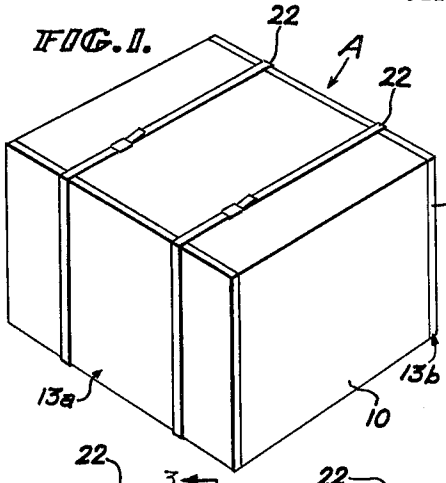
March 22, 1966 D. R. ZAMZOW ET AL 3,241,661

IMPACT RESISTANT MULTIPLE BOTTLE PACKAGE

Filed July 21, 1964

FIG. 1.



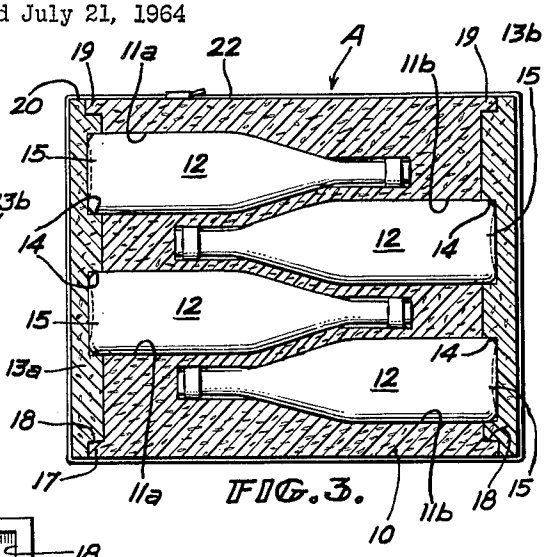


FIG. 3.

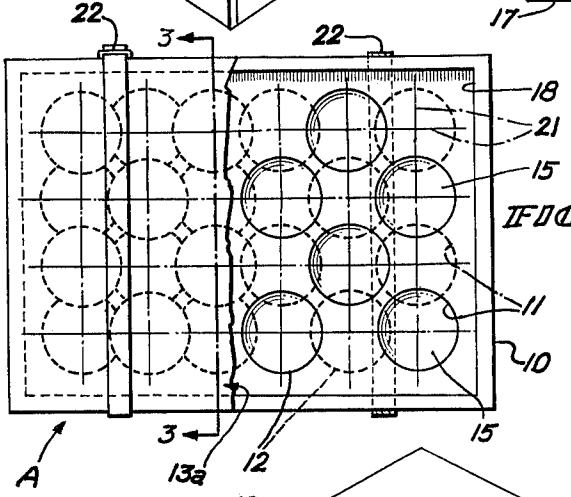


FIG. 2.

FIG. 4.

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United States Patent Office 3,241,661 Patented Mar. 22, 1966

3,241,661

IMPACT RESISTANT MULTIPLE BOTTLE PACKAGE

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Filed July 21, 1964, Ser. No. 384,194
2 Claims. (Cl. 206—46)

The present invention relates to a bottle package, and pertains more particularly to an impact resistant bottle package comprising a block of impact absorbing material having a plurality of bottle receiving recesses extending thereinto from opposite sides thereof, covers of impact absorbing material being provided in fitted relation over each recessed side of the package and the ends of bottles therein to retain and protect such bottles.

An object of the invention is to provide an improved, protective package for containing a plurality of bottles.

Another object of the invention is to provide an improved package for containing a plurality of bottles, the package comprising a body portion of impact absorbing material having a plurality of bottle-receiving openings extending thereinto from opposite sides thereof, with covers to retain and protect bottles inserted in the recesses in the body portion.

Another object of the invention is to provide an improved package for containing a plurality of bottles wherein a body portion of impact absorbing material has two pluralities of bottle receiving recesses molded to extend thereinto from opposite sides thereof, each recess comprising a larger diameter portion to receive the body of a bottle, and a smaller diameter extension portion to receive the neck of such bottle, the two pluralities of recesses being relatively located so that the neck extensions thereof are in overlapping relation with each other.

