Aug. 15, 1961 J. A. BRUCE 2,996,180

METHOD OF PACKAGING

Filed Jan. 20, 1959

Fig. 1.

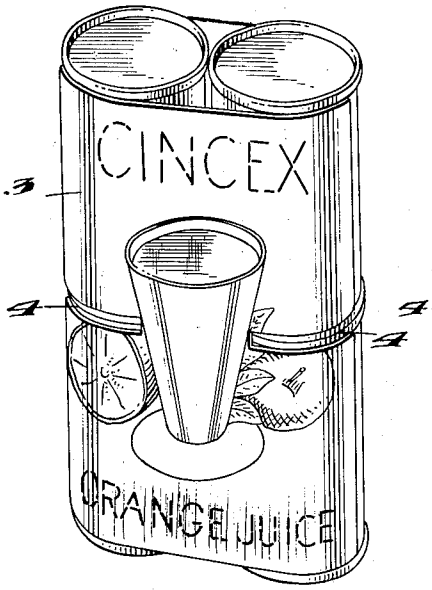


Fig. 2.

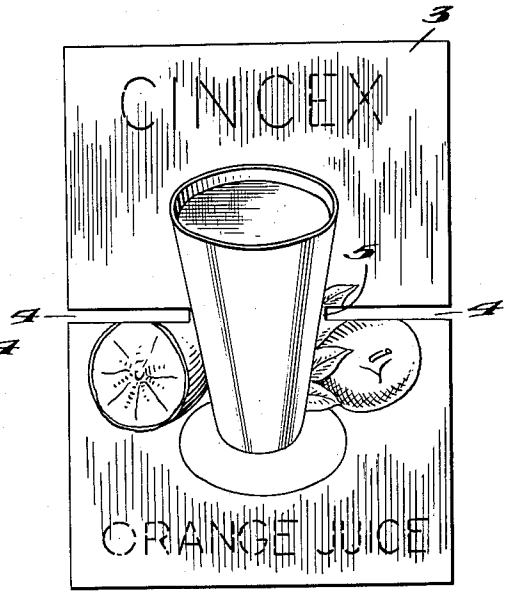


Fig. 3.

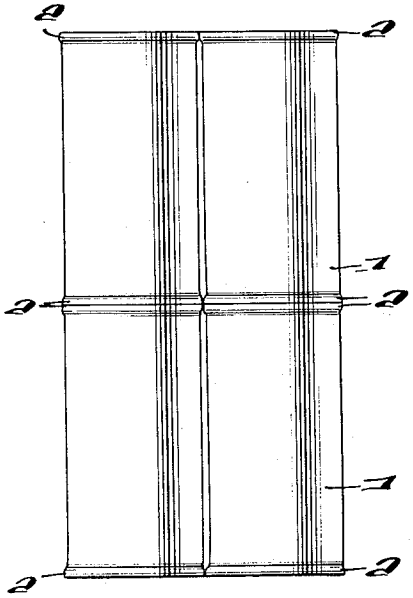
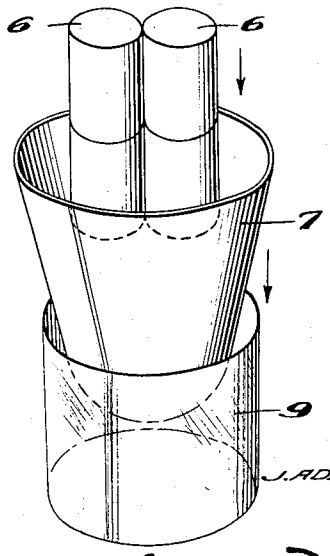


Fig. 4.



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METHOD OF PACKAGING

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This invention relates to the packaging of cans and other rigid units and more particularly to an improved method of arranging a plurality of cans securely in tiers in single package.

In modern merchandising the retail customer handles her own purchases, taking them from the store shelf or display rack and placing them in a wheeled cart as part of the self-service operation. Hard to handle packages must therefore be avoided. On the other hand, in the modern supermarket with its tremendous variety shelf space is at a premium, and every possible means is used to conserve the precious space. A large proportion of prepackaged foods is sold in cans, which because of their shape take up a large amount of space in proportion to their size. A can from which the contents must be poured, such as juices, soups, some fruits and vegetables (comprising the major utilization of food cans) is normally much taller than its diameter in order to facilitate pouring. There is a limit to the height to which these cans may be stacked without danger of falling, thus the available space cannot be utilized to the fullest extent. Attempts have been made to solve these problems by placing a plurality of cans side by side to form a single package. However, this arrangement is bulky and cumbersome, and it is difficult for the customer to pick up unless a handle is provided. This of necessity means an increase in the cost of packaging.

It is therefore an object of this invention to provide a single package which is easy to handle and yet contains a plurality of cans.

It is a further object of the invention to provide a package which will conserve shelf space and allow a wide variety of stacking arrangements.

