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[54] **SHELLS FOR HOLDING SOFT DRINK BOTTLES**

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[52] **U.S. Cl.** ..... **220/69**, 206/65 R, 220/97 R

[51] **Int. Cl.** **B65d 85/62**, B65d 1/24, B65d 1/36

[58] **Field of Search** ..... 220/21, 69, 85 K, 220/97 R, 97 B; 217/19.20, 21.22, 52; 206/65 R

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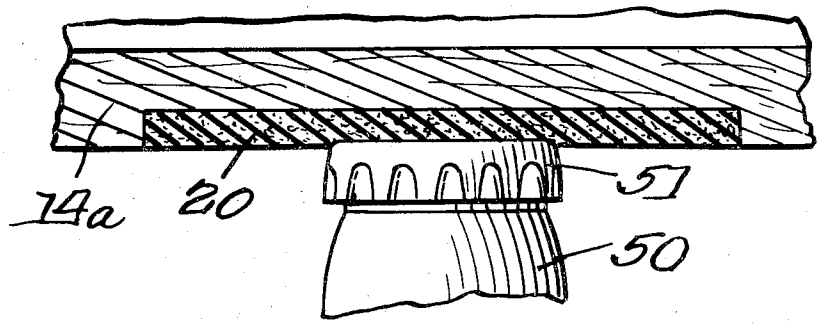
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[57] **ABSTRACT**

Shells for soft drink bottles are provided with anti-slip members which reduce the shifting of the shells relative to each other when stacked. The anti-slip members are spaced from the bottom sliding surfaces of the shells so that the anti-slip members do not interfere with the sliding function of individual shells on their bottoms.

