

July 18, 1967

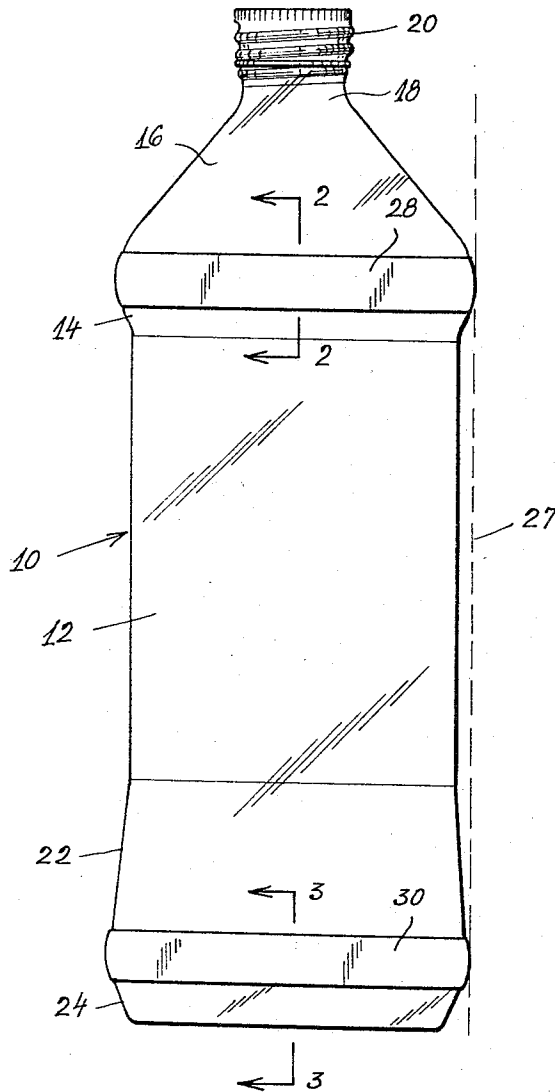
R. E. PAIGE
BOTTLE BUMPERS

3,331,521

Filed Aug. 24, 1965

3 Sheets-Sheet 1

Fig - 1 -



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3 Sheets-Sheet 2

Fig. 2.

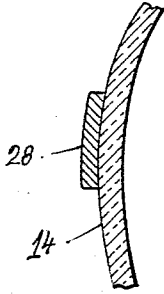


Fig. 3.

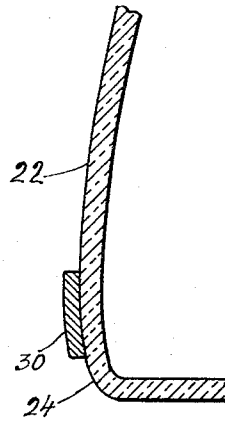
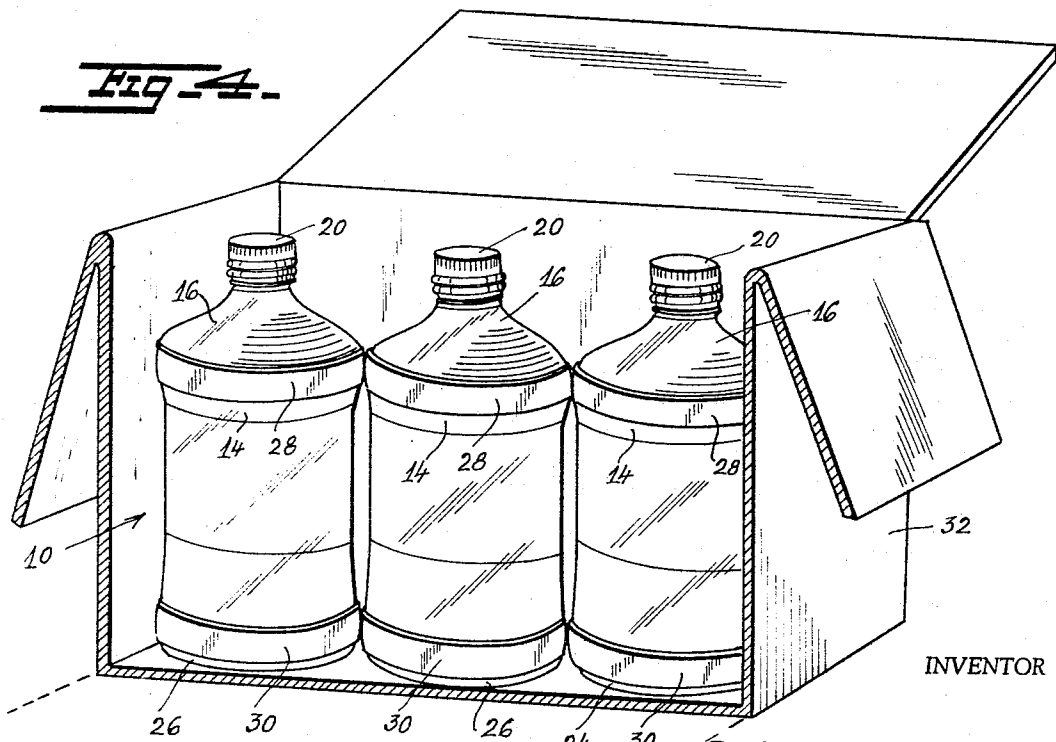


