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STACKING AND PACKING ARRANGEMENT FOR CONTAINERS UTILIZING HIGH FRICTION MATERIAL

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Fig. 2

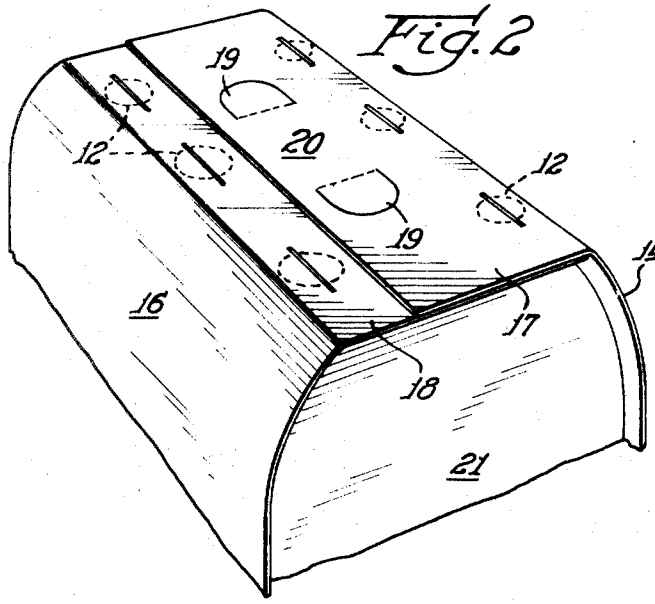


Fig. 3

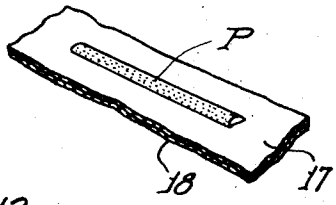
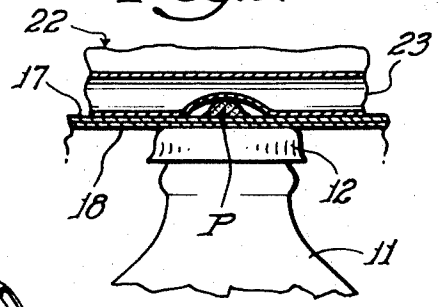


Fig. 4



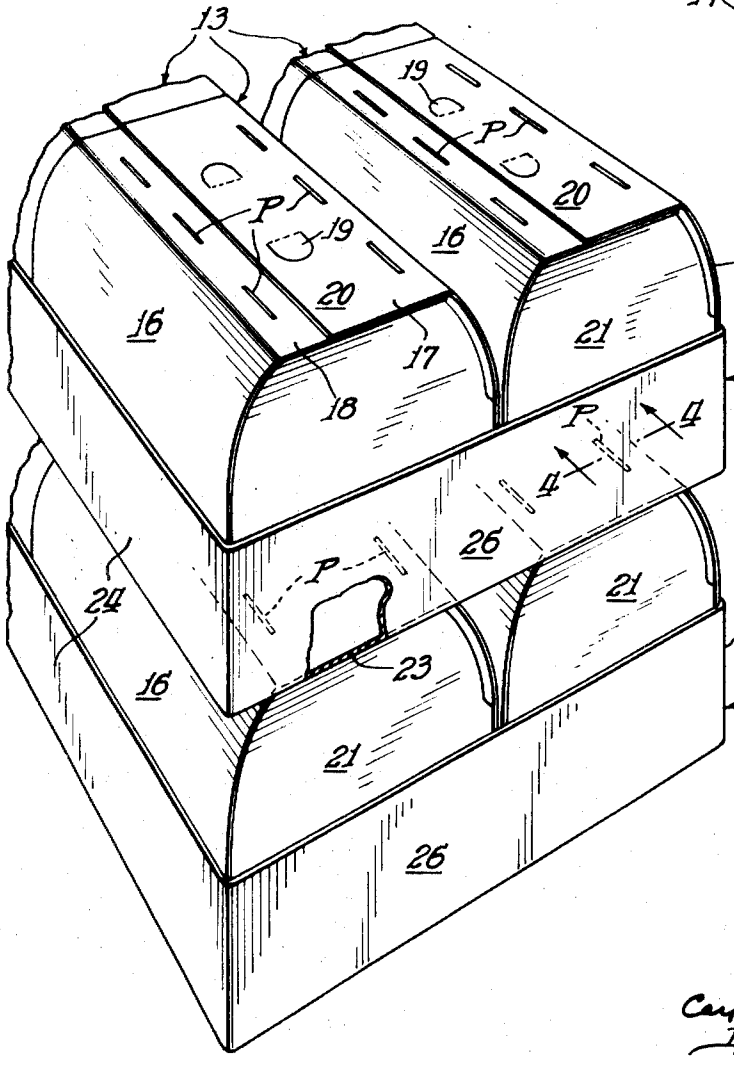


Fig. 1

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STACKING AND PACKING ARRANGEMENT FOR CONTAINERS UTILIZING HIGH FRICTION MATERIAL

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U.S. Cl. 206—65 5 Claims

ABSTRACT OF THE DISCLOSURE

A packing arrangement for containers, the combination wherein containers having closures are wrapped in groups and are loaded as wrapped groups in a walled tray, and wherein the loaded trays are stacked one atop another, the frictional engagement between the wrappers of a tray and the bottom of a loaded tray superimposed thereon being increased by the application of discrete patches of a high friction material adhered to the wrapper in the portions thereof overlying the closures of said containers.

