Oct. 6, 1970 C. R. HELMS 3,532,214

SHRINK FILM PACKAGE

Filed Feb. 26, 1969 2 Sheets-Sheet 1

FIG. 1

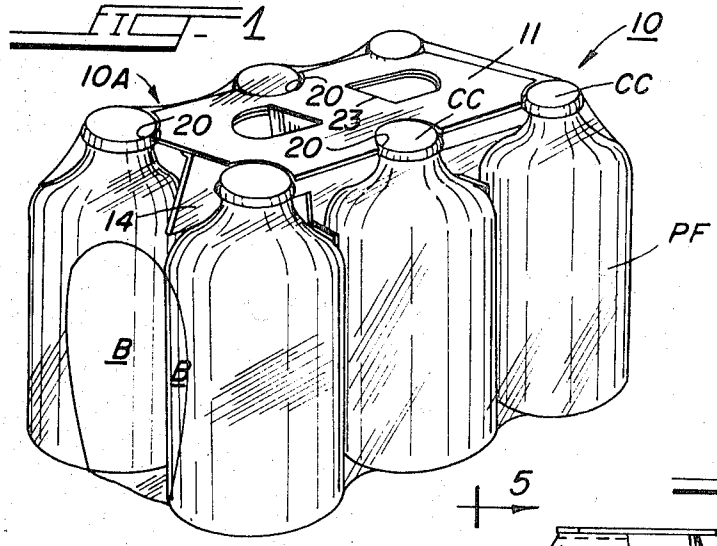


FIG. 2

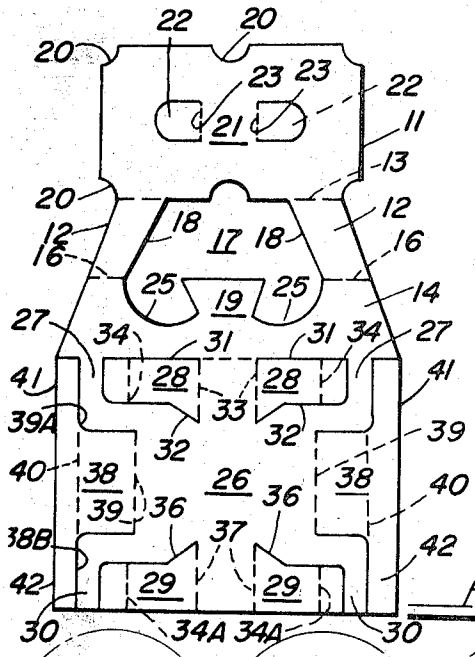


FIG. 3

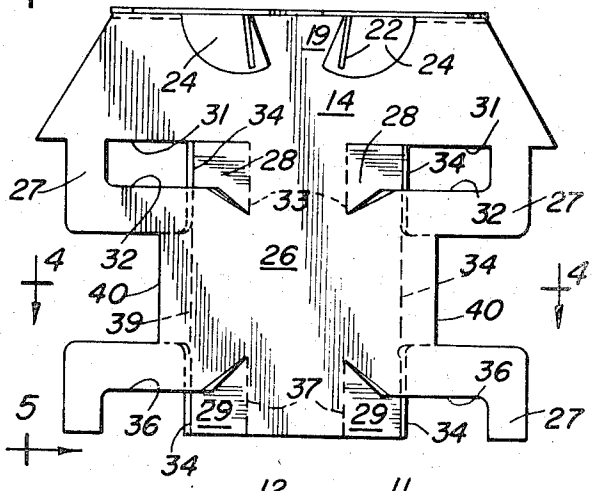


FIG. 4

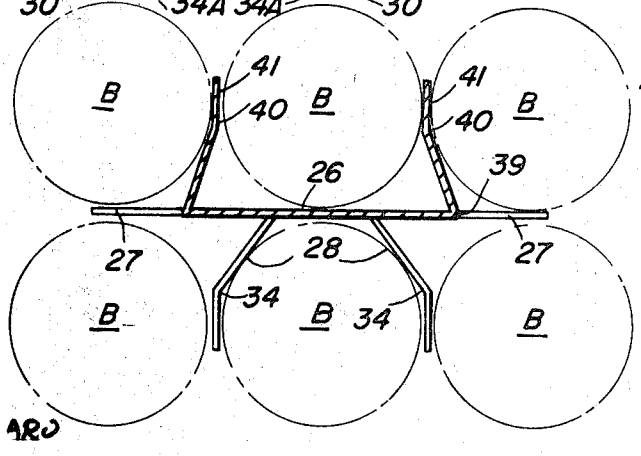
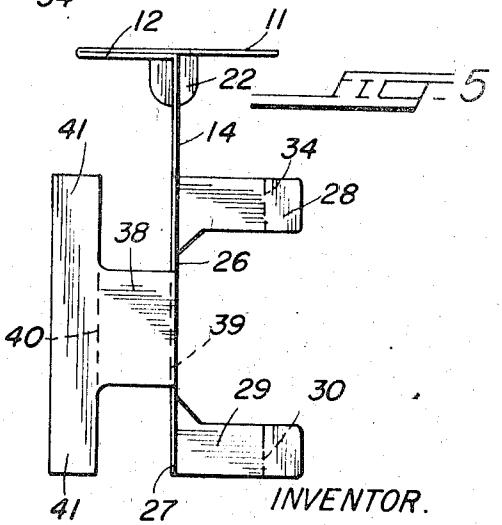