9 Claims, 5 Drawing Figures



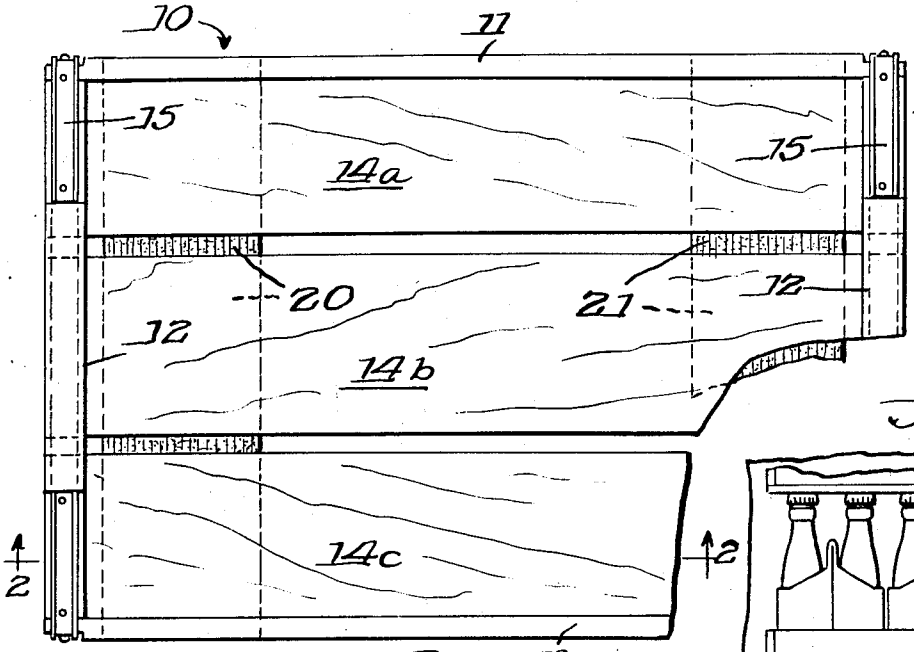


Fig. 1

Fig. 2

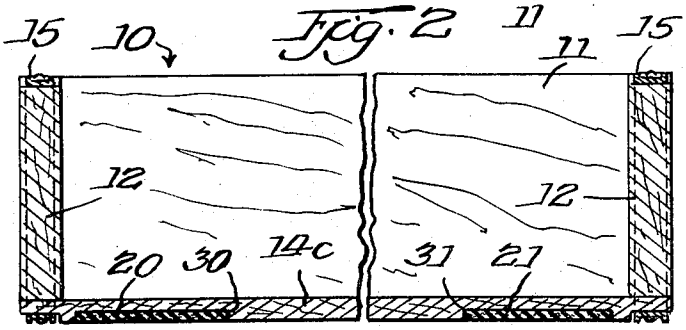


Fig. 3

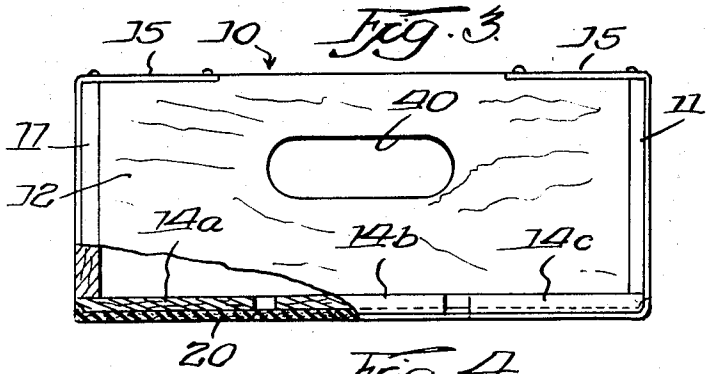
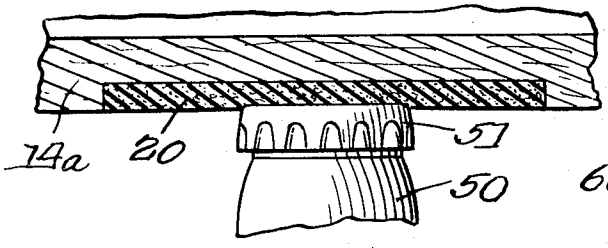


Fig. 4



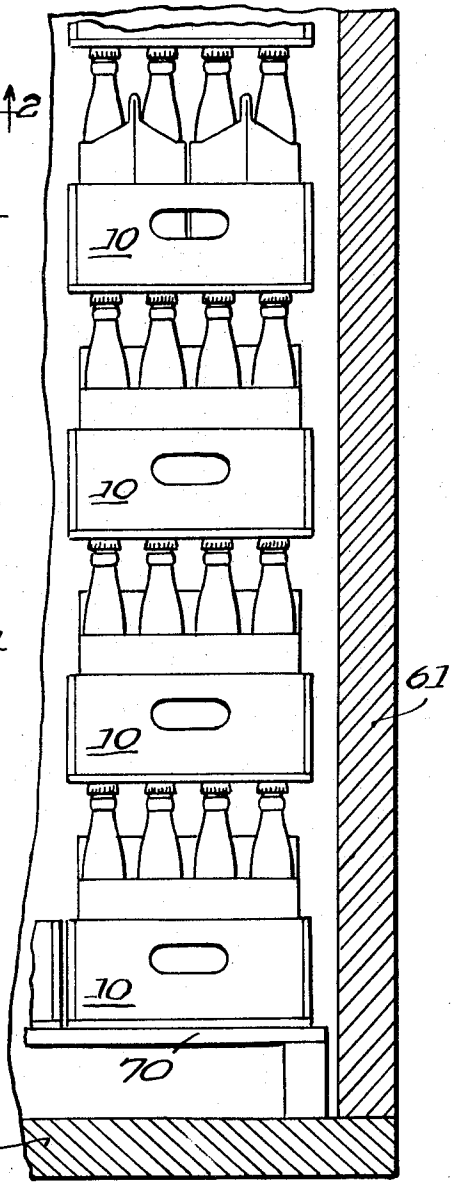


Fig. 5

SHELLS FOR HOLDING SOFT DRINK BOTTLES

FIELD OF THE INVENTION

This invention relates to containers for bottles, and more particularly, to improvements in shells for holding soft drink bottles.

BACKGROUND OF THE INVENTION

Soft drink bottles whether empty or filled are ordinarily transported in shells formed of wood, each of the shells containing 24 bottles. Shells containing the soft drink bottles are stacked four or five high on a pallet or skid which is moved by lift truck.

