United States Patent

Taylor

[15] **3,675,767**

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[54] SLEEVE WRAPPED PACKAGE WITH A BASE

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[73] Assignee: **W. R. Grace & Co.**, Duncan, S.C.

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[52] **U.S. Cl.** .....**206/65 S**, 53/30, 206/45.33, 206/78, 206/DIG. 8, 229/DIG. 12

[51] **Int. Cl.** **B65d 65/16**, B65d 85/62

[58] **Field of Search** .....206/65 S, 65 R, 62 R, 80 R, 206/80 A, 78 B, 46 FR, 45.33, DIG. 8; 229/DIG. 12; 53/30

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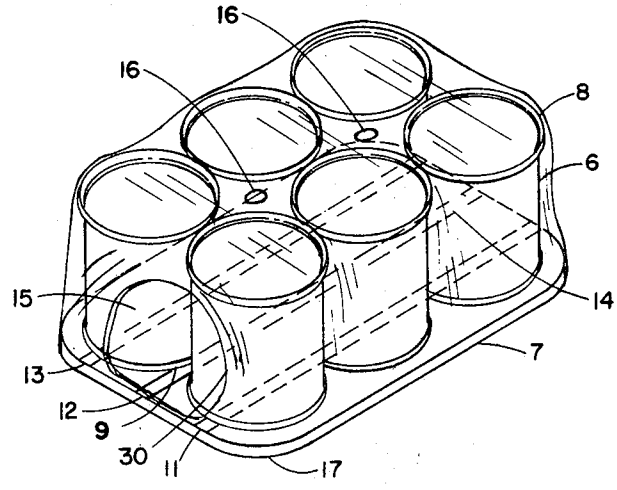
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[57] **ABSTRACT**

The shifting of articles contained in sleeve wrapped packages is prevented by adhesively securing the articles to a base member wherein the base member is substantially rigid, planar material with discrete deposits of adhesive for securing the containers thereto; and wherein the sleeve wrap is a tightly engaged tube enclosing the containers and the base member. In one embodiment the packaged articles are cylindrical containers disposed in parallel side by side rows with abutting chime portions. Additional embodiments disclosed the forming of finger opening carrying means in the sleeve wrap and in the base member, and further show a hole hanger means in the base member.

11 Claims, 5 Drawing Figures



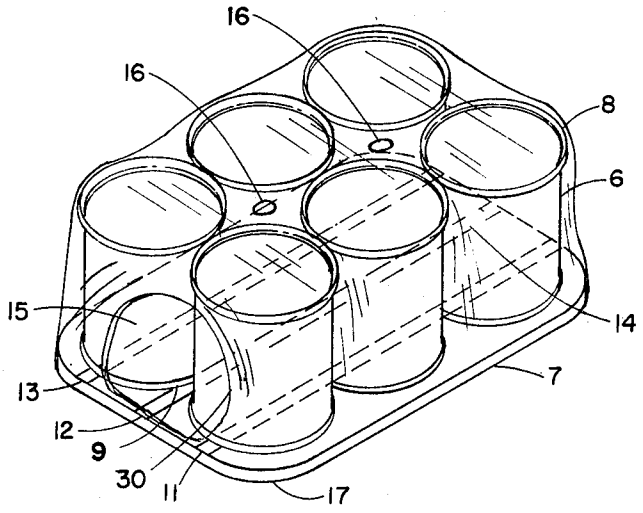


FIG. 1

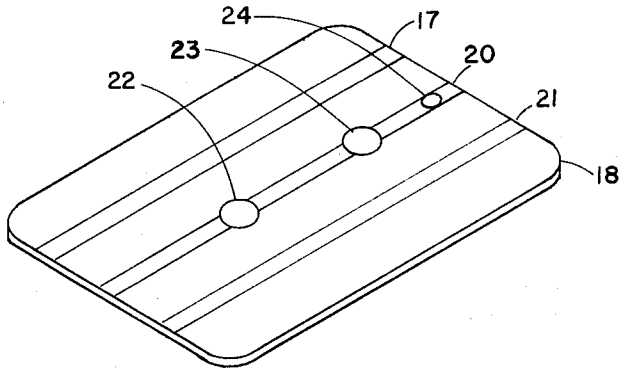


FIG. 2

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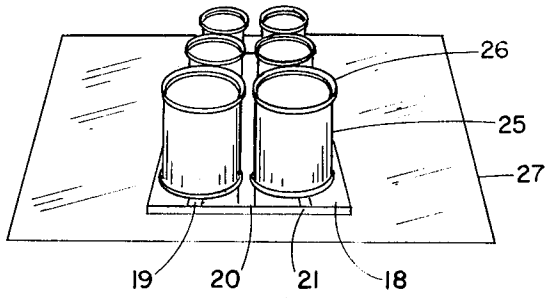