Fig. 4.



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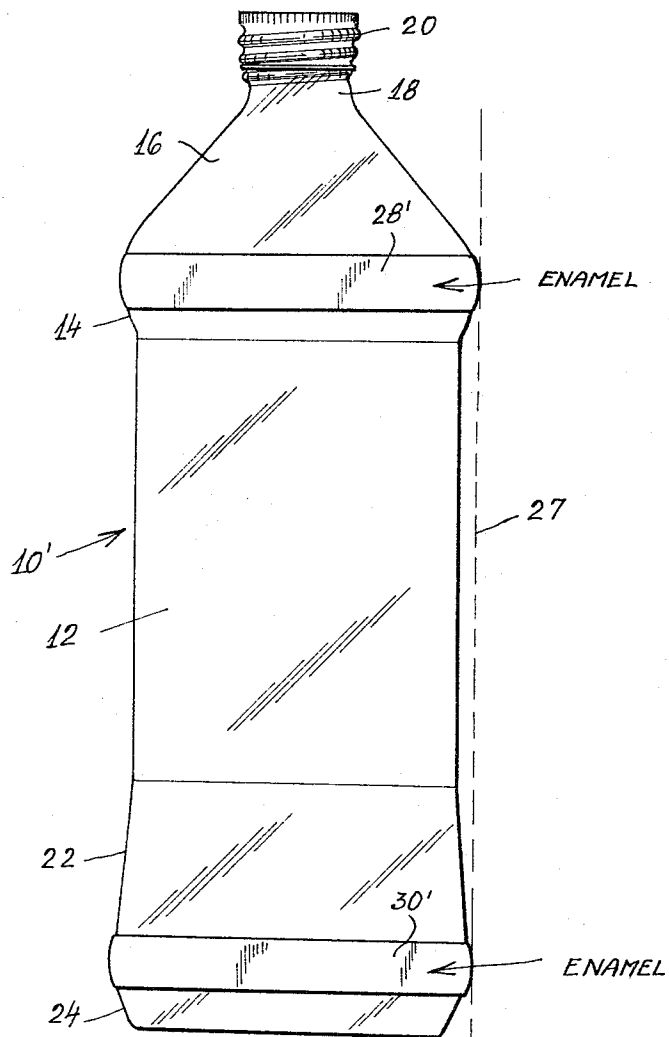
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3 Sheets-Sheet 3

Fig. 5.



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3,331,521
BOTTLE BUMPERS
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This invention relates to protection of glass bottles, jars and the like in shipment and more particularly to means of labeling the individual glass bottles to protect them from breakage, when said bottles bump into each other during transit.