FIG. 5



INVENTOR.
CHARLES ROBERT HELMS

Carpenter, Osbs, & Spindler
BY
ATTY

Oct. 6, 1970 C. R. HELMS 3,532,214

SHRINK FILM PACKAGE

Filed Feb. 26, 1969 2 Sheets-Sheet 2

FIG. 6

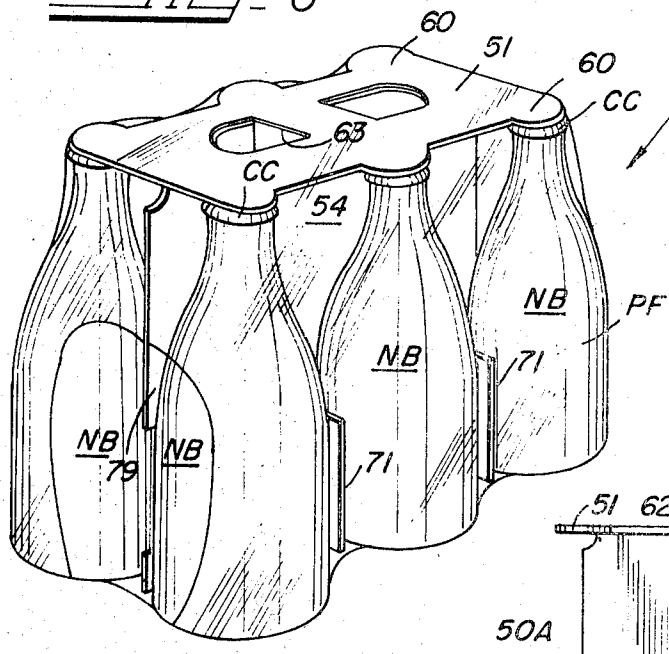


FIG. 7

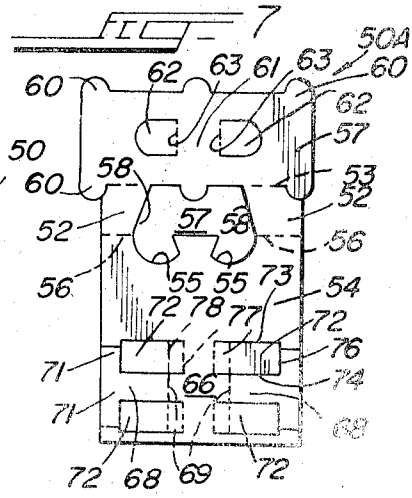


FIG. 8

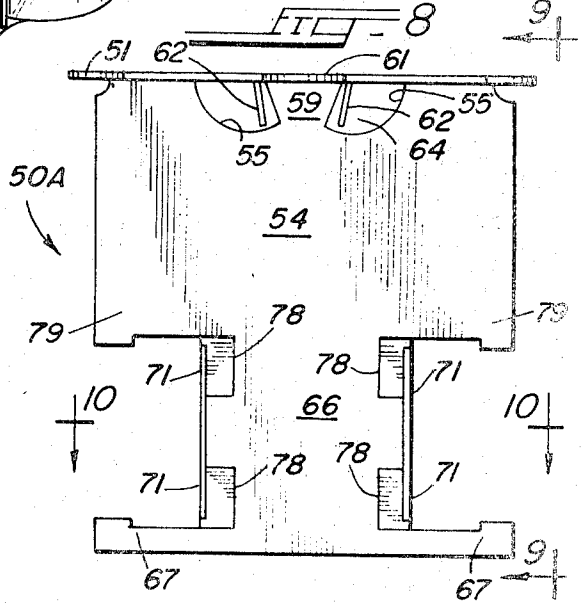


FIG. 9

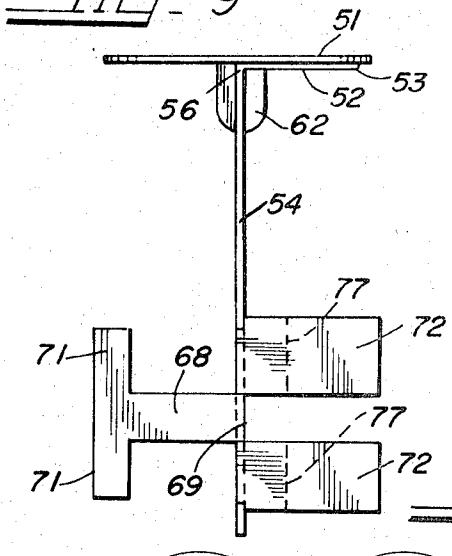
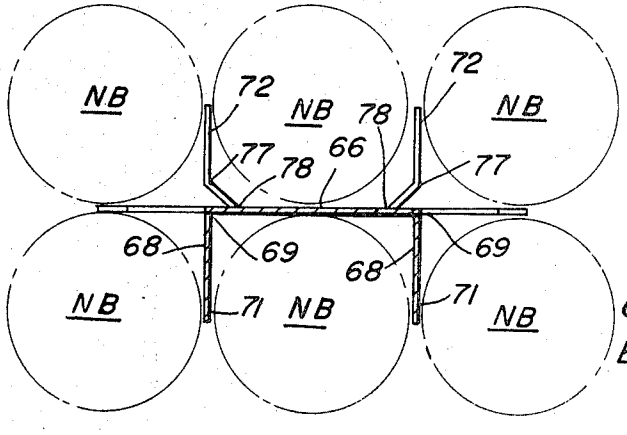


FIG. 10



INVENTOR.
CHARLES ROBERT HELMS

BY Carpenter, Oslie, & Smith

ARO

United States Patent Office 3,532,214 Patented Oct. 6, 1970

3,532,214

SHRINK FILM PACKAGE

Charles Robert Helms, Barto, Pa., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Filed Feb. 26, 1969, Ser. No. 802,498
Int. Cl. B65d 5/46, 65/16, 85/62
U.S. Cl. 206—65 1 Claim

ABSTRACT OF THE DISCLOSURE

A shrink film package especially adapted to enclose and display frangible containers for beverages, the package being characterized by structure in the form of a cut and scored blank of paperboard having portions foldable with respect to each other to form a flat handle member overlying the crown closures for the containers and having a partition element depending therefrom, the latter separating the containers into a pair of rows and being in contact with the containers, with separating members extending from the partitions and between the containers of a row, said package including an envelope formed from a pliant heat shrinkable film enclosing said containers and said structures, said film being charcaterized by cleaving tightly to the bottles and the flat handle member to hold the bottles against displacement relative to each other without the use of adhesive of any kind.