FIG. 3

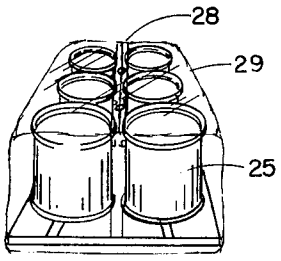


FIG. 4

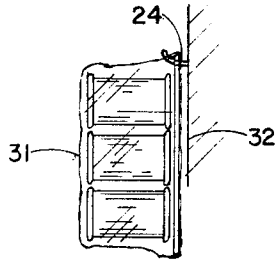


FIG. 5

SLEEVE WRAPPED PACKAGE WITH A BASE

BACKGROUND OF THE INVENTION

The present invention relates to packages in which the shifting of contained articles is prevented, and to methods for providing such packages. More particularly the present invention relates in preferred embodiments to sleeve wrapped packages in which the chime riding of cylindrical containers is prevented by adhesively securing the containers to a substantially rigid base member.

Referring now to the prior art, it has recently become a somewhat common practice to package together a number of discrete units for retail sale. This type of packaging is desirable for several reasons. Frequently the purchaser desires to buy a quantity of items and finds it more convenient to do so when the items are contained in a common package. The retailer benefits in some instances, by being able to sell a greater quantity of goods, and in other instances by being able to include the sale of one item with the sale of another item. Packaging in this manner also lessens the likelihood of article damage.

More recently these techniques have been extended into the packaging of cylindrical containers in groups which in some applications are referred to as six packs. Particular benefit has been found in packaging six packs and the like by arranging the cylindrical containers in side by side rows, overwrapping the containers with heat shrinkable tubular film material, then heat shrinking the film tube around the arranged containers so that they are held in compacted relationship for subsequent shipping storing, and merchandising.

Unfortunately however, this sleeve-wrapped or film-tube packaging of cylindrical containers has encountered certain difficulties. These difficulties relate in many instances to the shifting about of packaged articles. Content shifting in its most extreme and damaging aspects takes place when cylindrical containers having rims or chimes shift so that the rims on one container ride above or below the rim of an adjacent container. This causes not only package distortion, but also scarring and scuffing of the containers.

Recognizing these problems, the industry has posed certain solutions. One solution as described in U.S. Pat. No. 3,447,675 to Kirby shows the actual welding together of cylindrical containers prior to sleeve wrapping. Another solution as described in U.S. Pat. No. 3,411,618 to Pilger relates to a can holder with a plurality of extension flaps for nesting within the chime ends of containers and tabs for engaging the outside of the container chimes so that the containers are held in fixed relationship upon being sleeve wrapped. Both of these solutions generally perform their functions well. However, each of these and other solutions known to the art involves a certain complexity of apparatus, material, or method, and are not completely satisfactory for these and other reasons.

It is therefore a principal object of the present invention to provide a package and a method therefor for preventing the shifting of packaged articles.

It is a further object of the present invention to provide a sleeve wrapped package and method therefor for preventing the shifting of packaged articles.

It is a further object of the present invention to provide a sleeve wrapped package and method therefor for preventing the shifting of packaged articles wherein said articles are adhesively secured to a base member.

It is an additional object of the present invention to provide a thermoplastic film sleeve wrap package for preventing the chime riding of cylindrical containers wherein said containers are adhesively secured to a rigid base member and wherein the adhesive means is at least one strip on said base member.

It is yet another object of the present invention to provide a package and method therefor wherein finger hole carrying means are provided in either or both the thermoplastic film sleeve and the base member.

It is yet one more object of the present invention to provide a package and a method therefor wherein the base member is adapted to be hanger supported from a hole support means.

SUMMARY OF THE INVENTION

These and other objects are achieved in general by adhesively securing articles to a base member and then sleeve wrapping the secured articles and base member with sheet material according to conventional techniques. It has been found that the articles packaged in this manner will not be subject to the difficulties mentioned in the preceding discussion. The principal problem of article shifting is eliminated, in addition to other difficulties of the prior art being alleviated.

As indicated, special benefit is obtained when the articles to be packaged are cylindrical containers having outwardly extending rims or chimes about at least one end thereof. These containers in the manner of the present invention are usually adhered to a rigid base member by application of adhesives between the containers and the base member. It has been found unnecessary to apply the adhesive to the entire surface of the base member. Adhesive applied in selected spots or preferably in strips to the base member will generally perform adequately for the purposes of the present invention, and such discrete methods of application are generally preferred.

Various modes of application lie within the broad scope of the present invention. For instance the articles which may be packaged include a wide variety of bottles, cans, and other generally cylindrical containers. The articles may likewise include non-cylindrical packages such as cocoa packages, boxes, etc. Articles which are irregular in configuration can also be packaged in the manner of the present invention. The principal requisite is that packaged articles possess a sufficient area suitable for adhesive contact with the base member.

