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BOTTLE PACKING METHOD AND MEANS

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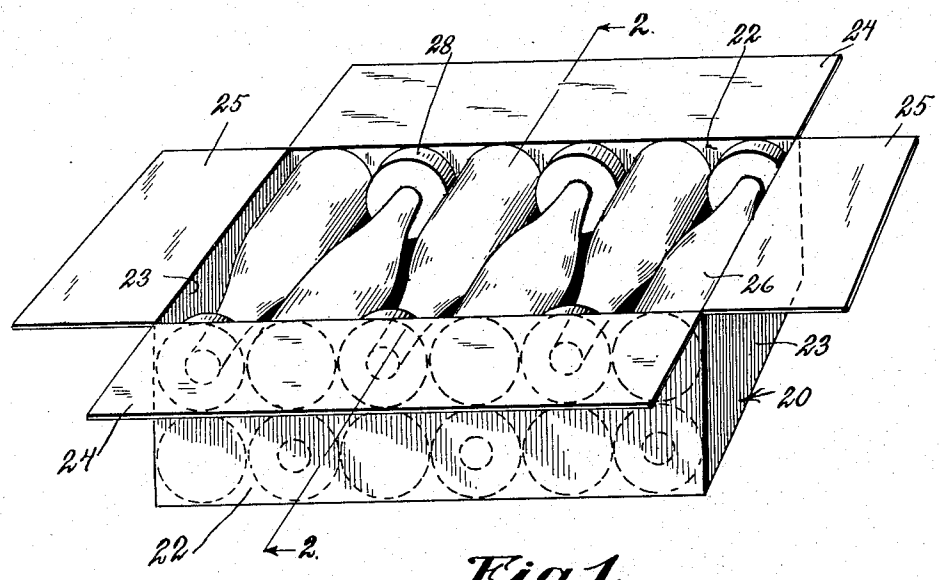


Fig. 1.

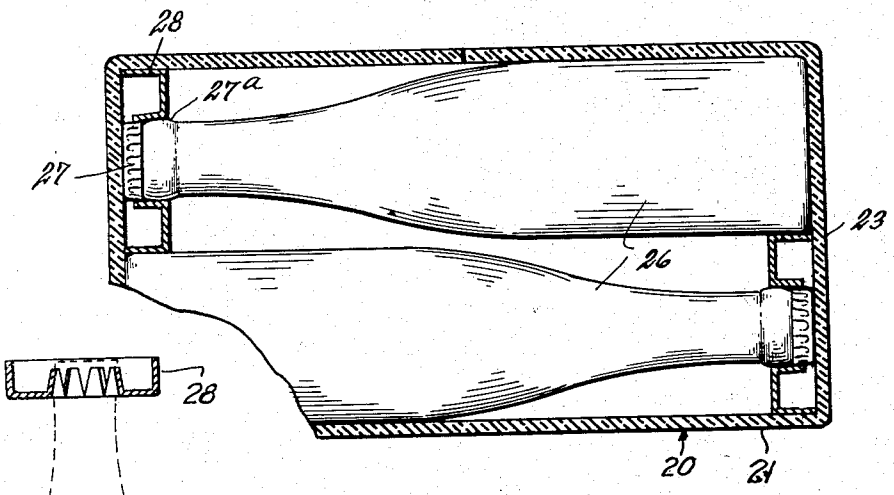


Fig. 2.

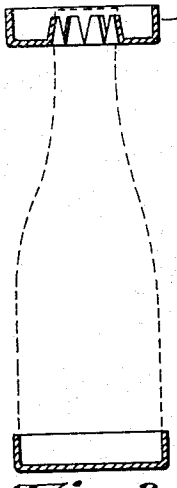


Fig. 3

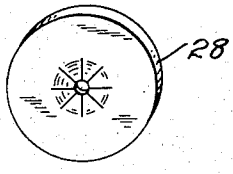


Fig. 4

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BOTTLE PACKING METHOD AND MEANS

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6 Claims. (Cl. 206—65)

This invention relates to a method of packing bottles,—or similar frangible articles,—in containers for shipment, and further relates to the means whereby the improved method is practiced.