Thus, the object of the labels is to serve a purpose, heretofore not required of labels; to be the sole shipping-case protection for the glass, as contrasted with the conventional informative and decorative function labels traditionally have served: said labels thereby eliminating the need for costly, corrugated or fibre partitioning.

Heretofore, when glass bottles, jars and the like were packed for shipment, in standard corrugated shipping cases or cartons, either corrugated partitions or solid fibre partitions were usually used, these partitions having been specified as acceptable protection in Railroad Freight Classification rulings. The expense for such protection entails the cost of the material, the cutting of the partitions, the assembling of the partitions, the collapsing and storing of the partitions prior to use, the subsequent transportation of the partitions to loading areas, the setting up of the partitions, and the insertion of the partitions into the case or carton.

All of the above including the material and operations are costly and add to the cost of glass bottles to the user and ultimately, many times, to the consumer.

The very simple facts which prompted the invention are as follows:

Glass is one of the hardest substances known. However, it is crystalline in structure and therefore fragile. When glass hits glass, the result often is cracking, breakage or marring. When a relatively thin material, such as paper or thin plastic is interposed between glass bottles, no resilience is needed; it is sufficient that the material be softer than glass and be nonfrangible.

Why and how can the resilience be sacrificed? Because glass is highly elastic in itself, and when a nonfrangible material is interposed between glass bottles, the glass gives but does not break. When an annular or encircling label or strip of paper or the like is interposed, the encircling glue and paper reinforce the glass at the very point of stress.

The principal object of the present invention is to provide a glass bottle, jar and the like that is protected from damage when bumped into by a similar bottle in a shipping case or carton in transit.

Another object of the invention is to provide a glass bottle with built-in inherent means for protecting the bottle from damage when bumped into by a similar bottle in a shipping case or carton in transit.

For further comprehension of the invention and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

FIGURE 1 is a front elevational view of a glass bottle embodying my invention.

FIG. 2 is a vertical sectional view taken on the line 2—2 of FIG. 1.

FIG. 3 is a vertical sectional view taken on the line 3—3 of FIG. 1.

FIG. 4 is a perspective view of a shipping carton con-

taining a plurality of bottles, embodying the invention, packed for shipment.

FIG. 5 is a view similar to FIG. 1 of a bottle embodying a modified form of the invention.

Referring now in detail to the various views of the drawing, in FIG. 1, there is shown for illustrative purposes, a glass bottle 10 embodying the invention. The illustrated bottle 10 has an elongated cylindrical hollow glass body 12, round in cross-section and cylindrical in configuration. At the top of the body proper, there is a slightly curved annular bulge 14, the top of the bulge merging gracefully with an inwardly tapering portion 16 leading to the neck 18. The neck is open and is provided with a removable metal closure cap 20.

At its bottom end, the body of the bottle is provided with an elongated tapered portion indicated at 22, extending outwardly from the body proper toward the bottom and then curving and tapering abruptly inwardly for a short distance as indicated at 24 to the flat bottom 26 of the bottle. The outermost point of the bottom curved portion 24 is on a plane with the plane of the crest or periphery of the bulge 14 at the top as indicated by the broken line 27 in FIG. 1.

In accordance with the present invention, as shown in FIG. 1 a narrow label or strip 28 of nonfrangible material such as thick paper completely encircles the crest or periphery of the bulge 14 at the top. At the bottom of the bottle, a narrow label or strip 30 of similar material and dimensions as the label or strip 28 completely encircles the outermost peripheral edge of the juncture between the tapered portion 22 and the curved portion 24.

In FIG. 5, a bottle 10', similar in all respects to bottle 10 except that the continuous or endless rings 28' and 30' are formed of enamel instead of paper, is shown. The enamel is baked on the outer surface of the bottle.

In practicing the invention, the labels or strips 28 and 30 and rings 28' and 30' will be sufficiently thick and wide to prevent breakage of the bottle. Paper labels of the order of approximately .006 to .008 of an inch thick, and of the order of approximately 3/8 of an inch wide on a bottle approximately 7/8 inches long, have been found satisfactory.