Nor in certain cases it is necessary that the base member be rigid paperboard material. Other rigid base member material may be used such as substantially rigid and planar sheets of plastic, metal or wood.

Although in similarly broad fashion, the choice of sleeve wrap material is not too critical, it is preferred to employ heat shrinkable thermoplastic films. Preferably, these films have been biaxially oriented. Such films include the polyesters, polyamides, polyolefins, polyvinyls and others. It has been found that particular benefits may be derived when the film chosen possesses shrink energy sufficient to form thickened edges around the ends of the sleeve wrap tube for strengthening. However, sheet wraps other than shrinkable films may be employed in particular applications, for instance, stretch wrap films, papers or fabrics may be used in certain cases.

Additional benefit has also been found in the present invention when finger opening carrying means are provided in either or both the sleeve wrap material and the base member. Another advantageous feature may be obtained by providing a hanger support opening in the base member. In this manner packaged articles such as six packs of beer or other beverages may be expeditiously displayed and stored on wall racks, hooks, or the like. And still one other beneficial aspect of the present invention lies in the ability of the exposed section of the base member to be used for display purposes, for instructional uses or for advertising.

Other features of the invention will become apparent from the following Brief Description of the Drawings and Discussion of the Preferred Embodiment.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of cylindrical containers packaged in the manner of the present invention.

FIG. 2 is a perspective view of a base member having three adhesive strips, two finger hole carrying means and a hanger support hole.

FIG. 3 is a perspective view of a base member with cylindrical containers secured thereto and thermoplastic sheet positioned thereunder prior to forming a sleeve wrap tube.

FIG. 4 is a perspective view of a base member, cylindrical containers, and a sleeve wrapped tube prior to the heat shrinking of the thermoplastic tube.

FIG. 5 shows a package of the present invention supported by a wall hook means which is inserted into the base member support hole.

DISCUSSION OF THE PREFERRED EMBODIMENT

FIG. 1 shows the preferred type of package of the present invention. Cylindrical containers 6 are located on base member 7 in parallel side by side rows. The containers are arranged so that top outwardly extending chimes 8 and bottom outwardly extending chimes 9 are generally abutting between adjacent containers. Two rows of three containers 6 each are shown. Each row of containers is joined along its bottom chimes 9 by three adhesive strips 11, 12 and 13. Each of the three strips extends the length of base member 7.

Adhesive strips 11 and 13 secure their respective rows of container 6 along the mid-bottom edges of each row. The sections of containers 6 in most direct contact with the adhesive strips are generally the bottom chimes 9. The center strip of adhesive 12 contacts the chimes 9 of both rows of containers 6. Although the adhesive strip configuration shown is somewhat preferred other modes of application are not beyond scope of the present invention. Adhesive strip 12 may be employed singly; and, in like manner adhesive strips 11 and 13 may be used without adhesive strips 12. Nor it is necessary in all cases to employ strips of adhesive. Spots of adhesive may be located on portions of the base member which comes in contact with bottom elements of the containers. However, this latter method is less preferable.

The containers 6 and base member 7 of the package depicted in FIG. 1 are shown telescopically enclosed in sleeve wrap material 14 which is preferably heat shrunk polymeric film. The sleeve wrap tube 14 provides a complete package enclosure except for open end portions 15 which are smaller than the complete end areas of the package. Also incorporated in sleeve wrapped material 14 are finger carrying hole means 16. The sleeve wrap 14 may be a structure which has been welded together to form a tube, (as described in the following discussion). Or the sleeve wrap may be film which has been extruded in a tubular configuration.

In FIG. 1 the corners 17 of base member 7 are shown as being somewhat rounded. This configuration is generally preferred for appearance sake and for preventing damage to film in contact with the corners of the base member. However, it should be understood that other base configurations are possible and well within the skill of the art.

Proceeding now to FIGS. 2 through 4, the steps required to produce the package of FIG. 1 are shown. In FIG. 2 a base member 18 is illustrated. Onto base member 18 are applied three adhesive strips 19, 20 and 21. These adhesive strips may be either of the hot melt or solvent dispersed variety, although, in the example pictured, a solvent adhesive is employed. In this typical example each strip of adhesive is approximately three eighths inches wide and nineteen mils thick.

Although it is readily apparent that the quantity of adhesive used may be varied for particular applications, it should be further noted that in all cases a sufficient quantity of adhesive should be employed for proper article securing. The adhesive strips are preferably applied in parallel lines with strip 19 being approximately one inch from strip 20 and strip 20 being approximately one inch from strip 21. The strips may be applied by conventional mechanical extruding means to base member 18 or the strips may be applied thereto manually, by hand held applicators, etc. Although in mechanized operations it is preferred to use mechanical extruding means. It should also be noted that in certain cases, particularly when packaging boxes or the like, double faced or similar adhesive tape means may be used.