Beer and many other beverages are commonly merchandised in packages containing six containers of the product arranged in two side-by-side rows. In the distribution of beer, these wrapped containers of beer are commonly called "6-packs" and in most cases four such packs are held in walled trays disposed one atop another for purposes of display and for economy of space. In the transport and storage of such tiers of wrapped containers displacement of the trays with respect to each other is not uncommon by reason of the very low frictional force between the lower surfaces of the tray and the wrapper. While it has been known that the frictional engagement between such surfaces may be enhanced by the placement of suitable adhesives, there has heretofore been the objection that such adhesives would cause unsightly discoloration of the wrappers, or that upon separation of the wrappers from the tray tearing of the wrapper would result.

The disadvantages of the expedients known in the prior art are eliminated by applying adhesive material only to those portions of the wrappers in closest contact with the underside of the overlying tray. Such areas of the closest contact are those where the closures of the containers directly underlie the wrappers, and according to the present invention the wrappers have affixed thereto discrete patches of material capable of adhering to the upper surface of the wrappers, and contacting the underside of the superimposed tray.

Another object is to provide a packing arrangement for containers where the wrappers for the containers applied with discrete patches of a thermoplastic material are in a hot and moltened condition, such patches upon cooling presenting points of maximum frictional engagement between the wrapper and the underside of the superimposed tray.

DRAWINGS

FIG. 1 is a perspective view of a packing arrangement having the improvements according to the present invention embodied therein;

FIG. 2 is a perspective view of a portion of a wrapper for a group of containers, said wrapper having discrete patches of high friction material applied thereto;

FIG. 3 is a perspective view of an enlarged scale showing the discrete patches applied to the wrapper of FIG. 2; and

FIG. 4 is a vertical sectional view, to an enlarged scale, certain parts being shown in elevation, taken along the line 4—4 of FIG. 1 looking in the direction of the arrows.

SPECIFICATION

The improved packing arrangement according to the present invention is referred to by the reference numeral **10** and for the purpose of packing a plurality of containers **11**, each having a closure **12**. In the form of the invention shown herein the containers **11** are of what is commonly known in the trade as glass "throw-away" or "stubbies" with crown closures. It is equally within the scope of the invention herein that the containers **11** be of the conventional export bottle variety, or in the form of either steel or aluminum chimed cans.

Irrespective of the form of the container **11** it is packed within a wrapper indicated generally by the reference numeral **13** and including side walls **14** and **16**, each having respective top panel portions **17** and **18**. These are glued together or otherwise joined in any suitable type of wrapping machine to present an essentially flat top surface **20** overlying the closures **12** and in contact therewith. Wrappers **13** may in certain cases, be provided with end panels **21** at each end thereof to enclose the containers **11** against light, which is indicated in those instances where the containers **11** are made of clear rather than dark glass. The wrappers **13** may also be provided with fold-down tabs **19** to provide spaced openings for engagement by the fingers of the hand for the transport of the containers **11** in the wrapper **13**.

The wrappers **13** together with their containers **11** are arranged in groups of four to be held in a tray **22** having a bottom panel **23**, opposed side walls **24** and opposed end walls **26**, the four 6-packs shown being held in the walled tray **22** in such a fashion as not to be able to shift laterally or longitudinally therein.

When the containers are stacked one atop another as seen in FIG. 1, the low friction between the top surface **20** and the underside of the bottom panel **23** of the superimposed tray **22** is such that the superimposed tray **22** may be easily displaced. According to the present invention a discrete patch P of a high friction material is applied to the top surface **20** of the wrapper **13** at portions thereof overlying the closures **12** of the container **11** therein. In the form of the invention seen in the several views the patch P is applied in the form of a ribbon approximately ¾" in length and having a thickness and a width of approximately 1/16". The patch P is applied in the form of what is known in the art as "hot melt," this material being a mixture of a thermoplastic polyolefin such as polyethylene or polypropylene combined with any suitable resin material, and any suitable wax.

Such material is known in the trade as Swift's Y–170 hot melt non-skid, which is an example of but one form of a commercially available material having the property of being able to be appled to paperboard and to be adhered thereto. Moreover, the desirable property of the material is such that it remains hard at ordinarily experienced ambient temperatures and will not discolor the wrapper to which it is applied.

Moreover, the material has such a characteristic that while the amount of frictional engagement by the panels **20** of the wrappers **13** and the underside of the tray is increased, the surfaces may readily be separated without tearing of the wrapper **13**.

We claim:

1. In a packing arrangement for containers, the combination wherein containers having closures therefor are

wrapped in groups nad are loaded as wrapped groups in a tray and wherein the loaded trays are stacked one atop another:

(a) the improvement in said combination whereby the friction between the wrappers of a tray and the bottom of a loaded tray superimposed thereon is increased, comprising;

(b) a discrete patch of high friction material adhered to said wrappers in portions thereof overlying the closures of said containers.

2. In the combination of claim 1, wherein the high friction material includes a polymer of the olefin series.

3. In the combination of claim 2, wherein the material includes a polymer in the series including polyethylene and polypropylene.

4. In the combination of claim 1, wherein the high friction material comprises a thermoplastic material applied in the hot and melted condition thereof.

5. In the combination of claim 4, wherein said thermoplastic material includes a polyolefin, resin and wax.

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U.S. Cl. X.R.

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