Another object of the present invention is to provide a package wherein the label has maximum readability and display or attention-getting value.

A still further object of the invention is to provide a multiple-unit packaging arrangement which is simplified and inexpensive.

In contrast to the side-by-side packaging arrangements previously used, the present invention contemplates placing a plurality of cans in a single package in stacks or tiers in a single package, or in an end-to-end relationship. This tier arrangement takes only half the shelf space for a given quantity of merchandise, and yet the label has more than twice the readability and visibility. In addition, it is as easy to handle as a single can, for its thickness is only the diameter of one can. Thus a costly handle is not necessary to induce sales.

An additional saving is achieved by the use of a single display card for four cans. The ordinary can label usually has four or more colors to attract attention and make the article stand out from its competition. However, with the arrangement according to the present invention the number of colors on the label can be substantially reduced to a single color since the can itself is no longer responsible for the primary sales appeal. This results in a substantial saving in the cost of packaging.

Other objects and advantages of the present invention will become apparent from the following description, reference being made to the accompanying drawings, in which:

FIG. 1 is a perspective view of the arrangement of four cans according to the present invention.

FIG. 2 is a front view of the slotted display card.

FIG. 3 is a rear view of the assembled package containing four cans.

FIG. 4 is a diagrammatic view of a method of packing according to one embodiment of the invention.

The cans **1** are arranged in rows by hand or automatically from a production line conveyor, with two or more cans in each row and with the ends of the cans in each row exactly aligned. FIG. 3 shows one example of an arrangement according to the invention, where two rows of two cans each are placed end to end with the rims **2** abutting. In this position the cans are rolled onto or placed on the display card **3**. The display card may conveniently be about the thickness of the can rims **2** projecting beyond the cylindrical body of the cans, and is finished on one side to carry the display material which faces outward from the cans.

The width of the display card may be approximately twice the diameter of one can and twice the height of one can less the rim. The dimensions of the display card may obviously be varied widely depending on the size or number of the cans.

The display card **3** is slotted at **4** to twice the thickness of the rims **2** wherever the rims touch the display card. In the case of two rows of two cans shown in FIG. 3 the slots come inward from the edges of the display card **3** to leave an uncut space **5** which is somewhat less than the diameter of one can. The uncut space permits continuity of design throughout the display card and also serves to hold the unit together. The position of the slots **4** on the display card is immaterial and may fit conveniently into the design as long the slots are less than the height of one can from the ends. In the instant example it is obvious that they must be half way along the edge of the display card. The longitudinal edges of the display card may be turned slightly to follow the curve of the cans if so desired, but this is unnecessary in all instances and depends on the width of the card.

The assembly **6** of cans and the display card **3** with the rims of the cans resting in the slots of the display card may then be guided into the large end of a flexible horn **7** pivoted at the center as shown diagrammatically in FIG. 4. At the opposite end of the horn a tube of heat shrinking material **9** such as for example polyester film is drawn over the open smaller end and a suitable distance along the outside of the horn. The tube **9** is slightly larger than the sectional area of the assembly **6** so as to fit loosely around it. The tube **9** is then cut off at a length sufficient to form a band over the display card and assembled cans when heat shrunk but in any event is not longer than the cans in the assembly.

The assembly **6** is then pushed or drawn through the horn **7** which flexes to cylindrical shape and allows the assembly **6** to pass into the tube **9** to a position which will shrink the tube securely around the assembly when treated at appropriate temperature and times by heat, such as in a conventional heat tunnel or other suitable means. Obviously this is only one example of a method by which the assembled cans may be banded together.

At all times in the assembly the can rims **2** are positioned to enter slots **4** and hold the display card firmly in place on the package. At the same time the slots in the display card lock the cans in place, resulting in a firm package.

It will be readily apparent that variations may be made in the display card from a small slotted card on one or both sides of the assembly, or completely surrounding the cans, to a full height along the cylindrical dimensions of the cans and covering the cylindrical bodies of all cans completely.

It the illustration given a tube of heat shrinking material has been referred to but the invention may also utilize the use of sheets of heat shrinkable material which may

be wrapped around the assembly by hand or suitable mechanical means and sealed according to the requirements of the heat shrinkable material.

It will be understood that the examples herein described and shown in the drawings are for illustrative purposes only, since modifications may be made by those skilled in the art without departing from the spirit and scope of the invention.

What is claimed is:

A package comprising a plurality of cylindrical cans or the like of substantially equal size, said cans having outwardly extending flanges at each end thereof, said cans being disposed side by side in rows of axially aligned pairs having the adjacent end faces of each pair in abutting relationship, the end flanges of each can of each pair of cans being laterally aligned with the flanges of the next adjacent pair of cans, a display card overlying one face of said rows of cans, said display card having transverse slots extending inwardly from the outer edges of said card and engaging and confining the abutting end flanges of said pairs of cans, and a sleeve of thermoplastic heat shrinkable material encircling and shrunk around and confining said cans and said card to band said package.

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