Included in base member 18, which in this typical application is approximately thirty seven mils thick and four and one half inches wide by six and one quarter inches long are finger carrying openings 22 and 23 and hanger support hole 24. These lastmentioned elements have application in a manner as previously noted.

Proceeding now to FIG. 3 base member 18 is shown having two rows of three containers 25 each situated thereon and secured thereto. In this typical application the containers are approximately two inches in diameter, and approximately two and seven eighths inches high. One rows of containers is secured to base member 18 by adhesive strip 19, the other row of containers is secured to the base member 18 by adhesive strip 21. The center strip of adhesive 20 jointly secures both rows of containers to base member 18. The use of adhesive strips is particularly advantageous since it facilitates the registry of containers to the adhesive. There are fewer problems than would be experienced in registering containers to particular adhesive spots.

Remaining now are the generally known steps of producing a sleeve wrapped package around base member 18 and containers 25. Using one common method, the sleeve wrapping steps involve first positioning a sheet of heat shrinkable polymeric film 27 beneath base member 18 as seen in FIG. 3, then overwrapping film 27 about base member 18 and containers 25 as seen in FIG. 4. The overwrapped film 27 is sealed together along seam or line 28 to form sleeve wrap tube 29 as shown in FIG. 4. The sleeve wrap tube 29 is subsequently heat shrunk about the base member 18 and containers 25 in a conventional manner. After heat shrinking the sleeve wrap tube, finger carrying holes may be provided therein. These holes may be cut or punched in the tube, or the holes may be obtained by a heat application. If desired, a reinforcing strip of film may be applied prior to hole formation so that the holes are formed in the sleeve wrap and in the reinforcing strip. However, in many applications the seam line 28 is sufficient reinforcement.

As indicated previously, the nature of the sleeve wrap material may be varied in certain applications. However, if it is desired to have thickened edges around the open ends of the sleeve wrap tube, material possessing sufficient shrink energy therefor must be employed. Such thickened edges 30 as shown in FIG. 1 may be obtained by employing irradiated polyethylene film which has been produced in a manner as taught by Baird in U.S. Pat. No. 3,022,543, and Rainer et al in U.S. Pat. No. 2,877,500. It should be noted that when producing hanging packages as shown in FIG. 5, the film should be sufficiently strong to at least partially support the weight of the packaged articles.

In like manner, any adhesive may be employed which is commonly used to join articles to base members as in the teachings of the present invention. In certain cases, either adhesives of natural or synthetic base may be used.

Referring now to FIG. 5, the typical package 31 produced in a manner of the present invention is shown hanging from a display hook 32. This hook 32 protrudes into and is engaged with hanger support hole 24. This illustration is only intended to show one example of what may be obtained by application of the present invention. Many other novel arrangements and configurations are well within the skill of the art and are only intended to be limited by the following wherein,

I claim:

1. In a package which prevents the shifting of contents therein the combination comprising:
   a. a plurality of cylindrical containers disposed in parallel side by side rows and having peripherally outwardly extending projections around at least one end,
   b. a substantially rigid and planar base member onto which said containers are situated,
   c. at least one strip of adhesive means on said base member, said adhesive means at least partially contacting said containers and securing said containers to said base member, and
   d. an open ended tube of polymeric material shrunken around said base member and said containers, and securely engaging said base member and said containers.

2. A package according to claim 1 wherein said base member is paperboard material.

3. A packaging according to claim 1 wherein said base member is adapted to be suspended on a hanger means by a hanger support opening means in said base member.

4. A package according to claim 1 wherein said base member is adapted to be carried by finger opening means disposed therein.

5. A package according to claim 1 wherein the open portion of the ends of said tube of polymeric material are less than the respective end areas of the package.

6. The package according to claim 1 wherein the polymeric material comprising said tightly engaged sleeve wrap tube possesses sufficient shrink energy to produce thickened edges around the open end of said tube.

7. A package according to claim 1 wherein said tube of polymeric material is adapted to be carried by finger opening means disposed therein.

8. A package according to claim 1 wherein said adhesive strip contacts at least a portion of that part of every container which is adjacent to said base member.

9. A package according to claim 1 wherein said container possesses outwardly extending and projecting chimes around at least one end thereof said containers being disposed in two parallel side by side rows of three containers each.

10. A package according to claim 9 wherein containers comprising each of said rows is joined to said base member by an adhesive strip disposed in a line along the length of said rows.

11. A package according to claim 10 wherein there are three strips of said adhesive, one along the mid-line of each of said rows and one strip in a line between said rows disposed in such a manner to contact the containers comprising each of said rows.

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