interior of the package **10** into the side wall of paper tube **17**. Preferably, this layer of aluminum foil **23** is first secured by adhesives or the like to the paper strip forming the inner ply **22** and in the winding of the paper tube **17**, therefore, the aluminum foil covered ply **22** is wound together with the other plies to therefore provide a paper tube having a substantially waterproof inner wall. It should be understood that although aluminum foil has been shown as one desirable type of material for providing a substantially waterproof inner wall on the paper tube **17**, other materials may be used such as wax paper or similar waterproof paper and the like.

An outer ply **24** is also preferably provided as shown in FIGURE 4 on the paper tube **17** which is a thin paper ply that can be printed with selected advertising matter, the manufacturer's label, identifying marks and the like with the result that the packaged goods may be identified both as to their source and type.

The open end **12** of the paper tube **17** through which the articles **14** are inserted within the package **10** is arranged to be closed by the closure member **13** which is provided with an upstanding annular flange **26** so as to fit snugly within the package open end. The closure flange **26** is provided with an annular lip or bead **27** which limits the inward movement of the closure **13** into the paper tube **17**. The closure **13** is formed of substantially waterproof material such as sheet metal to prevent the leakage of water out of the package **10**.

As previously described, the package **10** is constructed so that the cylindrical articles **14** can be readily accommodated within the package in a neat circular row as shown in FIGURE 3 and thereby define a central space **28** in the paper tube **17**. In the illustrated embodiment of FIGURES 1–4, the package **10** is arranged to accommodate six of the articles **14**.

In order to maintain the articles **14** in the illustrated position within the package **10** and keep the central space **28** clear for the reception of refrigerating material such as ice or the like, the tubular spacer **16** is provided which is of a diameter so as to be readily positioned within the central space **28** and thereby maintain the articles **14** between the spacer **16** and the inner wall of the paper tube **17** in the spaced relationship shown. The tubular spacer **16** is preferably formed of inexpensive paper material preferably spirally wound and is of a length so as to be neatly accommodated between the package bottom wall **19** and the closure **13** in the package closing position as shown in FIGURE 2.

In order to maintain the closure **13** in the end closing position of FIGURE 2 and to additionally serve as a means for carrying the package **10**, carrying means are provided for the package **10** as shown in FIGURE 2. In the specific embodiment illustrated, the carrying means comprise a loop **31** of flexible material or string. The string **31** is looped as shown and knotted at **31***a* to provide an enlargement at one end. An opening **32** is provided in the side wall of the paper tube **17** adjacent the open end **12** and a similar opening **33** is provided in the closure **13** adjacent to the tube opening **32**. The loop **31** is inserted through openings **32, 33** until the knot **31***a* engages the closure **13** and the loop **31** extends laterally outward from the side of the package **10**. The package **10** when filled may then be lifted by means of the loop **31** and the knot **31***a* prevents the string from slipping through the openings **32, 33**. At the same time the knot urges and maintains the closure **13** into the end closing position of FIGURE 2.

Although the package **10** may be filled with beverage containers **14** by the consumer, it is contemplated that the manufacturer of the beverage will sell the package already packed with a plurality of the containers so that the consumer receives the package **10** with the purchase of the beverage containers **14**. The package **10** would, therefore, be filled by the manufacturer by positioning the articles or containers **14** in the position shown in FIGURE 3 and the spacer **16** positioned, as shown, to maintain the containers in the proper position. The closure **13** may then be positioned in the package closing position of FIGURE 2 and the loop **31** inserted.

The filled package **10** may then be positioned within a refrigerated display case or the like so as to maintain the beverage within the containers **14** in the refrigerated condition until purchase. Upon purchase, the spacer tube **16** is discarded and the cavity **28** filled with ice by either the merchant or by the purchaser and the closure **13** replaced. By means of the ice within cavity **28**, the containers **14** are refrigerated or maintained in the refrigerated condition and the package **10** may be transported freely to the point of use awaiting consumption while the beverage within the containers **14** is maintained in the refrigerated condition for relatively long periods of time.