The foregoing objects and advantages of the invention will be apparent from the following description and the accompanying drawings, wherein:

FIG. 1 is a perspective view of a bottle package embodying the present invention as its appears when ready for shipment.

FIG. 2 is an enlarged, end, elevational view of the package shown in FIG. 1, a portion of one cover thereof being broken away.

FIG. 3 is a similarly enlarged sectional view taken along line 3—3 of FIG. 2.

FIG. 4 is an exploded view of the package shown in FIGS. 1–3 showing the covers of the package and some of the bottles removed endwise from the body portion.

Brief description

Briefly, the illustrated form of the invention comprises a bottle package A having a rectangular body portion **10** with a desired plurality of bottle receiving recesses **11***a* and **11***b* extending thereinto from two opposite sides thereof. The recesses in one side of the body portion **10** are offset laterally from those in the other side, as best shown in FIG. 2, and the neck receiving portions of the two sets of recesses are in relatively overlapping relation with each other, as best shown in FIG. 3. The recesses **11***a* and **11***b* are of such a depth that the base of each bottle **12** inserted therein extends slightly from its recess, so as to permit the bottle to be grasped for removal. A pair of package covers **13***a* and **13***b* are provided to fit, one over each bottle receiving side of the body portion **10**, each cover having a plurality of shallow recesses **14** therein to receive the projecting bases of the bottles covered thereby.

Detailed description

Referring to the drawings in greater detail, in the illustrative bottle package A, the rectangular body portion **10** is of light weight, impact absorbing material, such as an inexpensive, plastic foam material. The latter material may be either slightly resilient, or substantially non-resilient, as preferred. Since numerous suitable plastic foam materials, and the manner of molding thereof, are well known to those familiar with the art of plastics and plastic molding, it will be unnecessary herein to describe the details of either the material or the molding procedures therefor.

The body portion **10** preferably is of generally rectangular form, and the two pluralities of bottle receiving recesses **11***a* and **11***b* extend thereinto from opposite sides of the body portion. The bottle receiving recesses **11***a* and **11***b* are similar to each other, and each is of a size to receive a selected type of bottle **12** slidably inserted therein. The fit of the bottles in the recesses preferably is such as to permit the bottles to be easily inserted in, and withdrawn from, the recesses, but to restrain the bottles from any appreciable lateral movement therein.

Each bottle receiving recess is of a depth to receive therein a selected size and type of bottle with the base portion **15** thereof projecting from the body portion **10** sufficiently to permit the bottle to be manually grasped for easy removal. A bottle base projection of approximately one half to three quarters of an inch is considered satisfactory for a quart size bottle, but this may be varied as required, and will depend somewhat upon the shape and surface conformation of the projecting base portion of the bottle. For example, a bottle with a rather square base corner and a roughened or otherwise configurated side surface would be more easily grasped than would one with a well rounded base corner and smooth surface. In any event, the required amount of base projection may be readily determined by making a few simple and obvious tests with a bottle of the selected type before designing the mold for making the package.

A marginal rim **17** preferably is provided around each bottle receiving side of the body portion **10** to provide a shallow recess **18** extending throughout the bottle receiving area of each such side for receiving an offset inner panel portion **19** formed on each cover member **13***a* and **13***b*. Each cover member comprises an outer panel portion **20** of suitable thickness, and of a size to conform to the exterior of a side of the body portion **10** onto which it is to be fitted, and the preferably integral inner panel portion **19**, which is of a size to fit into the recess **18** defined by each marginal rim **17**.

A plurality of the bottle base receiving recesses **14** are provided in each inwardly projecting panel portion **20**, and are positioned to receive the projecting base portions **15** of the bottles inserted in the bottle receiving recesses **11***a* and **11***b* of the body portion **10**.

In the illustrated package A, as best shown in FIG. 2, there are four horizontal rows of three recesses each in each side of the body portion **10**. The axes of the recesses in each horizontal row lie in the same horizontal plane on both sides of the body portion, but the axes of the recesses in one side are midway between the axes of those on the other side. The transverse spacing between the axes of adjacent recesses in the same horizontal row on one side of the body portion is twice that of the vertical spacing between the axes of adjacent rows. The axes of both sets of recesses **11***a* and **11***b* thus define a grid **21** of squares as shown in dot-dash lines in FIG. 2.