BACKGROUND OF THE INVENTION

Field of invention

This invention relates to a shrink film package particularly adapted for the wrapping and carrying of a group of bottles arranged in a pair of side by side rows, the bottles being separated by partition elements including a central thin-walled partition depending from a handle member, the entire assembly being enclosed in an envelope formed from a pliant heat shrinkable film, the film being characterized by cleaving tightly to the bottles and the handle portion, but without the presence of an adhesive material.

The prior art

It has been well known to separate beverage containers in a carrier by means of thin-walled partitions having elements extending therefrom between the side by side containers, there being a number of patents to Weiss concerned with structures of this kind. Examples of such structures are disclosed in Weiss Pats. 3,257,027; 3,232,-517; 3,211,357; 3,194,478; and 3,166,228, amongst others.

It has also been known in the art to enclose metal cans arranged in a pair of side by side rows within a heat shrinkable envelope, and to provide a handle portion for the transport for the so enclosed cans. However, the structures of the prior art have been limited to the enclosing of cans, and have required that the top handle portion be bonded or cemented to the heat shrinkable envelope.

SUMMARY OF THE INVENTION

The structure according to the present invention comprehends the enclosure of a number of glass bottles within a heat shrinkable envelope, and to provide structure for separating bottles, arranged in a pair of side by side rows, such structure being integral with a handle portion for carrying the bottles, and all being characterized by being enclosed within an envelope of heat shrinkable film which is not adhesively cemented to the handle portion nor to the bottles, to the end that the bottles are held in the envelope against displacement relative to each other.

DRAWINGS

FIG. 1 is a perspective view of a shrink film package for a plurality of frangible bottles arranged in a pair of side by side rows, said packages being constructed according to one embodiment of the invention;

FIG. 2 is a plan view of a cut and scored paperboard blank providing structure to form a handle member and a thin-walled partition separating the bottles seen in FIG. 1;

FIG. 3 is an elevational view showing the cut and scored blank of FIG. 2 folded to position to provide a handle member and a thin-walled partition;

FIG. 4 is a sectional view taken along the line **4–4** of FIG. 3 looking in the direction of the arrows;

FIG. 5 is an end view of the structure seen in FIG. 3 looking from the left to the right in the direction of the arrows **5—5** of FIG. 3;

FIG. 6 is a view similar to FIG. 1 showing another embodiment of the invention;

FIG. 7 is a plan view of a reduced-in-scale cut and scored blank for forming structure to provide a handle member and a thin-walled partition for separating the bottles seen in FIG. 6;

FIG. 8 is an elevational view of the structure for forming the handle member and the thin-walled partition for the bottles seen in FIG. 6;

FIG. 9 is an end view of FIG. 8 looking in the direction of the arrows **9—9** thereof; and

FIG. 10 is a sectional view taken along the line **10—10** of FIG. 8 looking in the direction of the arrows.

SPECIFICATION

The improved shrink film package according to one embodiment of the invention is denoted by the reference numeral **10**, and is especially adapted to enclose and display frangible containers such as bottles B within a heat shrinkable pliant film PF, the film being shrunk about the bottles B as well as structure forming a handle member and a thin-walled partition for transport of the bottles and for separating the same. Bottles B are of the so-called "stubby" throwaway type. Said structure is formed from a cut and scored blank seen in FIG. 2 and referred to by the reference numeral **10A**.

The cut and scored blank **10A** comprises a handle member **11** which is connected at a score line **13** to a pair of spaced webs **12**. A thin-walled partition **14** is foldably connected at score lines **16** to lower ends of the webs **12**, and the latter are adapted to be folded into a position of underlying relationship with respect to the handle member **11** as seen in FIG. 5. The spaced webs **12** are glued to the underside of the handle member **11**, and the length of each web **12** is equal to one-half the width of the handle member **11**, so that when the parts are arranged as seen in FIGS. 3 and 5, the thin-walled partition **14** depends from the handle member **11** midway of the width thereof.