The melting of the ice within the package **10** will create water but the substantially moisture proof liner **23** together with the substantially waterproof material of the closure **13** and bottom wall **19** will substantially eliminate any leakage of the package **10** for an extended period of time. After the articles **14** have been removed, the package **10** can be discarded so as to dispense with the burdensome problem of transporting the package back to its storage area in the home or the like until the next time of use.

Referring now to FIGURES 5, 6 there is shown a modification of the refrigerating package of FIGURES 1–4 wherein the package has been lengthened to increase its capacity for holding the cylindrical articles **14**. Like numerals have been used to identify like parts.

As shown in FIGURE 5, the package designated generally by the numeral **50** includes a paper tube **51** which although of the same construction is approximately twice the length of package **10** so as to accommodate a plurality of stacked rows of circularly arranged containers **14**. Thus, in the modification of FIGURES 5, 6 the total number of articles contained within the package **50** are twelve with the articles stacked vertically in pairs as shown. A tubular spacer **52** is also provided which corresponds in length to the extended length of the paper tube **51** and nests snugly as shown in FIGURE 6 between the package bottom wall **19** and the top closure **13**. As in the embodiment of FIGURES 1–4, the spacer tube **52** is removed for filling the package **50** with ice, as previously described, and when the closure **13** has been placed in the end closing position of FIGURE 6, the string **31** is utilized to carry the refrigerating package containing the articles **14** to the point of use.

With the novel construction of this invention, there has been provided an unusually inexpensive and simple package which can be used as a carrier for articles from manufacturer to consumer and, in addition, can be filled with a refrigerating medium so that the articles such as beverage containers can be refrigerated for relatively long periods prior to consumption of the beverage in the containers. As a result of the low initial cost of the refrigerating package of the invention, the package can be discarded after one use. One of the most outstanding features of the invention is the elimination of the need for insulated chests and the like for refrigerating beverage containers and their attendant high initial cost and short life. Furthermore, the refrigerating package of the

invention may be readily displayed in refrigerated display cases and the like, until purchased, serving as an advertisement for the manufacturer's products and the containers can be maintained in a refrigerated condition by adding a refrigerating medium such as ice to the package when the package is removed from the display case.

While there has been described what is presently considered to be the preferred embodiment of the invention, it will be understood by those skilled in the art that various changes and modifications may be made therein without departing from the invention and, therefore, it is the aim of the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

Having thus described the invention, what is claimed is:

1. A refrigerating package for a plurality of cylindrical articles comprising, in combination, a spirally wound, multi-ply, cylindrical tubular body member having an open end for receiving articles to be refrigerated, said body member having an inner wall composed of substantially water-proof material, a bottom wall on the other end of said body member, a cylindrical tubular spacer of fibrous material centrally positioned within said body member in freely removable relationship therewith for retaining said articles in a circular row between said spacer and said body member inner wall whereby said spacer can be removed to leave a central cavity for refrigerating material such as ice, and a removable closure for closing said body member open end.

2. A refrigerating package in accordance with claim 1, wherein the inner wall of said body member is aluminum foil.

3. A refrigerating package for a plurality of cylindrical articles comprising, in combination, a spirally wound, multi-ply cylindrical paper tube having an open end for receiving articles to be refrigerated, said paper tube having an inner wall composed of substantially water-

proof material, a bottom wall of rigid, waterproof material secured in closing relationship with the other end of said tube, a tubular cylindrical paper spacer centrally positioned within said paper tube in freely removable relationship therewith for retaining said articles in a circular row between said spaced and said paper tube inner wall whereby said spacer can be removed to leave a central cavity for refrigerating material such as ice, a removable closure of rigid waterproof material for closing said paper tube open end, an opening in said paper tube adjacent said open end, an opening in said closure adjacent said paper tube opening, a loop of flexible material arranged to be looped through said openings to extend outwardly from said paper tube thereby providing a handle for said package, an enlargement in the inner end of said loop for limiting said outward extension of said loop and thereby maintain said closure in said end closing position.

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