Route trucks distribute and pick up soft drink bottles in such shells stacked on pallets. The starting and stopping movements of the truck tends to shift the load and to cause the shells to be displaced. When the truck returns to the plant, the load must be removed, and in many cases, it is found that the load has shifted toward the front of the truck; and upon removal of the truck wall, the load collapses. The result is costly bottle breakage running into extensive annual figures.

Bottle breakage in such incidents is not only costly, but also time-consuming. Any system that would reduce such breakage would save a great deal of total expense in broken bottles and lost man hours.

The shells for soft drink bottles must be suitable for sliding along their bottoms. In loading and unloading movements, the shell is often pushed along on its bottom surface. The desirable characteristic of being slidable on its bottom surface is the same characteristic that contributes to displacement of the load during transportation and which results in the high expense of bottle breakage.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a novel soft drink shell that reduces breakage associated with stacking.

It is a further object of the present invention to provide a shell that reduces the possibility of the load shifting of shells in stacked condition.

It is another object of the invention to provide a soft drink shell that is inexpensive to construct.

Yet another object of the invention is to provide a soft drink shell having anti-slip areas on the bottom for effectively preventing shifting of the load when the shells are stacked upon each other.

Another object of the invention is to provide a soft drink shell which can be readily slid along its bottom, and yet provides an anti-slip function when it is stacked.

Further objects and advantages of the invention will become apparent from reviewing the accompanying specification, claims, and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a fragmentary, top plan view of a wooden shell for soft drink bottles illustrating the invention.

FIG. 2 is a fragmentary, sectional view taken along the line 2—2 of FIG. 1.

FIG. 3 is an end view of the shell for soft drink bottles shown in FIG. 1, partially broken away to illustrate the anti-slip material mounted on the bottom surface thereof.

FIG. 4 is an enlarged, fragmentary view illustrating the action between the bottle top and the anti-slip material on the bottom surface of the shell when a shell of the invention is stacked upon the tops of bottles.

FIG. 5 is a view inside of a route truck illustrating shells stacked four high on a pallet.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to FIG. 1, there is illustrated in top plan view a container or shell **10** for soft drink bottles of the present invention. The shell **10** has a rectangular polygon bottom wall, sidewalls **11**, and end walls **12**. The shell **10** may be made of wood, plastic, fiberboard, or any other suitable material. In the drawing, there is illustrated a shell formed of wood. The bottom wall of the shell, a rectangular polygon, is formed by three boards **14***a*, **14***b*, and **14***c* extending between the end walls **12**. Suitable metal strips **15** on the end walls **12** are wrapped around the bottom wall in order to provide a rugged construction and the durability of the shell.

In order to reduce shifting of the load, and displacement of the shells relative to each other when stacked as described above, a plurality, in this case two, anti-slip members **20, 21** extend across the bottom surface of the shell adjacent each end portion. As shown in FIGS. **2** and **3**, the anti-slip members **20, 21** are mounted transversely in recesses **30, 31** in the bottom wall. This permits the shell or container **10** to slide on a bottom surface without interference from the anti-slip material **20, 21**.

The anti-slip members are formed of a plastic, deformable material, for example, rubber. Strips of rubber having a hardness less than about **55**, for example about **50**, as measured by the Shore A durometer according to the method described in Neoprene Notebook 55, June 1953, page 358, have been found to be satisfactory.

As shown in FIG. **4**, when the shells are stacked above each other, the tops of the bottles contact the anti-slip material **20**. The anti-slip material is partially deformed or compressed by the weight of the shell against the top of the bottle **50**, enhancing the anti-slip function, thereby reducing the shifting motion relative to each other.

The anti-slip members are illustrated as strips extending transversely across the bottom of the shell; however, the anti-slip material may be placed longitudinally along the bottom wall. The anti-slip material, for example, may be placed in the bottom surfaces of boards **14a** and **14c**, along the longitudinal extent of each. The anti-slip members **20, 21** are spaced from each other to maximize stability. It may be desirable, however, to form the anti-slip members of a single piece. In any event, the anti-slip members are each of a size sufficient to contact a plurality of the tops of the bottles when the shells are stacked.

The anti-slip material is spaced from the bottom sliding surface of the shell. In the preferred embodiment this is accomplished by mounting the anti-slip material in recesses **30, 31**. Alternatively, the sliding surface may be built up by adding runners (not shown) to the bottom wall in order to space the sliding surface from the anti-slip members.