The illustrative package A holds 24 bottles, a desirable and customary "case" lot, and the arrangement of the recesses **11***a* and **11***b* therein permits the covers **13***a* and **13***b* to be made identical, and they are therefore interchangeable. While this specific arrangement of the recesses **11***a* and **11***b* is not essential, it is desirable in many instances.

In using the package A, which has particular utility

for shipping bottled wine, after the two sets of bottle receiving recesses **11***a* and **11***b* have been filled with bottles **12** of a selected type, the cover members **13***a* and **13***b* are fitted thereon, as best shown in FIG. 3, with the projecting base portions **15** of the bottles fitted into the correspondingly located recesses **14** in the cover members, and with the inner offset panel portion **19** of each cover member fitted into its associated recess **18** formed by the rim **17**. The cover members **13***a* and **13***b* are then secured in position on the body portion **10** by suitable fastening means, such as, for example, the metal straps **22** (FIGS. 1–3) which are of a well known type.

When it is desired to open the package A, the straps **20** or other fastening means (not shown) by which the covers **13***a* and **13***b* are secured in position, are released, as by cutting the straps, whereupon the covers **13***a* and **13***b* may be easily removed to expose the projecting base portions **15** of the bottles.

If the package is used for shipping bottled wine, after the package has been opened the body portion **10** may be left lying on an unrecessed side thereof with the bottles therein as shown in FIG. 2. In this position the bottles will lie with their axes horizontal, so that the wine therein will keep the corks wet, and thereby provide a very satisfactory storage compartment for the wine. The bottles may be withdrawn from the body portion, one at a time as desired, and the cover replaced, frictional engagement of the cover with the rim **17** and the bases of the bottles being sufficient to retain the cover lightly in place.

In addition to protecting the bottles against damage during shipment, and providing a satisfactory storage rack, the package A, when the covers are in place, provides effective heat insulation for the bottles contained therein, and also protects them from exposure to light, all of which are very desirable features in a package for containing bottled wine or other liquids which may be packed therein.

While we have illustrated and described a preferred embodiment of the present invention, it will be understood, however, that various changes and modifications may be made in the details thereof without departing from the scope of the invention as set forth in the appended claims.

Having thus described the invention, what we claim as new and desired to protect by Letters Patent is defined in the following claims.

1. An impact resistant package containing a plurality of bottles comprising:

a body of plastic foam material shaped to define a plurality of bottle receiving recesses of a length slightly less than the height of the bottle received therein, and extending into the body from two opposite sides thereof whereby the base of each bottle projects slightly beyond the body, the portion of the body defining each bottle receiving recess comprising a larger diameter portion receiving the body of the bottle, and a smaller diameter extension thereof receiving the neck of the bottle therein, the portions of the body defining the recesses in one side of the body being laterally offset from the portions of the body defining the recesses in the other side of the body, the body being of less width between the two opposite, recessed sides thereof than twice the length of the bottles inserted in said recesses,

a marginal rim surrounding each recessed side of the body, and

a pair of cover members fitted one onto each recessed side of the body and into the surrounding rim thereof, each cover member having a plurality of shallow recesses therein receiving the projecting base portions of each of said bottles inserted in the body recesses.

2. An impact resistant package containing a plurality of bottles comprising:

a body of plastic foam material shaped to defiine a plurality of bottle receiving recesses of a length slightly less than the height of the bottle received therein, and extending into the body from two opposite sides thereof, whereby the base of each bottle projects slightly beyond the body, the portion of the body defining each bottle receiving recess comprising a larger diameter portion receiving the body of the bottle, and a smaller diameter extension thereof receiving the neck of the bottle therein, the portions of the body defining the recesses in one side of the body being laterally offset from the portions of the body defining the recesses in the other side of the body, the body being of less width between the two opposite recessed sides thereof than twice the length of the bottles inserted in said recesses,

a pair of cover members fitted one onto each recessed side of the body, each cover member having a plurality of shallow recesses therein receiving the projecting base portions of said bottles inserted in the body recesses.

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