In FIG. 4, a plurality of bottles 10 with paper labels embodying the invention are shown packed in a shipping case or carton 32 of cardboard or the like ready for shipment. It will be observed that the bottles are in side-by-side relation, contacting at two narrow points which are covered by the labels 28 and 30. The labels are all around the bodies of the bottles, and are sufficiently thick and strategically placed along the peripheries of the top bulge 14 and bottom curved portion 24 thereby providing contact rings, and because of the nonfrangibility and noncrystallization of the material thereof will help absorb the shocks encountered during shipment because the glass itself is inherently elastic and gives a little under a blow or bump.

While a glass bottle with a projecting bulge and spaced outwardly flaring curved portion is illustrated and described, it will be understood that a conventional cylindrical shaped glass bottle with a body of uniform diameter throughout might enjoy the features of the invention by encircling the body at widely spaced points, to wit, adjacent the top and bottom ends, with narrow labels or rings of rather thick nonfrangible material.

The positioning of the labels or rings at the proper places on the bottle can be achieved with conventional machinery now used for placing the ordinary identification labels on the bottles by merely placing an attachment on the machine so that all three labels may be pasted on the bottle simultaneously.

It will be seen from the foregoing that I have provided means for eliminating the need for partitions in shipping

cases with consequent saving in time and labor. The labels or rings 28 and 30 may of course be colored or bear any suitable design or indicia to enhance the appearance of the label or bottle or to identify the contents of the bottle.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

What is claimed is:

1. In a glass container having an elongated cylindrical hollow glass body, a pair of narrow protective rings of enamel encircling the body at annular points adjacent each end thereof, constituting the points of contact when a number of similar containers are packed, side by side, in a carton for shipment, said enamel rings being baked on the outer surface of the body.

2. A means for the separation of cylindrical glass containers in a shipping case, comprising two, relatively narrow, continuous strips of heavy paper, adhesively affixed to each of said glass containers at spaced-apart levels where the containers are at their greatest perimeter: said strips, comprising two thicknesses of non-frangible material between adjacent containers whereby to prevent the contact of glass to glass, yet allowing the elasticity of the glass itself to function without fracture.

3. A means for separating cylindrical glass containers in a shipping case, comprising thick rings of enamel, completely encircling each glass container at widely spaced levels, said levels being where the container's perimeter is greatest; said enamel forming, when subjected to heat, non-fragilating, re-enforcing rings about the glass to serve as glass-separating means in a shipping case.

4. A glass bottle having an elongated cylindrical hollow glass body closed at one end and having a restricted open neck at the other end, said body having annular outwardly projecting portions at widely spaced intervals, and narrow rings of non-frangible material encircling the outermost

annular portions of said projecting portions and secured thereto by adhesive, said rings being disposed on the same vertical plane, the material of said rings being paper of the order of .006 to .008 of an inch thick.

5. A glass bottle as defined in claim 4 wherein the material of the ring is paper of the order of $\frac{3}{8}$ of an inch wide.

6. A glass bottle as defined in claim 4 wherein the material of the ring is paper of the order of $\frac{3}{8}$ of an inch wide, and a removable metal cap on the neck.

7. A glass bottle having an elongated cylindrical hollow glass body closed at one end, the other end of the bottle having an inwardly tapering portion leading to a restricted neck with an opening therein, the body having an annular curved bulge, at the juncture of the other end of the body and tapering portion, projecting outwardly of the plane of the body proper, the body having an outwardly tapering portion extending from the other end of the body proper to said closed one end thereof, the outermost surfaces of said bulge and said outwardly tapering portion projecting outwardly of the plane of the body proper, said outermost surfaces being on the same plane, and narrow rings of non-frangible material encircling said outermost surfaces and secured thereto by adhesive, the material of the rings being paper of the order of .006 to .008 of an inch thick and a removable metal cap on the neck.

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