The spaced webs **12** flank an opening **17** defined by cut lines **18** as seen in FIG. 2, which are continuous with arcuate segments **25** spaced from each other in the manner shown to define a central tongue **19** impinging against the lower side of the handle member **11** and against a lower side of a central web **21** in the handle member **11**.

The central web **21** is flanked by a pair of fold-down finger tabs **22** foldable along parallel score lines **23** against the central tongue **19** as seen in FIG. 3, the fold-down finger tabs **22** swinging to position against tongue **19** in a segmental opening **24** as seen in said figure.

The thin-walled partition **14** is integral with a spider panel **26** which is also coextensive with partition **14** by upper spider arms **27**. Lower spider arms **30** extend from spider panel **26**, and the ends thereof lie along the same vertical line as upper spider arms **27**. The thin-walled par-

tition **14**, the spider panel **26** and the spider arms **27** are fixed in position and are adapted to extend between the bottles B separating the same into a pair of rows, and contact the bottles of each row substantially along vertical lines which would normally be the line of tangency contact of the bottles but for the presence of partition **14**, panel **26** and arms **27**.

Structure is provided in the form of a plurality of separating fingers extending laterally from the thin-walled partition **14** and the central spider **26** and between the bottles in each row. Such fingers extend to a position to separate the bottles along what would be their line of tangency contact but for the provision of such laterally extending fingers.

One such set of upper laterally extending fingers is referred to by the reference numeral **28** and each such finger is defined by cut lines **31** and **32** in the thin-walled partition **14**, the extension **28** being foldable with respect thereto along score lines **33**. A lower pair of such fingers is referred to by the reference numeral **29**, and is defined by cut lines **36** and the lower edge of the thin-walled partition **14**, the fingers **29** being foldable with respect to partition **14** along score lines **37**.

Fingers **28** and **29** are foldable out of the plane of the partition **14** along the score lines **33** and **37** and the fingers **28** and **29** are additionally capable of being bent slightly along respective score lines **34** and **34A** to accommodate the bottles B as seen in FIG. 4.

A second set of such separating fingers are each referred to by the reference numeral **38** and are defined by cut lines **38A** and **38B** in the spider portion **26**, the extensions **38** being foldable with respect to portion **26** along score lines **39**. In order to accommodate the bottles B as seen in FIG. 4, the lateral extensions **38** are foldable along a score line **40** to provide upper and lower distal portions **41** and **42**.

It may be noted that the distal portions of the fingers **28** and **29** and distal portions of fingers **38** extend to the lines of tangency of the bottles B of the row but for the presence of the fingers.

As seen in FIGS. 1 and 2, the handle member **11** has quarter circular cutouts at the corners thereof and semi-circular cutouts **20** at the midpoint of the long dimension thereof, such cutout portions **20** providing side bearing for the crown caps of the bottles B.

The envelope PF of pliant heat shrinkable film material is placed as a sheet thereof above the handle member **11** and the crown caps CC and around the sides of the bottles B, the opposite ends of such sheet being heat sealed at the edges thereof at the bottoms of the bottles B. After such heat sealing of the edges of the film PF, it is shrunk tightly about the bottles B and the handle member **11**. Any suitable film material having the property of shrinking in a heated ambient is suitable for such purposes, and a number of such film materials are well known in the art so need not be described in detail. It may be noted that the film material is possessed of such properties that it cleaves tightly to the surfaces of the bottles B and the exposed surface of the handle member **11** without the need of an adhesive of any kind. The resiliency of the shrink film PF and its properties of cleaving tightly to the bottles B without the need of such adhesive material, including the property of maintaining the bottles B against displacement relative to each other constitutes an important feature of the invention.

Referring now to FIG. 6, there is shown another embodiment of the invention referred to by the reference numeral **50** where the bottles to be packaged are of the "necked" variety rather than the "stubby" type referred to with reference to FIG. 1. In this embodiment, the structure for forming the handle member for transport of packaged bottles NB and the thin-walled partition depending from the handle and having the extension for separating of the bottles is formed from a cut and scored blank referred to by the reference numeral **50A**.