It has recently become the vogue to pack bottles in containers of paper, solid fiber, corrugated board or similar material, the bottles being placed on their sides in such containers. The bottles thus packed are separated from each other by a partition of material similar to that used for the container and may comprise pieces of such material used as cushioning material and extending between the bottles and/or across the tops thereof to hold the same in position and at the same time to prevent the bottles from contacting with each other and being thereby broken during shipment or handling. The use of such partitions is extremely costly when it is realized that millions of cases a year are so packed, and it is the object of the hereinafter-described invention to provide a greatly improved method of packing bottles in the same position but which will result in a marked saving in the amount of material used.

The hereinafter-described method permits much more rapid packing of the bottles and at the same time results in a marked decrease in the amount of material which is necessary to use in order to obtain the same protection for the articles. Such method furthermore possesses several other marked advantages which will be particularly referred to as this description proceeds.

The method of packing comprehended in the hereinafter-described invention, the means for practicing such method and the various advantages resident therein will be best understood from a consideration of the following description and accompanying drawing in connection with which said other advantages of the method and means for practicing the same will be apparent.

The accompanying drawing illustrates the invention as utilized in the packing of bottles in one or more layers in a flat container composed of corrugated paper. At the outset, however, it should be understood that the invention is not limited to the packing of the bottles or other articles of the shape shown or in a container of the particular material indicated. However, the said invention has found one very advantageous adaptation in connection with such products.

For instance, the various manufacturers of beverages have lately found it advisable to pack their bottled goods in what are known as "family cases" holding one-half dozen or a dozen bottles of their product.

If one-half dozen bottles are to be packed, the same are arranged in a single layer and the vertical dimension of the container is approximately the same as the diameter of the bottle. If on the other hand it is desired to place more than one layer of bottles in a container, the bottles may be arranged in two or more layers and all the advantages of the invention be realized in cumulative degree. While the manner of packing now in vogue is not illustrated, it will be understood that pieces of cushioning material are deposited between the bottles as partitions and that the total amount of material so used is very large.

Referring to the drawing:

Figure 1 illustrates a container in which a dozen bottles are packed, said bottles being packed in accordance with the hereinafter-described improved method and with the means provided for practicing said method. The shipping container,—which is shown in perspective,—contains a dozen bottles which are arranged in two layers of one-half dozen each. However, the invention could be equally well utilized for packing one-half dozen bottles only, in which case the container would be only one-half as high as the container shown in Fig. 1. Moreover, the container in Fig. 1 has flaps turned outwardly to permit a view of the interior of the case and to disclose the bottles therein;

Fig. 2 is an elevational sectional view taken on the line 2—2 of Fig. 1;

Figs. 3 and 4 may be considered together, Fig. 3 being an elevational sectional view of a bottle having a packing member at the cap-end as well as at the bottom-end, and Fig. 4 being a perspective view of the member which is placed on the ends of the bottle in Fig. 3, it being further understood that the packing member as shown in Fig. 4 is applicable to the bottoms of any of the bottles hereinbefore or hereinafter described or illustrated.

Referring now more particularly to the drawing, the invention illustrated in connection with a container 20 comprises a bottom 21, side walls 22, end walls 23, and bendable flaps 24—24 and 25—25 at the top thereof. As heretofore suggested this casing or container in Fig. 1 is adapted to receive twelve bottles of two rows of six each. For purposes of the present illustration only, these containers are described as filled with bottles of the beverage, and particularly of the ginger ale type 26, which bottles are provided with the usual removable crown cap 27.

The improved method of packing the bottles 26 in the container 20 comprises placing a packing or cushioning member 28 about the cap portion of the bottle. The said members 28 are formed with an opening centrally thereof so that they may be placed over the cap portion of the bottle. Because of the slight bulge 27a found in bottles of this type,—and in fact in almost all of such articles,—the member 28 after being forced down over the cap will be thereby rigidly held in place by said bulge 27a.

After the cap members are placed upon the bot-

tles, the next step is to arrange the said bottles thus equipped in the shipping container, and this is done by arranging said bottles in layers and the bottles alternately reversed end for end. Such a method of packing results in the packing members or rings separating the bottles from contact with each other by providing cushioning members as best shown in Figs. 1 and 2. The container itself is usually of corrugated board so that said disposition of the bottles having the improved packing caps thereupon results in a compact tightly-held set of six bottles in a container, and when, tightly held in a closed container, bottles thus equipped are substantially positively protected from breakage, irrespective of the roughness in handling. The bottles themselves are held out of contact so that the only point of direct contact is at the cushioning members which are so formed that all of the shock is absorbed.