The shells **10** may be stacked upon each other. As shown in FIG. **5**, a pallet **70** in a route truck rests on floor **60** adjacent truck wall **61**. The shells **10** containing bottles are stacked **4** or **5** high with the bottom wall

of each stacked shell supported by the tops of the bottles in the shell immediately below. Referring to FIG. 4, there is illustrated the manner in which the anti-slip member 20 contacts the top of the bottle 50 of the shell immediately below. The bottle 50 is shown with a cap 51, but it will be observed that the invention is applicable to bottles that are empty as well as filled.

From the foregoing, it is believed that operation of the invention is apparent. Shells for soft drink bottles are provided with the anti-slip members 20, 21. The shells may be readily moved by sliding along the bottom surface without interference of the sliding function because of the anti-slip members are contained in the recesses 30, 31. When the shells, however, are stacked one above each other, as shown in FIG. 5, the tops of the bottles supporting the shell above engage the anti-slip material as shown in FIG. 4. During the stopping of the truck, there is a tendency for the load to shift, and for the shells to slide relative to each other on the tops of the bottles. The anti-slip members of the invention, however, which engage the tops of the bottles, reduce the slippage of the shells to slide relative to each other thereby reducing the shifting of the load.

The advantages of the invention are apparent. The shells may be constructed of any suitable material, wood, plastic and the like, containing on the bottoms thereof the aforedescribed anti-slip members, but may be moved in the usual fashion by sliding on their bottom surfaces. On the other hand, when the shells are stacked vertically, the shifting of the load is reduced and bottle breakage is improved by engagement of the anti-slip members with the tops of the bottles as depicted in FIG. 4.

The above disclosure has bene given by way of illustration, and it is desired to protect all of the embodiments within the scope of the appended claims.

I claim:

1. A container for bottles, which is adapted to be vertically stacked with similar containers, the combination comprising,

a polygonal bottom wall for supporting bottles in an upright position on the interior surface thereof,

side wall and end walls on said container,

said side walls and end walls of a height less than the height of the bottles contained therein, and

a plurality of anti-slip members on the outside of said bottom wall,

said anti-slip members each extending over an area at least sufficient to engage the tops of a plurality of tops of bottles in order to reduce the shifting of the containers relative to each other when placed in a vertical stack,

said anti-slip members spaced from the bottom sliding surface of the container in order that the container may be slid on its bottom and yet presents an anti-slip area to the tops of the bottles in stacked condition.

2. The container of claim 1 in which said anti-slip members are contained within recesses formed within the exterior surface of said bottom wall.

3. The container of claim 1 further characterized in that said anti-slip members are formed of a plastic, deformable material having a Shore durometer hardness less than 55.

4. A shell adapted to contain soft drink bottles comprising,

a rectangular bottom wall for supporting soft drink bottles in upright position,

side walls and end walls on said container,

said side walls and end walls of a height less than the height of the soft drink bottles adapted to be contained therein,

a plurality of anti-slip members on the outside of said bottom wall,

said anti-slip members each extending over an area at least sufficient to engage the tops of a plurality of bottles in order to reduce the shifting of the shells relative to each other in a vertical stack,

said anti-slip members spaced from the bottom sliding surface of the container in order that the container may be slid on its bottom and yet presents an anti-slip area to the tops of the bottles in stacked condition.

5. The soft drink shell of claim 4 in which one anti-slip member is located adjacent one end portion of said bottom wall and another anti-slip member is located adjacent the other end portion of said bottom wall.

6. The shell for soft drink bottles described in claim 4 in which said anit-slip members are recessed within the bottom wall of the container in order that the shell may be slid on its bottom wall on a flat surface and in order that the shell presents an anti-slip area to the tops of the bottles in stacked condition.

7. The shell for soft drink bottles described in claim 4 in which said rubber anti-slip members are spaced from one another.

8. The shell for soft drink bottles described in claim 4 in which said anti-slip members are formed of deformable material having a Shore durometer hardness less than about 55.

9. The shell for soft drink bottles described in claim 7 in which said anti-slip member are formed of rubber having a Shore durometer hardness less than about 55.

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