Said blank comprises a flat handle member **51** adapted to surmount crown caps CC of the bottles NB, and a pair of spaced web members **52** foldable with respect to the handle member **51** along score lines **53** and glued to the underside of the handle portion **51** as seen in FIG. 9. A thin-walled partition **54** is foldable with respect to the webs **52** along score lines **56** and depends from the handle member **51** as seen in FIG. 9 midway of the width of handle member **51**.

The web members **52** are spaced from each other by an opening **57** defined by cut edges **58** and arcuate segments **55** flanking a central tongue **59** which abuts a central web **61** in the handle portion **51** at the lower side thereof.

Fold-down finger tabs **62** in handle member **51** are foldable with respect thereto along score lines **63**, the fold-down finger tabs **62** moving in segmental opening **64** to each side of the central tongue **59** as seen in FIG. 8.

A central spider panel **66** depending from the thin-walled partition **54** and integral therewith is adapted to have fingers extending therefrom between the bottles NB and to contact the same along their normal lines of tangency contact but for the presence of the bottles. Thin-walled partition **64** and spider panel **66** are also adapted to extend between the rows of the bottles NB contacting the same and protecting them against breakage. One such set of fingers includes spacing fingers **68** folded out of the plane of partition wall **54** along a score line **69** spacing fingers **68** have upper and lower distal portions **71** in the ends thereof. Other upper and lower spacing fingers **72** are foldable along score lines **78** out of the plane of the spider **66** in an opposite direction from the spacing fingers **68**, these fingers having scores **77** therein whereby the distal portions thereof can adjust their position according to the positioning of the bottles NB.

It should be noted that lower fixed arms **67** and the lower ends **79** of the partition **54** are in alignment with each other and are adapted to be disposed at the lines of tangency of the endmost bottles as seen in FIG. 6.

The handle member **51** is provided with semi-circular plane protuberances **60** at the ends and at the midpoints of the long dimensions thereof so as to overlie the crown caps CC of each bottle. The assembly thus far described has the film PF wrapped and sealed along the bottom thereby by any suitable heat sealing device whereupon the wrapped bottles are placed in an ambient of a temperature where the film PF is shrunk about the bottles NB and handle portion **51** so as to form a package where the bottles NB cannot displace relative to each other. Also, by reason of the placement of the separating fingers between the bottles of a row and the placing of a partition between the side by side rows of bottles, a cushion is provided between to prevent breakage.

The film PF placed about the bottles in the manner described cleaves tightly to the bottles NB and to the handle portion **51** without the need of a separate adhesive material.

By reason of the structure described with reference to both embodiments of the invention the advertising material forming a part of each bottle can be adequately displayed without any additional cost.

I claim:

1. A shrink film package for a group of frangible containers such as cylindrical glass bottles arranged in side by side rows, said package comprising:

(a) structure in the form of a cut and scored blank of paperboard having portions foldable with respect to each other to form:

(i) a handle member extending in a horizontal plane substantially atop the so arranged containers;

(ii) a web portion hinged to said handle member and foldable against the underside thereof and

having a width equal to one-half the width of said member;

(iii) a thin walled partition hingedly depending from said web portion and separating said containers into a pair of rows and contacting the containers of each row substantially along a line which would normally be the line of tangency contact of said containers but for the presence of said partition;

(iv) a plurality of separating fingers extending laterally from said partition between the containers in each row;

(b) an envelope of pliant heat shrinkable film material surrounding said group of containers and said handle member and characterized by cleaving tightly

thereto to hold said containers against displacement relative to each other within said envelope and against said partition and fingers.

References Cited

UNITED STATES PATENTS

3,111,221	11/1963	Chapman et al.	
3,263,893	8/1966	Weiss.	
3,386,570	6/1968	Lock	220—115
3,432,029	3/1969	Brown.	

WILLIAM T. DIXSON, JR., Primary Examiner

U.S. Cl. X.R.

206—45.33; 220—115; 229—52