If it is desired to pack twelve bottles in a container the method illustrated by Figures 1 and 2 is employed, in which latter figures it will be observed that the caps not only prevent direct contact between the adjacent bottles of the same row but at the same time between bottles disposed above and below each other.

The amount of material saved through this advanced method of packing and the means therefor is astonishing. In the first place, the material used in the old partition method of packing is, of course, no longer necessary and at the same time a greatly increased efficiency of packing is obtained through the use of the large area caps. Again, the elimination of the partition method of packing permits the use of a container of slightly less cubic dimensions. When it is realized that hundreds of thousands of cases yearly are used in the United States alone, it will be appreciated that the slightest saving in cubical dimensions results in a great decrease in the amount of total paper or other material required to make the containers themselves.

Finally, the use of the packing caps or rings gives so much better positive cushioning effect that even though no saving in material were effected, the herein-described invention would be of great advantage.

Fig. 3 illustrates a bottle to which is applied a cap as shown in Fig. 4. Such a cap, as indicated, consists of a structure in which a central bottle-top receiving portion is formed, which latter portion is defined by cutting the material at the center in star-door fashion. This type of cushion member is of advantage in that the same may be supplied to the bottler in large quantities. If desired, the member may be placed on the top of the bottle by forcing it down over the neck as shown, during which forcing the star cutting opens to form a neck encircling part. If it is desired to use one of the same members on the bottom of the bottle the member 28 may be applied to the bottom of the bottle, the star cutting then being left unopen.

It should be understood, however, that members such as shown in Fig. 4, but without the central star cutting or perforation, may be supplied for use for the bottoms only of bottles.

Advertising may be printed on the inside of the cap shown in Figs. 3 and 4 as well as upon the outside thereof, so that it is observable whether said cap is used at the cap end of the bottle or at the bottom end.

The packing method and means illustrated contemplate the provision of individual packing members applicable to individual bottles, it being possible and probably sometimes most practicable to apply such packing member to the bottles before the latter are placed in the containers, the packing members being of such character as to be very quickly and inexpensively manufactured, and easily and ordinarily applied to the bottles to be packed.

All of the bottles heretofore described are of conventional form and cross-sectional dimensions, but it will be understood that the heretofore described invention is equally applicable in packing frangible bottles or containers of other shapes, and it is intended that the hereafter appended claims shall cover the packing members irrespective of the shape or dimensions to which the same may be applied.

While there has been above described a plurality of packing means together with several methods of utilizing said means in packing, it is to be understood that such discussion is for illustration only, and that no terms of limitation used herein are intended to import into this specification any restrictive or narrowing features, it being desired that the invention be limited only by the scope of the appended claims and the prior art.

I claim:

1. A cushioning device for association with bottles to be packed in containers comprising a member adapted to be associated with either end of a bottle to cushion said bottle from one placed immediately adjacent thereto in a container, said member having concentric seats for the respective bottle ends, said member when applied being substantially flush with the respective bottle end.

2. A cushioning device for a bottle comprising a ring member provided with an opening therein for fitting over the cap end of a bottle, and a seat for the opposite end of said bottle.

3. A cushioning device for bottles comprising a member having a seat therein for the bottom end of a bottle and a central opening defined therein permitting said member to be placed either at the cap end or the bottom end of a bottle, as desired.

4. A cushioning device for bottles comprising a member having a seat therein for the bottom end of a bottle and a central opening defined therein by star cuts permitting said member to be fastened over the cap end of a bottle by the opening of the said star cuts, or to be placed at the bottom end of said bottle without such opening, if desired.

5. A cushioning device for a bottle having a large diameter bottom end and a small diameter top end, comprising a short cylindrical member of cushioning material of substantially the same diameter as the bottom end of said bottle and having a concentric seat therein to snugly embrace the small end whereby the disc does not extend materially beyond the end of the bottle.

6. A cushioning device for a bottle having a large diameter bottom end and a small diameter top end, comprising a cup-like member of cushioning material arranged to snugly receive the bottom end of said bottle and having a concentric seat to receive the small end.

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